City of
WILSONVILLE
in OREGON

FINAL

AUGUST 4, 2014

CHARBONNEAU CONSOLIDATED IMPROVEMENT PLAN

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August 4, 2014

City of WILSONVILLE OREGON

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Executive Summary

Background: Beginning in 1972 and continuing throughout the 1980s, the Charbonneau District was developed as one of the first master planned communities in Oregon. Much of the infrastructure in Charbonneau has been in service for more than 30 to 40 years, is starting to wear out, and is in need of repair or replacement. This is a shorter service life than would be expected using Wilsonville's current and more robust design and construction standards.

Since 2009, the City has been inspecting and cataloging the deficiencies across the four main utilities – sewer, storm, streets, and water – that serve the Charbonneau District. These inspections have confirmed that significant deterioration of the infrastructure has occurred.

Sewer conditions observed include collapsed pipe, pipe separation, offset joints, major blockages, and pipe sag. The stormwater system was constructed using thin-walled metal pipe with a design life of approximately 25 years. Storm deficiencies include collapsed pipe, corroded or rusted pipe with large voids, and undersized pipe. Water system needs are based on insufficient fire flows and end of service life for cast iron pipe.

Due to the number of improvements needed across the four main utilities in Charbonneau, making improvements on an individual utility basis is not practical. A comprehensive analysis of the Charbonneau District was needed to help understand and plan for the necessary infrastructure repair. The Charbonneau Consolidated Improvement Plan (Plan) provides an infrastructure repair program to be implemented over the next 20 or more years. This improvement plan provides three key pieces of information:

1. A clear understanding of the infrastructure needs across the four main utilities within the Charbonneau District.
2. A plan to make utility improvements efficiently and at the least cost and impact to residents.
3. Cost estimates of utility improvements to guide rate and fee analyses and develop a funding strategy for the Plan.

Prioritized Utility Needs: To gain a clear understanding of the infrastructure needs, a list of all known utility deficiencies in the Charbonneau District has been compiled, including both those identified in adopted utility master plans and resulting from the utility inspections. Each of the deficiencies is categorized by utility and then ranked based on severity. These prioritized deficiencies have been mapped on aerial photographs to clearly illustrate the utility condition and identify problem areas.

Figure 1
Charbonneau - Sewer Priority

Figure 2
Charbonneau - Storm Priority

Figure 3
Charbonneau - Streets Priority

Figure 4
Charbonneau - Water Priority

French Prairie Pathway: In addition to the four main utilities, an analysis of the existing pathway along French Prairie Drive is included in the Plan. The analysis includes identification of short term repairs needed to correct existing trip hazards and eroded surface conditions along the pathway.

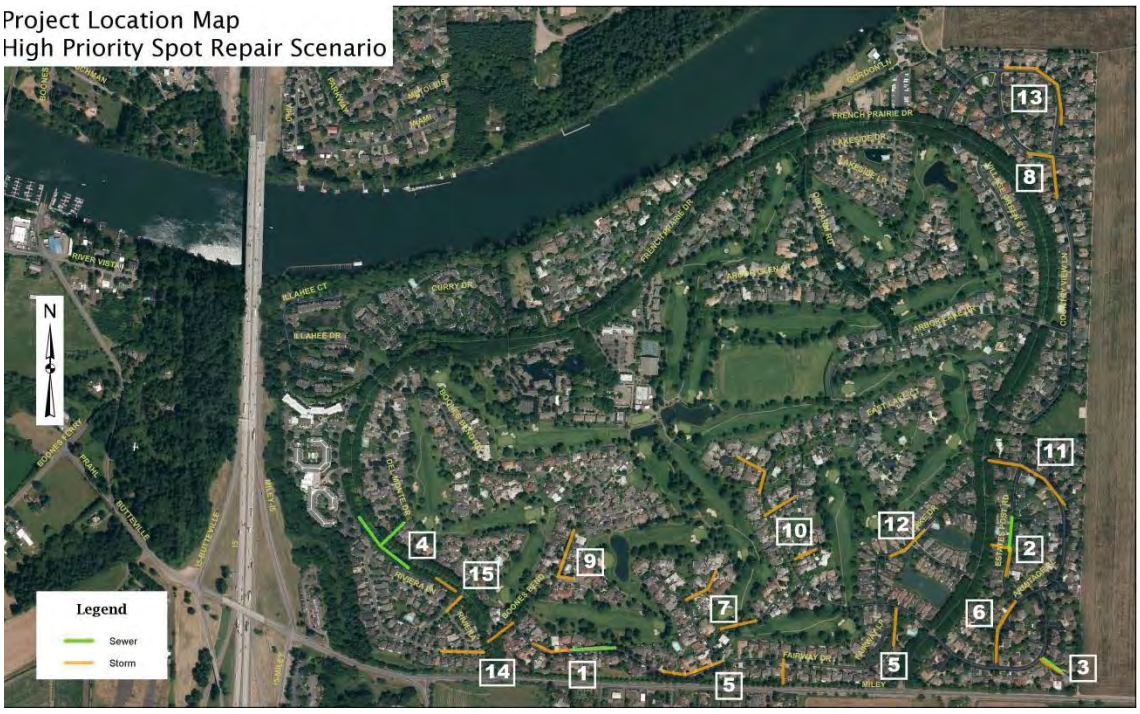
The Plan also suggests the need for a long term path replacement strategy. Three alternative designs were analyzed to establish a range of costs needed to replace the pathway. The preferred design will be determined as part of a public involvement process with the Charbonneau community.

Figure 5 - French Prairie Drive Pedestrian & Bike Facilities

Proposed Construction Phasing Approach. Staff considered several approaches to correcting the deficiencies identified for each utility. In order to approach repairs in an efficient manner and avoid haphazard construction, the Charbonneau District was divided into 38 project areas. The boundaries were developed by determining areas with the highest priority deficiencies across the most number of utilities. In an effort to limit impact to residents and reduce costs, the consolidated plan combines all repairs in a designated area under one construction project.

The project areas were numbered chronologically based on the length and severity of the utility deficiencies within the project limits. As a result, the utilities in the worst condition will be repaired earlier in the program. Pavement rehabilitation was coordinated with the underground utility construction.

However, City staff is proposing that 15 smaller spot repair projects be expedited to repair the very highest priority projects. Construction of these smaller projects will cause additional construction impacts to some Charbonneau residents. However, the disruption may be less inconvenient because the long-term projects will likely not follow until a number of years later.



Estimated Capital Investment. In order to help guide future funding analysis of the City's Capital Improvement Program, planning level cost estimates have been assigned to the projects. These are subject to refinement upon preliminary engineering and project scoping. An investment of approximately $44.5 million is needed to improve the deficient infrastructure in the Charbonneau District. This includes approximately $3 million for spot repairs proposed for completion in the next five years and approximately $75,000 for short-term repairs to the French Prairie Drive pathway. The investment for each individual utility is:

Sewer	Storm	Streets	Water	Walking Path
$6.8 million	$19.6 million	$10.0 million	$8.0 million	$0.1 million

Next Steps: On August 4, 2014, the City Council adopted Resolution No. 2481, adding the projects from the Charbonneau Consolidated Improvement Plan to each of the utility master plans. The resulting capital improvement plans will guide future rate studies to fund the design and construction of these projects. The projects will then be programmed for incorporation into annual budgets.

Introduction

Beginning in 1972 and continuing throughout the 1980's, the area now known as the Charbonneau District was developed as a unique design concept. As one of the first master planned communities in Oregon, many elements of the infrastructure were designed and installed according to codes and standards not typical for other parts of Wilsonville. Street section design (depth of base rock and asphalt) is less than standard, and utilities such as water and storm infrastructure are undersized and were constructed of less durable materials. Such substandard infrastructure ultimately results in a reduced life and lower standard of service for the Charbonneau District.

The infrastructure in Charbonneau has either surpassed or is approaching 40 years in age. As a result, much of the infrastructure has already or will exceed its expected design life within the next 10 - 15 years. Numerous deficiencies within the Charbonneau District have been identified by adopted Wilsonville master plans for each of the utilities. The majority of these deficiencies are a result of both the age and the original substandard design and construction.

Although the infrastructure deficiencies in the Charbonneau District have been documented in the master plans for each of the utilities, the master plans do not compare the needs of one utility to that of another within the same area. Grouping projects to repair infrastructure deficiencies across multiple utilities in the same area will reduce construction costs and overall impact to adjacent properties. However, grouping and prioritizing repair projects using only the utility master plans can be difficult. As a result, a detailed, comprehensive analysis of the Charbonneau District infrastructure as a complete system is needed.

The Charbonneau Consolidated Plan is a 20-year planning document that accomplishes two tasks. First, this document evaluates, ranks, and prioritizes infrastructure deficiencies within each utility system. Second, the Plan groups multiple infrastructure deficiencies in the same general location into 38 prioritized replacement projects. Each project is assigned a design and construction planning level cost based on current Wilsonville public works standards. The resulting Charbonneau District-specific plan identifies projects to replace the aging, substandard infrastructure over the next 20 or more years in a way that increases efficiencies and cost savings, while reducing impacts to the adjacent properties.

This Plan is primarily a technical document. The Plan does not consider funding source(s) or Capital Improvement Program (CIP) budget impacts, and there has been no community outreach as yet. While these criteria are critically important to developing a final implementation plan, they are beyond the current scope of this document.

Infrastructure Deficiency

For the purposes of this plan, the Charbonneau District infrastructure consists of four utilities: sewer, storm, water, and streets. Information for each of these utilities has been obtained from the most current Wilsonville master plans, maintenance programs, and inspection reports. The infrastructure deficiencies are determined and prioritized for each utility as follows:

Sewer

The Charbonneau District sewer system is comprised of approximately 11.5 miles of sewer main and 235 manholes. The sewer mains range in size between 6-inch and 15-inch in diameter.

The most current Sewer Master Plan (2001 Wastewater Collection System Master Plan) does not identify any sewer capacity deficiencies based on pipe size within the Charbonneau District. This 2001 analysis remains valid, since no new development has occurred in Charbonneau since that time. The sewer deficiencies identified in this plan are based on pipe condition evaluated and ranked solely from the results of a 2009 video inspection of all City maintained sewer pipes in the Charbonneau District.

The video inspection includes a report rating the condition of each pipe section and the length of pipe between manholes. The rating system ranges from Level 1, best condition, to Level 5, worst condition.

The replacement priority of each sewer pipe section is based on the video inspection report rating system. For consistency with the other utilities, the sewer pipe sections and associated deficiencies are separated into three priority levels.

Priority 1: Pipe sections under this category received a rating of Level 5 and are considered to be in very poor condition, requiring immediate attention. Typically, deficiencies rated Level 5 involve collapsed pipe, pipe separation, and major blockages.

Priority 2: Pipe sections under this category received a rating of Level 4 and are considered to be in poor condition. Deficiencies rated Level 4, generally consist of severe offset joints, cracked pipe sections, heavy root intrusion, major pipe sag (belly), major pipe joint infiltration, and other blockages.

Priority 3: Pipe sections under this category received a rating of Level 3 and are considered to be in fair condition. Priority 3 pipe sections do not warrant immediate attention, but are expected to deteriorate over time and should be rehabilitated or replaced within the planning period of this document. Typical deficiencies include offset joints, pipe surface cracking, significant root intrusion, concrete spalling, service pipe separation, significant pipe sag (belly), pipe joint infiltration, and other minor flow blockage.

Pipe sections that were rated Level 2 and 1 as part of the video inspection are considered in good condition and do not warrant replacement within the planning period of this document. Typical deficiencies reported for Level 2 and 1 sewer pipes consist of minor offset joints, minor root intrusion, and minor pipe sag (belly) that do not significantly affect the capacity or operation of the sewer system.

As shown in Figure 1, the Charbonneau sewer system is in generally fair to good condition. Less than a third of the sewer system requires replacement over the planning period of this document. The Priority 1 and 2 projects combine to represent less than 10% of the Charbonneau sewer system.

Storm

The Charbonneau District storm system is comprised of approximately 10 miles of storm main, 220 manholes, 360 catch basins, and 15 outfalls. The storm mains range in size between 8-inch and 36-inch in diameter.

Numerous storm system deficiencies in the Charbonneau District were documented in the 2013 Stormwater Master Plan. The majority of the storm system was constructed of corrugated metal pipe that is decayed and at the end of its design life. There have been few replacements since the original installations.

In addition, flooding has been reported throughout the community during major rain events. The flood analysis model predicts flooding potential in the northern portion of Charbonneau, indicating portions of the storm system are undersized. Further, catch basin spacing throughout Charbonneau is roughly twice the distance required by current standards, resulting in additional localized flooding during rain events. Due to the pipe condition and flooding potential, the Master Plan recommends upgrade and replacement of the entire Charbonneau storm system.

In addition to the deficiencies reported by the Master Plan, a video inspection of the Charbonneau storm system is ongoing and is approximately 50% complete. The video inspection includes a report rating the condition of each pipe section and the length of pipe between manholes. The rating system is based on the condition of the pipe and ranges from Level 1, best condition, to Level 5, worst condition.

The replacement priority of each section of storm pipe is based on both the findings and recommendations of the Stormwater Master Plan and the video inspection report rating system. For consistency with the other utilities, the storm pipe sections and associated deficiencies are separated into three priority levels.

Priority 1: Pipe sections under this category received a rating of Level 5 and Level 4 on the video inspection report. These pipe sections are considered to be in very poor condition and deficiencies consist of collapsed and blocked pipes that significantly

reduce the capacity of the storm system. As these pipe sections continue to age and deteriorate, the capacity of the storm system is expected to continue to decline, increasing the likelihood of localized flooding.

Priority 2: This category includes pipe sections identified for upsize and replacement in the 2013 Stormwater Master Plan. Generally, these pipe sections consist of the larger trunk lines in the north portion of the Charbonneau District. Replacement of these pipe sections will minimize the occurrence of flooding during large rain events.

Priority 3: The remainder of the storm system is included in this category. As stated earlier, the entire Charbonneau storm system needs replacement. This category represents storm pipes that are not collapsed, blocked, or undersized, but are at the end of the design life and do not meet current construction standards.

Figure 2 represents the current replacement priority for the Charbonneau District storm system.

Streets

The Charbonneau District public street network is comprised of approximately 25 lane miles (40 acres) of asphalt pavement. There are no concrete pavements in Charbonneau. The street network ranges in width between 18-feet and 48-feet.

The determination of current street deficiencies is based on the 2013 Pavement Management Program Budget Options Report. This Pavement Management report includes a Pavement Condition Index (PCI) for each publically maintained street within the Charbonneau District. The PCI is assigned based on a detailed visual inspection of the street surface and provides a method to evaluate the condition of the street pavement. The PCI utilizes a 0 – 100 scale, with 100 representing a newly paved street surface. A street surface with a PCI index of less than 54 is considered to have completely failed.

Also, based on visual inspection during recent construction activities, it is apparent that the street sections throughout the majority of the Charbonneau District were constructed with significantly less structure (asphalt and rock base) than current construction standards. This difference in street section has not been quantified for each street within the District and has not been used to prioritize the street system deficiencies. However, this information is useful in determining the type of street surface construction to include as part of the Charbonneau infrastructure replacement projects.

The replacement priority of each street within the Charbonneau District is separated into three priority levels, consistent with the other utilities.

Priority 1: Streets classified under this category have a PCI rating of less than 54. These streets have experienced complete failure of the street section and require reconstruction of both the base rock and asphalt pavement materials.

Priority 2: This category includes streets with a PCI rating between 55 and 67. Typically, streets within this range have experienced significant pavement surface failure. Rehabilitation treatment typically includes removing the top two inches of the pavement surface and rebuilding the surface with a thick, 2" – 2 ½" depth of new asphalt pavement.

Priority 3: Streets classified under this category have a PCI rating between 68 and 80. These streets show signs of surface distress that reduce the service life of the roadway. Typically, a thin, 1 ½" depth of new asphalt pavement is overlaid on the existing street surface to rehabilitate the street.

Preventative maintenance of the street surface, such as crack sealing and slurry sealing, are applicable treatments for streets with a PCI rating between 81 and 100. For the purposes of this plan, preventative maintenance activities are considered regular maintenance of the street surface, which occurs on a 5 – 10 year cycle. As a result, streets that require preventative maintenance treatments only are not given a priority as part of this plan.

As shown in Figure 3, the street network is in fair to good condition. Less than a third of the streets fall within Priority 1, 2, and 3, requiring rehabilitation treatment of the street surface.

Water

The Charbonneau District water system is comprised of approximately 13.5 miles of water main and 130 fire hydrants. The water mains range in size between 2-inch and 14-inch in diameter.

The 2012 Water Master Plan reports numerous deficiencies within the Charbonneau District water system, including gaps in fire hydrant coverage and locations where the required fire flow cannot be provided at a minimum system pressure of 20 psi. Upsizing key water lines will bring the fire flows within standard and gaps in fire hydrant coverage can be corrected by extending water mains and installing fire hydrants in the areas identified in the Master Plan.

In addition to fire flow and coverage deficiencies, City Public Works staff report recurring problems with the cast iron water pipe installed during the 1970's. The Master Plan recommends replacing this substandard pipe with ductile iron pipe over the next 20 years.

Although the Water Master Plan identified numerous deficiencies within the Charbonneau District water system, the identified deficiencies are generally on smaller diameter pipe that are unlikely to cause a major service disruption to the District during the planning period of this document. However, these deficiencies should be corrected as other utility work occurs in the same area.

The replacement priority of each section of water pipe is based on the recommendations of the Water Master Plan. For consistency with the other utilities, the water pipe sections and associated deficiencies are separated into three priority levels.

Priority 1: Water system improvements in this category include those necessary to meet required fire flows at the minimum system pressure of 20 psi. These improvements include upsizing of water pipes and represent the Priority 1 and 2 projects listed in the Water Master Plan.

Priority 2: This category includes replacement of the 1970's cast iron water pipe as recommended by the Water Master Plan. Replacement of this pipe will reduce the occurrence of fractured pipe and water leaks characteristic of this type of pipe.

Priority 3: Water system improvements in this category include those necessary to fill the gaps in fire coverage. These improvements consist of extending water mains and installation of additional fire hydrants. The "Future" projects listed in the Water Master Plan represent the water system improvements in this category.

Approximately 40% of water mains fall within Priority 1, 2, and 3. The remainder of the water system is considered to be in good condition and does not require replacement within the planning period of this document. Figure 4 represents the replacement priority for the Charbonneau District water system.

Figure 1
Charbonneau - Sewer Priority

Figure 2
Charbonneau - Storm Priority

Figure 3
Charbonneau - Streets Priority

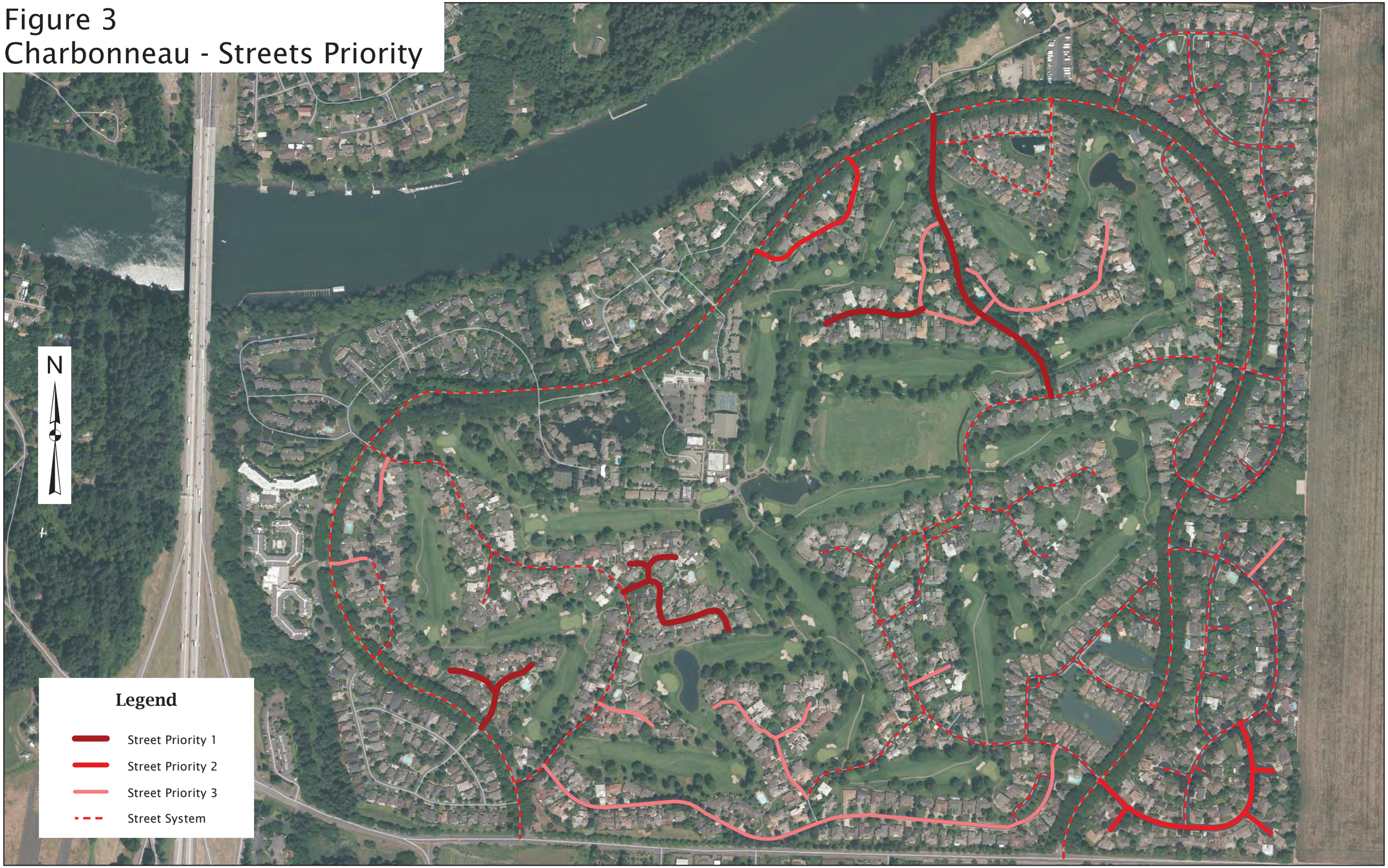


Figure 4
Charbonneau - Water Priority

Infrastructure Project Development & Prioritization

Project Development

As previously discussed, a significant portion of the Charbonneau District infrastructure has been determined to be deficient. These deficiencies are not specific to certain areas of the district, but are spread throughout the entirety of Charbonneau. To correct these deficiencies efficiently, it was necessary to separate the infrastructure improvements into smaller, more manageable projects. Discreet projects were developed by grouping infrastructure repairs to multiple utilities located within a defined work area, generally identified by a length of street. For the purposes of this plan, the project boundaries were determined using a total length of infrastructure improvement of approximately 1800 lineal feet, creating practicable sized projects.

Project Prioritization

In order to efficiently prioritize the broad range of infrastructure improvements needed in the Charbonneau District, each project was ranked in order of its importance. The ranking was determined by considering both the importance of each utility and the priority of each deficiency within the project limits. Generally, sewer facilities were given top priority due to health hazards from raw sewage leakage, followed by storm facilities due to the moderate hazards associated with localized flooding. The street network followed by water facilities were given the lowest priority due to the generally low hazards posed by deteriorated pavements and the generally acceptable condition of the existing water distribution system. Infrastructure project priorities were assigned in accordance with the following:

Project Priority 1: Sewer Priority 1

Project Priority 2: Storm Priority 1

Project Priority 3: Streets Priority 1

Project Priority 4: Sewer Priority 2

Project Priority 5: Storm Priority 2

Project Priority 6: Streets Priority 2

Project Priority 7: Streets Priority 3

Project Priority 8: Sewer Priority 3

Project Priority 9: Storm Priority 3

Project Priority 10: Water Priority 1

Project Priority 11: Water Priority 2

Project Priority 12: Water Priority 3

Based on this prioritization plan, all projects that include a Priority 1 sewer deficiency are given top priority. These projects are further prioritized based on additional deficiencies with other utilities located within the project limits. For example, for projects that include a Priority 1 sewer deficiency, preference is given to projects that also include a Priority 1 storm deficiency within the project limits, and so on. Where there are multiple projects with the same project priority, preference is given to the project with the greatest amount of combined infrastructure repair.

Final Project Ranking Methodology

Two different methodologies were utilized to determine the final order of the infrastructure repair projects. The first methodology, Complete Repair, ranks each of the projects assuming all utility deficiencies within each project are repaired under a single construction project. Under this scenario, property owners are affected by construction fronting their property only once, but top priority projects become more expensive and take longer to complete given anticipated funding constraints.

The second methodology, High Priority Spot Repair, designates repair of Priority 1 sewer and storm deficiencies as top priority. These deficiencies are separated into individual spot repair projects with an improvement length of not more than 750 feet for each utility. The projects identified under the Complete Repair methodology are then re-ranked with the assumption that the Priority 1 sewer and storm repairs are complete. Under this scenario, the major utility deficiencies are repaired first, but some property owners may be affected by construction fronting their property more than once during the anticipated 20 or more year construction period.

Results

Thirty-eight individual infrastructure improvement projects were identified for the Charbonneau District under the Complete Repair scenario. In addition to these projects, an additional 15 spot repair projects were identified under the High Priority Spot Repair scenario.

A prioritized list of the infrastructure repair projects is provided for both scenarios in Table 1 and Table 2. A more detailed prioritization list that includes the ranking of each utility deficiency within the project is provided in Appendix A.

Although the project ranking appears to be geographically based, as indicated in the figure on page B-3 in Appendix B, these results were unintentional and likely reflect the construction codes and material selection used during different periods of development within Charbonneau.

There are instances where the project ranking doesn't directly follow the project prioritization methodology. This occurs at locations where the storm system is being upsized, which in turn requires a larger downstream pipe and storm outlet. These locations are noted in the "Construction Sequence Restricted" column in Table 1 and Table 2.

Priority 1 storm deficiencies identified along undersized storm systems were omitted from the High Priority Spot Repair projects. Repair of such deficiencies would need to occur when the storm system is upsized.

Table 1 - Charbonneau Project Priority Summary
Complete Repair Scenario
August 4, 2014

Project Rank	Project Name	Priority Rank				Construction* Sequence Restricted
		Sewer	Storm	Streets	Water	
1	French Prairie Drive Phase I	1	1	1	1	
2	Mollala Bend Road	1	1	2	2	
3	Fairway Drive Phase I	1	1	3	2	
4	Estates Post Road	1	1	-	2	
5	French Prairie Drive Phase II	2	1	1	-	
6	Old Farm Road Phase I	3	1	1	1	
7	Arbor Lake Drive Phase I	2	1	3	2	
8	Village Greens Circle	2	2	2	-	Before Project #9
9	Edgewater Lane	2	1	-	1	
10	French Prairie Drive Phase III	3	1	3	2	Before Project #11
11	Boones Bend Road Phase II	2	1	-	2	
12	Country View Loop	2	1	-	2	
13	Armitage Road Phase I	2	1	-	2	
14	Arbor Lake Drive Phase II	2	1	-	2	
15	Country View Lane Phase I	2	1	-	-	
16	Lake Drive	2	1	-	-	
17	Middle Greens Road	3	1	3	1	
18	Boones Bend Road Phase I	3	1	3	2	
19	Armitage Road Phase II	3	1	3	2	
20	Fairway Drive Phase II	3	1	3	-	
21	Country View Lane Phase II	3	1	-	2	Before Project #22
22	French Prairie Drive Phase V	3	1	-	2	
23	French Prairie Drive Phase IV	-	1	-	2	
24	Louvonne & Juliette Storm	-	1	-	-	
25	Sacajawea Lane	2	2	1	2	
26	Old Farm Road Phase II	3	2	1	2	
27	Lafayette Way	-	3	1	-	
28	Curry Drive	2	2	-	-	
29	East Lake Court	2	3	-	1	
30	Illahee Drive	2	-	-	2	
31	Lake Bluff Court	-	3	3	2	
32	Del Monte Drive	-	-	3	2	
33	Lakeside Loop & Village Green Court	3	3	-	2	
34	French Prairie Drive Phase VI	3	3	-	-	
35	Arbor Lake Drive Phase III	3	3	-	-	
36	Charbonneau Storm Improvements Phase I	-	3	-	-	
37	Charbonneau Storm Improvements Phase II	-	3	-	-	
38	Mariners Drive Water Improvements	-	-	-	2	

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Table 2 - Charbonneau Project Priority Summary
High Priority Spot Repair Scenario
August 4, 2014

Spot Repair Projects

Project Rank	Project Location	Utility	
		Sewer	Storm
SR-1	8000 Block of Fairway Drive	X	X
SR-2	Estates Post Road	X	X
SR-3	Mollala Bend SE	X	X
SR-4	French Prairie Dr. Near Del Monte Dr.	X	
SR-5	7300 & 7800 Block of Fairway Drive		X
SR-6	Armitage Road - South		X
SR-7	Middle Greens Road		X
SR-8	Country View Loop		X
SR-9	Boones Bend Road		X
SR-10	Arbor Lake Drive		X
SR-11	Armitage Road - North		X
SR-12	Lake Drive		X
SR-13	Country View Lane		X
SR-14	Juliette Drive		X
SR-15	Louvonne Drive		X

Complete Repair Projects (Re-ranked based on addition of Spot Repair projects)

Project Rank	Project Name	Priority Rank				Construction* Sequence Restricted
		Sewer	Storm	Streets	Water	
1	French Prairie Drive Phase II	2	1	1	-	
2	Old Farm Road Phase I	3	1	1	1	
3	Village Greens Circle	2	2	2	-	Before Project #4
4	Edgewater Lane	2	1	-	1	
5	French Prairie Drive Phase III	3	1	3	2	Before Project #6
6	Boones Bend Road Phase II	2	1	-	2	
7	Mollala Bend Road	3	1	2	2	
8	Country View Loop	2	2	-	2	Before Project #9
9	Country View Lane Phase II	3	2	-	2	Before Project #10
10	French Prairie Drive Phase V	3	1	-	2	
11	French Prairie Drive Phase IV	-	1	-	2	
12	Sacajawea Lane	2	2	1	2	
13	French Prairie Drive Phase I	3	2	1	1	
14	Old Farm Road Phase II	3	2	1	2	
15	Lafayette Way	-	3	1	-	
16	Curry Drive	2	2	-	-	
17	Arbor Lake Drive Phase I	2	3	3	2	
18	East Lake Court	2	3	-	1	

Complete Repair Projects Continued

Project Rank	Project Name	Priority Rank				Construction* Sequence Restricted
		Sewer	Storm	Streets	Water	
19	Armitage Road Phase I	2	3	-	2	
20	Arbor Lake Drive Phase II	2	3	-	2	
21	Country View Lane Phase I	2	3	-	-	
22	Lake Drive	2	3	-	-	
23	Illahee Drive	2	-	-	2	
24	Middle Greens Road	3	3	3	1	
25	Boones Bend Road Phase I	3	3	3	2	
26	Fairway Drive Phase I	3	3	3	2	
27	Fairway Drive Phase II	3	3	3	-	
28	Armitage Road Phase II	3	-	3	2	
29	Lake Bluff Court	-	3	3	2	
30	Del Monte Drive	-	-	3	2	
31	Lakeside Loop & Village Green Court	3	3	-	2	
32	French Prairie Drive Phase VI	3	3	-	-	
33	Arbor Lake Drive Phase III	3	3	-	-	
34	Estates Post Road	-	3	-	2	
35	Charbonneau Storm Improvements Phase I	-	3	-	-	
36	Charbonneau Storm Improvements Phase II	-	3	-	-	
37	Mariners Drive Water Improvements	-	-	-	2	
38	Louvonne & Juliette Street	-	-	-	-	

* Project ranking not consistent with prioritization assumptions due to restrictions regarding construction sequencing.

Infrastructure Project Costs & Assumptions

Planning level design and construction costs were assigned to each infrastructure replacement project in the Charbonneau District. Each project assumes completion of individual utility priorities identified within the project limits.

All costs were estimated using information obtained from the most recent Wilsonville master plan for each utility. Where recent pricing information was not available, design and construction costs from similar projects within the region were utilized as the cost estimate basis.

The estimated costs for each utility were modified to include the same design, construction management, contingency and overhead costs. The following is a summary of how the project costs were determined and the assumptions made for each utility.

Sewer

The planning level costs presented in the Wilsonville 2001 Wastewater Collection System Master Plan are out of date and were not useful for the purposes of this plan. Sewer infrastructure replacement costs were obtained from the City of Lake Oswego 2013 Sewer Master Plan. The sewer pipe costs were modified to include the cost of manholes and sewer services, assumed to be spaced every 300 feet and 80 feet, respectively. These final costs are comparable to regional costs provided by the Oregon Department of Transportation.

Storm

The storm infrastructure planning level costs were obtained from the Wilsonville 2013 Stormwater Master Plan. The reported prices include the estimated cost for manholes, catch basins and inlets constructed to current City of Wilsonville standards.

Streets

Each street within the Charbonneau District was evaluated for deficiencies and prioritized on a standalone basis. However, major utility construction will have significant impact on the existing street surface. The following assumptions were made for repair of the street surface as part of the Complete Repair projects.

- On streets where one underground utility is replaced, the full width of the street surface will be repaired with a 2” depth grind and inlay of new asphalt. On streets where the existing asphalt depth is less than 3”, the full width of the street surface will be repaired with a 2” depth taper grind and overlay of new asphalt.

- On streets where more than one underground utility is replaced, the full width of the street section will be reconstructed, including the base rock and asphalt pavement, in accordance with current Wilsonville Public Works Standards.

- The street surface of Spot Repair projects were assumed to be repaired by trench patching in accordance with City of Wilsonville standards.

The street infrastructure planning level costs are obtained from both the City of Milwaukie and City of Wilsonville 2013 street maintenance project bid tabulations. The street improvement costs were modified to include 10% increase for mobilization and 10% increase for traffic control.

Water

The estimated costs presented in the Wilsonville 2012 Water Master Plan are the basis for the water infrastructure planning level costs. The presented water pipe costs were modified to include the cost of fire hydrants and water services, assumed to be spaced every 600 feet and 80 feet, respectively. The Master Plan estimated costs for pavement repair and traffic control were also included in the modified water pipe costs.

Summary

A summary of the planning level costs for each infrastructure repair project within the Charbonneau District is provided for both the Complete Repair and Spot Repair scenarios in Table 3 and Table 4 respectively. The total estimated 20 year cost is $44.4 million to complete all identified projects. These projects were split into 5 year increments to assist with future funding analysis and preparation of a Capital Improvement Plan. All cost estimates are in 2013 dollars. Historical costs, or costs from master plans used as the basis for the current cost estimates were brought forward to 2013 using an escalation rate of 4%. For future budgeting, a forward escalation rate of 4% should also be used.

Detailed project information, cost estimate, and utility location map for each Complete Repair project are included in Appendix B. Spot Repair project information is provided in Appendix C.

Results

After comparing the results of the Complete Repair and High Priority Spot Repair scenarios, both programs have positive and negative outcomes following implementation.

Under the Complete Repair scenario, the Priority 1 sewer projects would be completed within the first 5 years of the program; however, Priority 1 storm projects would not be completed until approximately year 20. Assuming adequate funding is available, Priority 1 sewer and storm projects would be completed much sooner under the High Priority Spot Repair scenario. Priority 1 sewer projects would be completed within the first couple of years of the program and Priority 1 storm projects completed midway between years 6 and 10.

The same is true for the Priority 1 street projects. If funding is available, the High Priority Spot Repair program would complete Priority 1 street projects much sooner, just after year 11, than the Complete Repair program, which would be completed just after year 16.

As stated previously, a significant downside to the spot repair scenario is the need for construction to occur at two different times along the same portion of roadway, creating greater impact on fronting property owners. These impacts can be mitigated to some extent by maintaining a reasonable gap between the two projects. The shortest duration between projects according to Table 4 would occur with the Country View Loop project. The Priority 1 storm on this section of Country View Loop would be repaired within the first couple of years of the program, with the remainder of the substandard utilities repaired approximately 5-7 years later. As part of the Complete Repair scenario, all of the substandard utilities along this portion of Country View Loop would be repaired at one time, midway between years 6 and 10 of the program.

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Table 3 - Charbonneau Project Cost Summary
Complete Repair Scenario
August 4, 2014

CIP	Project Rank	Project Name	Priority Costs				
			Sewer	Storm	Streets	Water	**Total**
YEAR 0 - 5	1	French Prairie Drive Phase I	$340,000	$1,142,000	$785,000	$548,000	**$2,815,000**
	2	Mollala Bend Road	$110,000	$394,000	$227,000	$442,000	**$1,173,000**
	3	Fairway Drive Phase I	$160,000	$500,000	$414,000	$550,000	**$1,624,000**
	4	Estates Post Road	$70,000	$163,000	$247,000	$307,000	**$787,000**
	5	French Prairie Drive Phase II	$491,000	$1,319,000	$670,000	-	**$2,480,000**
	6	Old Farm Road Phase I	$342,000	$900,000	$448,000	$191,000	**$1,881,000**
		Year 0 -5 Total	$1,513,000	$4,418,000	$2,791,000	$2,038,000	**$10,760,000**
YEAR 6 - 10	7	Arbor Lake Drive Phase I	$342,000	$318,000	$364,000	$481,000	**$1,505,000**
	8	Village Greens Circle	$243,000	$662,000	$323,000	-	**$1,228,000**
	9	Edgewater Lane	$551,000	$785,000	$376,000	$81,000	**$1,793,000**
	10	French Prairie Drive Phase III	$182,000	$1,148,000	$462,000	$313,000	**$2,105,000**
	11	Boones Bend Road Phase II	$399,000	$621,000	$375,000	$515,000	**$1,910,000**
	12	Country View Loop	$179,000	$603,000	$260,000	$32,000	**$1,074,000**
	13	Armitage Road Phase I	$227,000	$380,000	$400,000	$292,000	**$1,299,000**
	14	Arbor Lake Drive Phase II	$414,000	$346,000	$301,000	$557,000	**$1,618,000**
		Year 6 - 10 Total	$2,537,000	$4,863,000	$2,861,000	$2,271,000	**$12,532,000**
YEAR 11 - 15	15	Country View Lane Phase I	$144,000	$403,000	$165,000	-	**$712,000**
	16	Lake Drive	$118,000	$394,000	$134,000	-	**$646,000**
	17	Middle Greens Road	$121,000	$420,000	$318,000	$362,000	**$1,221,000**
	18	Boones Bend Road Phase I	$215,000	$798,000	$370,000	$483,000	**$1,866,000**
	19	Armitage Road Phase II	$70,000	$213,000	$369,000	$355,000	**$1,007,000**
	20	Fairway Drive Phase II	$116,000	$791,000	$175,000	-	**$1,082,000**
	21	Country View Lane Phase II	$145,000	$569,000	$195,000	$33,000	**$942,000**
	22	French Prairie Drive Phase V	$138,000	$294,000	$146,000	$87,000	**$665,000**
	23	French Prairie Drive Phase IV	-	$641,000	$185,000	$62,000	**$888,000**
	24	Louvonne & Juliette Storm	-	$156,000	$32,000	-	**$188,000**
	25	Sacajawea Lane	$249,000	$306,000	$355,000	$452,000	**$1,362,000**
		Year 11 -15 Total	$1,316,000	$4,985,000	$2,444,000	$1,834,000	**$10,579,000**
YEAR 16 - 20	26	Old Farm Road Phase II	$119,000	$737,000	$304,000	$18,000	**$1,178,000**
	27	Lafayette Way	-	$271,000	$196,000	-	**$467,000**
	28	Curry Drive	$171,000	$381,000	$73,000	-	**$625,000**
	29	East Lake Court	$384,000	$718,000	$367,000	$394,000	**$1,863,000**
	30	Illahee Drive	$418,000	-	$52,000	$289,000	**$759,000**
	31	Lake Bluff Court	-	$419,000	$206,000	$355,000	**$980,000**

CIP	Project Rank	Project Name	Priority Costs				
			Sewer	Storm	Streets	Water	**Total**
YEAR 16 - 20	32	Del Monte Drive	-	-	$50,000	$228,000	**$278,000**
	33	Lakeside Loop & Village Green Court	$167,000	$525,000	$172,000	$34,000	**$898,000**
	34	French Prairie Drive Phase VI	$73,000	$884,000	$320,000	-	**$1,277,000**
	35	Arbor Lake Drive Phase III	$121,000	$545,000	$134,000	-	**$800,000**
	36	Charbonneau Storm Improve. Phase I	-	$307,000	-	-	**$307,000**
	37	Charbonneau Storm Improve. Phase II	-	$529,000	-	-	**$529,000**
	38	Mariners Drive Water Improvements	-	-	$89,000	$486,000	**$575,000**
		Year 16 - 20 Total	$1,453,000	$5,316,000	$1,963,000	$1,804,000	**$10,536,000**
		20 Year Total	**$6,819,000**	**$19,582,000**	**$10,059,000**	**$7,947,000**	**$44,407,000**

Table 4 - Charbonneau Project Cost Summary
High Priority Spot Repair Scenario
August 4, 2014

Spot Repair Projects

CIP	Project Rank	Project Location	Project Costs		
			Sewer	Storm	**Total**
YEAR 0 - 5	SR-1	8000 Block of Fairway Drive	$87,000	$174,000	**$261,000**
	SR-2	Estates Post Road	$70,000	$112,000	**$182,000**
	SR-3	Mollala Bend SE	$43,000	$56,000	**$99,000**
	SR-4	French Prairie Dr. Near Del Monte Dr.	$242,000	-	**$242,000**
	SR-5	7300 & 7800 Block of Fairway Drive	-	$300,000	**$300,000**
	SR-6	Armitage Road - South	-	$173,000	**$173,000**
	SR-7	Middle Greens Road	-	$190,000	**$190,000**
	SR-8	Country View Loop	-	$157,000	**$157,000**
	SR-9	Boones Bend Road	-	$158,000	**$158,000**
	SR-10	Arbor Lake Drive	-	$314,000	**$314,000**
	SR-11	Armitage Road - North	-	$213,000	**$213,000**
	SR-12	Lake Drive	-	$107,000	**$107,000**
	SR-13	Country View Lane	-	$226,000	**$226,000**
	SR-14	Juliette Drive	-	$224,000	**$224,000**
	SR-15	Louvonne Drive	-	$105,000	**$105,000**
		Spot Repair Project Total	$442,000	$2,509,000	**$2,951,000**

Complete Repair Projects (Re-ranked based on addition of Spot Repair projects)

CIP	Project Rank	Project Name	Project Costs				
			Sewer	Storm	Streets	Water	**Total**
YEAR 0 - 5	1	French Prairie Drive Phase II	$491,000	$1,319,000	$670,000	-	**$2,480,000**
	2	Old Farm Road Phase I	$342,000	$900,000	$448,000	$191,000	**$1,881,000**
	3	Village Greens Circle	$243,000	$662,000	$323,000	-	**$1,228,000**
	4	Edgewater Lane	$551,000	$785,000	$376,000	$81,000	**$1,793,000**
	5	French Prairie Drive Phase III	$182,000	$1,148,000	$462,000	$313,000	**$2,105,000**
		Year 0 -5 Total (Includes SR Projects)	$2,251,000	$7,323,000	$2,279,000	$585,000	**$12,438,000**
YEAR 6 - 10	6	Boones Bend Road Phase II	$399,000	$621,000	$375,000	$515,000	**$1,910,000**
	7	Mollala Bend Road	$67,000	$338,000	$227,000	$442,000	**$1,074,000**
	8	Country View Loop	$179,000	$541,000	$260,000	$32,000	**$1,012,000**
	9	Country View Lane Phase II	$145,000	$474,000	$195,000	$33,000	**$847,000**
	10	French Prairie Drive Phase V	$138,000	$294,000	$146,000	$87,000	**$665,000**
	11	French Prairie Drive Phase IV	-	$641,000	$185,000	$62,000	**$888,000**
	12	Sacajawea Lane	$249,000	$306,000	$355,000	$452,000	**$1,362,000**
	13	French Prairie Drive Phase I	$98,000	$970,000	$785,000	$548,000	**$2,401,000**
		Year 6 - 10 Total	$1,275,000	$4,185,000	$2,528,000	$2,171,000	**$10,159,000**

Complete Repair Projects Continued

CIP	Project Rank	Project Name	Project Costs				
			Sewer	Storm	Streets	Water	**Total**
YEAR 11 - 15	14	Old Farm Road Phase II	$119,000	$737,000	$304,000	$18,000	**$1,178,000**
	15	Lafayette Way	-	$271,000	$196,000	-	**$467,000**
	16	Curry Drive	$171,000	$381,000	$73,000	-	**$625,000**
	17	Arbor Lake Drive Phase I	$342,000	$180,000	$364,000	$481,000	**$1,367,000**
	18	East Lake Court	$384,000	$718,000	$367,000	$394,000	**$1,863,000**
	19	Armitage Road Phase I	$227,000	$207,000	$400,000	$292,000	**$1,126,000**
	20	Arbor Lake Drive Phase II	$414,000	$171,000	$301,000	$556,000	**$1,442,000**
	21	Country View Lane Phase I	$144,000	$177,000	$165,000	-	**$486,000**
	22	Lake Drive	$118,000	$287,000	$134,000	-	**$539,000**
	23	Illahee Drive	$418,000	-	$52,000	$289,000	**$759,000**
	24	Middle Greens Road	$121,000	$230,000	$318,000	$362,000	**$1,031,000**
		Year 11 -15 Total	$2,458,000	$3,359,000	$2,674,000	$2,392,000	**$10,883,000**
YEAR 16 - 20	25	Boones Bend Road Phase I	$215,000	$640,000	$370,000	$483,000	**$1,708,000**
	26	Fairway Drive Phase I	$73,000	$178,000	$414,000	$550,000	**$1,215,000**
	27	Fairway Drive Phase II	$116,000	$638,000	$175,000	-	**$929,000**
	28	Armitage Road Phase II	$70,000	-	$369,000	$355,000	**$794,000**
	29	Lake Bluff Court	-	$419,000	$206,000	$355,000	**$980,000**
	30	Del Monte Drive	-	-	$50,000	$228,000	**$278,000**
	31	Lakeside Loop & Village Green Court	$167,000	$525,000	$172,000	$34,000	**$898,000**
	32	French Prairie Drive Phase VI	$73,000	$884,000	$320,000	-	**$1,277,000**
	33	Arbor Lake Drive Phase III	$121,000	$545,000	$134,000	-	**$800,000**
	34	Estates Post Road	-	$51,000	$247,000	$307,000	**$605,000**
	35	Charbonneau Storm Improve. Phase I	-	$307,000	-	-	**$307,000**
	36	Charbonneau Storm Improve. Phase II	-	$529,000	-	-	**$529,000**
	37	Mariners Drive Water Improvements	-	-	$89,000	$486,000	**$575,000**
	38	Louvonne & Juliette Street	-	-	$32,000	-	**$32,000**
		Year 16 - 20 Total	$835,000	$4,716,000	$2,578,000	$2,798,000	**$10,927,000**
		Complete Repair Project Total	$6,377,000	$17,074,000	$10,059,000	$7,946,000	**$41,456,000**
		20 Year Total	$6,819,000	$19,583,000	$10,059,000	$7,946,000	**$44,407,000**

French Prairie Drive Pathway

Another component of the Charbonneau infrastructure that is beginning to show signs of deterioration is the French Prairie Drive walking path. This asphalt pathway generally follows the north and west sides of French Prairie Drive (Figure 5), extending between Juliette Drive and Country View Lane.

Typically, the fronting property owner is responsible for maintaining sidewalks. However, according to the Memorandum of Understanding between City of Wilsonville and Charbonneau Country Club, adopted by Resolution No. 1465 in 1998, the City accepted ownership and maintenance responsibility of the French Prairie Drive walking path.

An inspection of the walking path condition was completed in April 2014. A number of safety concerns were identified as part of the inspection, including potential trip hazards and unstable surface conditions. Generally, these walking path safety issues were created by tree root damage and deterioration of the asphalt surface material over time.

Short Term Repair

A short term repair plan has been identified to correct the existing French Prairie Drive walking path safety concerns. The existing trip hazards and unstable surface conditions would be repaired by replacing those sections of the path with a new asphalt surface. Tree root trimming would be provided where tree damage and stability would not be compromised. Path repair at curb ramps would be made with new concrete ramps. All pathway repairs would be made in conformance with current Americans with Disabilities Act (ADA) guidelines. In order to meet ADA guidelines, two oak trees would need to be removed. Detailed repair information and cost estimates, as well as a discussion on design alternatives considered to preserve the two oak trees is provided in Appendix D.

The short term French Prairie pathway repair plan is anticipated to cost approximately $73,000.

Long Term Replacement Options

The French Prairie Drive walking path inspection also revealed that the overall condition of the path is significantly deteriorated. The deterioration is not to the point of being considered a safety concern, but deficient enough that a long term replacement plan is needed. In order to establish a range of costs to replace the pathway, three alternative designs were considered.

Option 1: Replace existing asphalt path in its current location with a 5-foot wide sidewalk in conformance with current Wilsonville Public Works Standards and ADA Guidelines. The new sidewalk would be constructed of concrete along the current alignment between Juliette Drive and Country View Lane. This option would require the removal of approximately 13 large trees, which is necessary to meet ADA guidelines.

Option 2: Convert one of the two vehicular travel lanes on French Prairie Drive into a multi-use path for bikes and pedestrians. This new multi-use path would be installed the full length of French Prairie Drive and provided in both directions. The multi-use path would be separated from the vehicular travel lane with a concrete curb and the existing asphalt surface improved to meet ADA guidelines. Because the existing asphalt path would still need to be maintained and those improved portions upgraded to meet ADA guidelines, it is assumed that the existing asphalt path would be removed and replaced with grass landscaping. Connections to existing trails and pathways would be preserved. No trees would be removed as part of this option.

Option 3: Provide a multi-use path on French Prairie Drive, similar to Option 2, through the conversion of one of the two vehicular travel lanes. Under this option, the separation between the multi-use path and the vehicular travel lane would be provided by a linear vegetated swale (LID). This new multi-use path and swale would be installed the full length of French Prairie Drive and provided in both directions. Swale overflow connections would be made to the storm system and the swale would include water quality plantings and irrigation. The existing asphalt path would be removed and replaced with grass landscaping. Connections to existing trails and pathways would be preserved. No trees would be removed with this option.

The preferred design will be determined as part of a public involvement process with the Charbonneau community. Costs to replace the pathway are anticipated to fall within the range between $625,000 and $5,700,000.

Figure 5 - French Prairie Drive Pedestrian & Bike Facilities

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Summary

Deterioration of the Charbonneau District public infrastructure (sewer, storm, streets, & water) is a result of the substandard design and construction techniques and the non-standard materials employed during its development. Although many of these deficiencies have been documented in the master plans for each of the utilities, a comprehensive analysis of the Charbonneau District infrastructure had not been completed. This Plan provides such an analysis and includes an infrastructure repair program to be implemented over the next 20 or more years.

This plan identifies current deficiencies of each utility throughout the District and prioritizes them based on the severity of the deficiency. Thirty-eight infrastructure repair projects have been defined that include concurrent repairs to multiple utilities located within the same area. This strategy intends to reduce overall construction costs and impacts to the adjacent properties. These 38 repair projects have been prioritized based on the length and severity of utility deficiencies within each project. As a result, the more deficient utilities are repaired earlier than those utilities with less serious deficiencies.

In addition to the utility repair projects, a short term repair and a long term replacement strategy has been identified for the French Prairie Drive walking path.

Also included as part of this plan, planning level design and construction costs have been assigned to each of the 38 repair projects and the French Prairie Drive walking path repair plan to help guide a future funding analysis. The total cost to correct the Charbonneau District infrastructure deficiencies is estimated to be $44.5 million over the next 20 or more years. The total cost per utility is summarized as follows:

Sewer	Storm	Streets	Water	Walking Path
$6.8 million	$19.6 million	$10.0 million	$8.0 million	$0.1 million

The utility deficiencies throughout the Charbonneau District are numerous and require significant resources to repair over the next 20 or more years. The Consolidated Improvement Plan offers an approach to replacing the aging, substandard infrastructure in a way that is efficient and economical, while reducing impacts to the adjacent properties. Revisions to the project order can be expected as new or more detailed information becomes available over time.

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APPENDIX A

DETAILED PROJECT PRIORITY LIST

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Charbonneau Project Priority List
Complete Repair Scenario
August 4, 2014

Project Rank	Project Name / Project Street	Beginning Project Limits	Ending Project Limits	Priority Rank			
				Sewer	Storm	Streets	Water
1	French Prairie Drive - Phase I						
	French Prairie Drive	Miley Rd	Del Monte Dr - 300' North	1, 3	1, 2, 3	-	2
	Boones Bend Road	French Prairie Dr	Fairway Drive	-	1	-	2
	Lafayette Way	French Prairie Dr	French Prairie Dr - 100' East	-	3	1	-
	Del Monte Drive	French Prairie Dr	French Prairie Dr - 100' East	1	3	-	2
	Utility Easement (North)	French Prairie Dr	French Prairie Dr - 250' West	-	3	-	1
2	Mollala Bend Road						
	Molalla Bend Rd	French Prairie Dr	Armitage Rd	3	1, 3	2	2
	Molalla Bend NE	Molalla Bend Rd	Dead End	-	-	2	2
	Molalla Bend SE	Molalla Bend Rd	Dead End	1	1	2	2
	Molalla Bend SW	Molalla Bend Rd	Dead End	-	-	2	2
	Storm Easement	Molalla Bend Rd	Miley Road	-	1	-	-
3	Fairway Drive Phase I						
	Fairway Drive	Boones Bend Rd	Middle Greens Rd	1, 3	1, 3	3	2
	Middle Greens Rd	Lake Point Ct	Fairway Drive	-	3	3	2
	Storm Easement (West)	Fairway Dr	Fairway Dr - 150' North	-	3	-	-
	Storm Easement (East)	Fairway Dr	Miley Road	-	3	-	-
4	Estates Post Road						
	Estates Post Road	Armitage Rd (North)	Armitage Rd (South)	1	1	-	2
	Estates Ct North	Estates Post Rd	Dead End	-	-	-	2
	Estates Ct South	Estates Post Rd	Dead End	-	-	-	2
	Storm Easement (North)	Estates Post Rd	French Prairie Dr	-	3	-	-
	Storm Easement (South)	Estates Post Rd	French Prairie Dr	-	1	-	-
5	French Prairie Drive - Phase II						
	French Prairie Drive	Village Greens Circle	Country View Ln	2, 3	1, 2	-	-
	Village Greens Circle	French Prairie Dr	French Prairie Dr - 150' South	3	3	2	-
	Old Farm Road	French Prairie Dr	French Prairie Dr - 150' South	-	2	1	-
	Lakeside Loop	French Prairie Dr	Lakeside Dr	-	3	-	-
	Country View Lane	French Prairie Dr	Ironwood Ct	-	3	-	-
	Storm Outfall	French Prairie Dr	Willamette River	-	2	-	-
	Sewer Easement (West)	French Prairie Dr	Lakeside Dr	3	-	-	-
	Storm Easement (West)	French Prairie Dr	French Prairie Dr - 150' North	-	3	-	-
	Storm Easement (East)	French Prairie Dr	French Prairie Dr - 250' South	-	3	-	-

Project Rank	Project Name / Project Street	Beginning Project Limits	Ending Project Limits	Priority Rank			
				Sewer	Storm	Streets	Water
6	Old Farm Road - Phase I						
	Old Farm Road	French Prairie Dr - 150' South	Arbor Glen Lp - 275' South	3	1, 2	1	2
	Lakeside Drive	Old Farm Rd	Lakeside Lp	-	3	-	-
	Arbor Glen Loop	Old Farm Rd	Arbor Glen Ct	-	1	3	-
	Arbor Glen Court	Arbor Glen Ct	Dead End	3	3	1	1
	Sewer Easement (West)	Old Farm Rd	SW End	3	-	-	-
	Storm Easement (South)	Arbor Glen Lp	Arbor Glen Lp - 175' South	-	3	-	-
7	Arbor Lake Drive - Phase I						
	Arbor Lake Drive	Lake Dr	Downs Post Rd (South)	3	3	-	2
	Greens View Court	Arbor Lake Dr	Dead End	2	3	-	2
	Bunker Post Court	Arbor Lake Dr	Dead End	3	1	3	2
	Downs Post Road	Arbor Lake Dr	Arbor Lake Dr - 250' East	2	1	-	2
8	Village Greens Circle						
	Village Greens Circle	French Prairie Dr (West)	French Prairie Dr - 150' South	-	3	2	-
	French Prairie Drive	Village Greens CIR (East)	Village Greens CIR - 150' W	3	2	-	-
	Utility Easement (North)	French Prairie Dr	Edgewater Ln	2	2	-	-
	Storm Easement (South)	Village Greens CIR	Village Greens CIR - 75' S	-	3	-	-
9	Edgewater Lane						
	Edgewater Lane (E-W)	Edgewater Ln (West End)	Edgewater Ln (East End)	2, 3	1, 2	-	-
	Edgewater Lane (N-S)	Edgewater Ln	French Prairie Dr	3	1, 3	-	-
	French Prairie Drive	Fairway Village Lp	Edgewater Ln	-	3	-	-
	Fairway Village Loop	French Prairie Dr	French Prairie Dr - 250' South	-	3	-	1
10	French Prairie Drive - Phase III						
	French Prairie Drive	Boones Bend Rd - 450' North	Del Monte Dr - 300' North	3	1, 2	-	2
	Boones Bend Road	French Prairie Dr	Cypress Pt	-	2	-	2
	Carmel Circle	French Prairie Dr	Del Monte Dr	-	-	3	-
	Storm Easement (North)	French Prairie Dr	French Prairie Dr - 150' West	-	2	-	-
	Utility Easement (East)	French Prairie Dr	French Prairie Dr - 310' East	-	1	-	2
	Storm Easement (South)	French Prairie Dr	Del Monte Dr - 75' East	-	1, 3	-	-
11	Boones Bend Road - Phase II						
	Boones Bend Road	Cypress Pt	Sacajawea Ln - 100' North	2. 3	1, 2	-	2
	Boones Bend Lane	Boones Bend Road	Dead End	-	-	-	3
	Sewer Easement (North)	Boones Bend Road	Boones Bend Rd - 350' East	2	-	-	-
12	Country View Loop						
	French Prairie Drive	Country View Lane	Village Green Ct - 250' East	-	2	-	-
	Village Green Court	French Prairie Dr	French Prairie Dr - 150' South	2	3	-	-
	Country View Court West	French Prairie Dr	Country View Lp	-	3	-	-
	Country View Loop	Country View Ct West	Country View Ln	2	1	-	-
	Devonshire Court	Country View Ln	Dead End	3	3	-	2

Project Rank	Project Name / Project Street	Beginning Project Limits	Ending Project Limits	Priority Rank			
				Sewer	Storm	Streets	Water
13	Armitage Road - Phase I						
	Armitage Rd	Armitage Ct South	Molalla Bend Rd	3	1, 3	-	2
	Armitage Ct South	Armitage Rd	Dead End	-	-	-	2
	Armitage Rd "Eyebrow"	Armitage Rd	Dead End	-	-	-	2
	Armitage Ct (SW)	Armitage Rd	Dead End	2	3	-	2
14	Arbor Lake Drive - Phase II						
	Arbor Lake Drive	Downs Post Rd (North)	Downs Post Rd (South)	3	1, 3	-	2
	Arbor Lake Court	Arbor Lake Dr	Dead End	3	1, 3	-	2
	Downs Post Road	Arbor Lake Dr - 250' East	Arbor Lake Road	2, 3	3	-	2
	Sewer Easement (West)	Arbor Lake Ct	Arbor Lake Ct - 250' NW	3	-	-	-
	Water Easement (West)	Arbor Lake Ct	Arbor Lake Ct - 550' West	-	-	-	2
15	Country View Lane - Phase I						
	Country View Lane	Ironwood Ct	Wheatland Run	-	1, 3	-	-
	Gordons Run	Country View Lane	Dead End	2	-	-	-
	Wheatland Run	Country View Lane	Dead End	3	-	-	-
16	Lake Drive						
	Lake Drive	Arbor Lake Dr - 50' North	French Prairie Dr	3	1, 3	-	-
	Lake Court	Lake Dr	French Prairie Dr	2	-	-	-
17	Middle Greens Road						
	Lake Point Ct	Middle Greens Rd	Lake Point Ct East	3	3	3	2
	Lake Point Ct East	Lake Point Ct	Dead End	3	1	3	1
	Middle Greens Rd	Lake Point Ct	Arbor Lake Dr	-	1, 3	-	1, 3
18	Boones Bend Road - Phase I						
	Boones Bend Road	Fairway Dr	Winchester Wy - 350' North	-	1, 3	-	2
	Winchester Way	Boones Bend Rd	Dead End	-	1, 3	3	-
	Lake Point Court (West)	Lake Point Ct (East)	Dead End	3	3	3	2
	Storm Easement (West)	Boones Bend Rd	Boones Bend Rd - 100' West	-	3	-	-
	Storm Easement (East)	Boones Bend Rd	Boones Bend Rd - 50' East	-	3	-	-
	Storm Easement (North)	Winchester Wy	Winchester Wy - 125' North	-	3	-	-
	Utility Easement	Winchester Wy	Lake Point Ct	3	3	-	2
19	Armitage Road - Phase II						
	Armitage Road	French Prairie Dr	Armitage Ct South	-	1, 3	-	2
	Armitage Court	Armitage Rd	Dead End	3	-	3	2
	Armitage Court North	Armitage Rd	Dead End	-	-	-	2

Project Rank	Project Name / Project Street	Beginning Project Limits	Ending Project Limits	Priority Rank			
				Sewer	Storm	Streets	Water
20	Fairway Drive - Phase II						
	Fairway Drive	Middle Greens Rd	Arbor Lake Dr	3	1, 3	3	-
	Arbor Lake Drive	Lake Dr	French Prairie Dr	-	3	-	-
	Lake Drive	Arbork Lake Dr	Arbor Lake Dr - 50' North	-	3	-	-
	Storm Easement (West)	Fairway Dr	Miley Rd	-	1	-	-
	Storm Easement (Center)	Fairway Dr	Miley Rd	-	3	-	-
	Storm Easement (East)	Fairway Dr	Miley Rd	-	3	-	-
21	Country View Lane - Phase II						
	Country View Lane	Devonshire Ct	Gate Post Rd - 500' South	3	1	-	-
	French Prairie Drive	Village Green Ct - 250' East	Arbor Lake Dr	-	2	-	-
	Gate Post Rd	Country View Lane	Dead End	-	3	-	2
22	French Prairie Drive - Phase V						
	French Prairie Drive	Arbor Lake Dr	Country View Ln	-	1	-	
	Arbor Lake Drive	French Prairie Dr	Country View Ln	-	-	-	2
	Country View Lane	Arbor Lake Dr	French Prairie Dr	-	-	-	2
	Sewer Easement	Country View Ct North	Country View Ln	3	-	-	-
	Storm Easement (North)	French Prairie Dr	Country View Ct North	-	3	-	-
	Storm Easement (South)	French Prairie Dr	Country View Ct South	-	3	-	-
23	French Prairie Drive - Phase IV						
	French Prairie Drive	Boones Bend Rd - 450' North	Charbonneau Dr	-	1, 2	-	-
	Charbonneau Drive	French Prairie Dr	Dead End	-	1, 2	-	2
	Water Easement	Woodbridge Ct	Charbonneau Dr	-	-	-	2
24	Louvonne & Juliette Storm						
	Louvonne Drive	Riviera Ln	French Prairie Dr	-	1	-	-
	Juliette Drive	Riviera Ln - 200' West	French Prairie Dr	-	1	-	-
25	Sacajawea Lane						
	Boones Bend Road	Sacajawea Ln - 100' North	Sacajawea Ln - 225' South	3	2, 3	-	2
	Sacajawea Lane	Boones Bend Road	Sacajawea Ln (North)	3	3	1	2
	Sacajawea Lane (North)	Sacajawea Ln	Sacajawea Ln (NW)	-	3	1	2
	Sacajawea Lane (NW)	Sacajawea Ln (North)	Dead End	2	3	1	2
	Sacajawea Lane (NE)	Sacajawea Ln (North)	Dead End	2	-	1	2
	Sacajawea Lane (South)	Sacajawea Ln	Dead End	2	3	1	2
	Sewer Easement	Boones Bend Rd	Sacajawea Ln (NW)	2	-	-	-
	Utility Easement	Sacajawea Ln	Sacajawea Ln - 175' East	-	3	-	-
26	Old Farm Road - Phase II						
	Old Farm Road	Arbor Glen Lp - 275' South	Arbor Lake Dr	3	2	1	-
	Arbor Glen Loop	Arbor Glen Ct	Lake Bluff Ct	-	-	3	-
	Arbor Lake Drive	Old Farm Rd - 425' West	Old Farm Rd - 125' East	3	3	-	-
	Utility Easement	Old Farm Rd	Lake Bluff Ct	-	3	-	2

Project Rank	Project Name / Project Street	Beginning Project Limits	Ending Project Limits	Priority Rank			
				Sewer	Storm	Streets	Water
27	Lafayette Way						
	Lafayette Way	French Prairie Dr	Lafayette Way (West)	-	3	1	-
	Lafayette Way (West)	Lafayette Way	Dead End	-	3	1	-
	Lafayette Way (East)	Lafayette Way	Dead End	-	-	1	-
	Storm Easement	Juliette Dr	Juliette Dr - 200' West	-	3	-	-
28	Curry Drive						
	Curry Drive	Avalon Ct	French Prairie Dr - 100' North	3	2	-	-
	Bordeaux Court	Curry Dr	Dead End	-	2	-	-
	Utility Easement (East)	Curry Dr	Edgewater Ln	-	-	-	-
	Utility Easement (West)	Bordeaux Ct	Bordeaux Ct - 125' West	2	2	-	-
29	East Lake Court						
	Arbor Lake Drive	Downs Post Rd (North)	Old Farm Rd - 425' West	2, 3	3	-	2
	East Lake Court	Arbor Lake Dr	Dead End	2, 3	3	-	1, 2
	East Lake Point	East Lake Court	Dead End	2	3	-	1
30	Illahee Drive						
	Illahee Ct	Illahee Dr - 125' North	Curry Drive	2, 3	-	-	2
	Sewer Easement	Illahee Ct	Illahee Ct - 450' East	3	-	-	-
31	Lake Bluff Court						
	Lake Bluff Court	Dead End (West)	Dead End (East)	-	3	3	2
	Utility Easement (West)	Lakeside Lp	Lake Bluff Ct	-	3	-	2
	Storm Easement (North)	Utility Easement (West)	200' North	-	3	-	-
32	Del Monte Drive						
	Del Monte Drive	Carmel Cir	French Prairie Dr - 100' East	-	-	-	2
	Cypress Point	Boones Bend Rd	Carmel Cir	-	-	3	2
33	Lakeside Loop / Village Green Ct						
	Lakeside Loop	Lakeside Dr	Lakeside Lp	3	3	-	2
	Village Green Court	French Prairie Dr - 150' South	Dead End	3	3	-	-
	Storm Easement (North)	French Prairie Dr - 250' South	French Prairie Dr - 525' South	-	3	-	-
	Utility Easement (South)	Village Green Ct	Village Green Ct - 150' South	-	3	-	-
34	French Prairie Drive - Phase VI						
	French Prairie Drive	Miley Rd	Armitage Rd	-	3	-	-
	Fountain Lake Drive	French Prairie Dr	Lake Dr	3	3	-	-
35	Arbor Lake Drive - Phase III						
	Arbor Lake Drive	Old Farm Rd - 125' East	Village Crest Ln	3	3	-	-
	Village Crest Lane	Arbor Lake Dr	Arbor Lake Dr - 500' South	-	3	-	-
	Village Crest Court	Arbor Lake Dr	Dead End	-	3	-	-
	Utility Easement (North)	Village Crest Ct	Village Crest Ct - 125' North	-	3	-	-
	Storm Easement (South)	Arbor Lake Dr	Village Crest Ln	-	3	-	-

Project Rank	Project Name / Project Street	Beginning Project Limits	Ending Project Limits	Priority Rank			
				Sewer	Storm	Streets	Water
36	Charbonneau Storm Improvements Ph I						
	Storm Easement (North)	French Prairie Rd - 125' North	Gordons Run	-	3	-	-
	Storm Easement (South)	Village Green Cir - 50' South	Arbor Glen Ct - 350' South	-	3	-	-
37	Charbonneau Storm Improvements Ph II						
	Utility Easement	French Prairie Dr - 125' South	Charbonneau Dr - 250' South	-	3	-	-
38	Mariners Drive Water Improvements						
	Mariners Drive	Woodbridge Ct	Dead End	-	-	-	2
	Woodbridge Court	Mariners Dr - 125' West	Charbonneau Dr -175' West	-	-	-	2
	Water Easement (South)	Mariners Dr	Mariners Dr - 275' South	-	-	-	2

Charbonneau Project Priority List
High Priority Spot Repair Scenario
August 4, 2014

Spot Repair Projects

Project Rank	Project Name / Project Street	Beginning Project Limits	Ending Project Limits	Priority Rank: Sewer Improvements	Priority Rank: Storm Improvements
SR-1	8000 Block of Fairway Drive				
	Fairway Drive	8155 SW Fairway Dr	7990 SW Fairway Dr	1	1
SR-2	Estates Post Road				
	Estates Post Road	Estates Ct North	32450 SW Estates Post Rd	1	1
	Storm Easement	French Prairie Dr	Estates Post Rd	-	1
SR-3	Mollala Bend SE				
	Mollala Bend SE	Mollala Bend Rd	Dead End	1	1
SR-4	French Prairie Drive at Del Monte Drive				
	French Prairie Drive	Del Monte Dr - 250' North	Del Monte Dr - 250' South	1	-
	Del Monte Drive	French Prairie Dr	French Prairie Dr - 250' East	1	-
SR-5	7300 & 7800 Block of Fairway Drive				
	Fairway Drive	7865 SW Fairway Dr	Lake Point Ct	-	1
	Fairway Drive	7360 SW Fairway Dr	Arbor Lake Dr	-	1
	Storm Easement (West)	Fairway Dr	Miley Rd	-	1
SR-6	Armitage Road - South				
	Armitage Road	Mollala Bend Rd	Estates Post Rd	-	1, 3
SR-7	Middle Greens Road				
	Middle Greens Road	Lake Point Ct - 150' East	7625 SW Middle Greens Rd	-	1
	Lake Point Court East	Lake Point Ct	Dead End	-	1
SR-8	Country View Loop				
	Country View Loop	31165 SW Country View Lp	Country View Lane	-	1
	Country View Lane	Devonshire Ct	Gate Post Rd	-	1
SR-9	Boones Bend Road				
	Boones Bend Road	32390 SW Boones Bend Rd	Winchester Way	-	1
	Winchester Way	Boones Bend Rd	Boones Bend Rd - 150' East	-	1
SR-10	Arbor Lake Drive				
	Arbor Lake Drive	Arbor Lake Ct	Downs Post Road	-	1
	Bunker Post Road	Arbor Lake Dr - 50' East	Dead End	-	1
	Downs Post Road	Arbor Lake Dr	Arbor Lake Dr - 250' East	-	1
	Arbor Lake Court	Arbor Lake Dr	Arbor Lake Dr - 225' West	-	1
SR-11	Armitage Road - North				
	Armitage Road	French Prairie Dr	Armitage Ct East	-	1, 3
SR-12	Lake Drive				
	Lake Drive	32349 SW Lake Dr	32279 SW Lake Dr	-	1
SR-13	Country View Lane				
	Country View Lane	Country View Lp	Wheatland Run	-	1, 3
SR-14	Juliette Drive				
	Juliette Drive	Riviera Ln - 200' West	French Prairie Dr	-	1
	Boones Bend Road	French Prairie Dr	Fairway Dr	-	1
SR-15	Louvonne Drive				
	Louvonne Drive	Riviera Ln	French Prairie Dr	-	1
	French Prairie Drive	Lafayette Wy	Lafayette Wy - 175' North	-	1

Charbonneau Project Priority List
High Priority Spot Repair Scenario
August 4, 2014

Complete Repair Projects

Project Rank	Project Name / Project Street	Beginning Project Limits	Ending Project Limits	Priority Rank			
				Sewer	Storm	Street	Water
1	French Prairie Drive - Phase II						
	French Prairie Drive	Village Greens Circle	Country View Ln	2, 3	1, 2	-	-
	Village Greens Circle	French Prairie Dr	French Prairie Dr - 150' South	3	3	2	-
	Old Farm Road	French Prairie Dr	French Prairie Dr - 150' South	-	2	1	-
	Lakeside Loop	French Prairie Dr	Lakeside Dr	-	3	-	-
	Country View Lane	French Prairie Dr	Ironwood Ct	-	3	-	-
	Storm Outfall	French Prairie Dr	Willamette River	-	2	-	-
	Sewer Easement (West)	French Prairie Dr	Lakeside Dr	3	-	-	-
	Storm Easement (West)	French Prairie Dr	French Prairie Dr - 150' North	-	3	-	-
	Storm Easement (East)	French Prairie Dr	French Prairie Dr - 250' South	-	3	-	-
2	Old Farm Road - Phase I						
	Old Farm Road	French Prairie Dr - 150' South	Arbor Glen Lp - 275' South	3	1, 2	1	2
	Lakeside Drive	Old Farm Rd	Lakeside Lp	-	3	-	-
	Arbor Glen Loop	Old Farm Rd	Arbor Glen Ct	-	1	3	-
	Arbor Glen Court	Arbor Glen Ct	Dead End	3	3	1	1
	Sewer Easement (West)	Old Farm Rd	SW End	3	-	-	-
	Storm Easement (South)	Arbor Glen Lp	Arbor Glen Lp - 175' South	-	3	-	-
3	Village Greens Circle						
	Village Greens Circle	French Prairie Dr (West)	French Prairie Dr - 150' South	-	3	2	-
	French Prairie Drive	Village Greens CIR (East)	Village Greens CIR - 150' W	3	2	-	-
	Utility Easement (North)	French Prairie Dr	Edgewater Ln	2	2	-	-
	Storm Easement (South)	Village Greens CIR	Village Greens CIR - 75' S	-	3	-	-
4	Edgewater Lane						
	Edgewater Lane (E-W)	Edgewater Ln (West End)	Edgewater Ln (East End)	2, 3	1, 2	-	-
	Edgewater Lane (N-S)	Edgewater Ln	French Prairie Dr	3	1, 3	-	-
	French Prairie Drive	Fairway Village Lp	Edgewater Ln	-	3	-	-
	Fairway Village Loop	French Prairie Dr	French Prairie Dr - 250' South	-	3	-	1
5	French Prairie Drive - Phase III						
	French Prairie Drive	Boones Bend Rd - 450' North	Del Monte Dr - 300' North	3	1, 2	-	2
	Boones Bend Road	French Prairie Dr	Cypress Pt	-	2	-	2
	Carmel Circle	French Prairie Dr	Del Monte Dr	-	-	3	-
	Storm Easement (North)	French Prairie Dr	French Prairie Dr - 150' West	-	2	-	-
	Utility Easement (East)	French Prairie Dr	French Prairie Dr - 310' East	-	1, 3	-	2
	Storm Easement (South)	French Prairie Dr	Del Monte Dr - 75' East	-	1, 3	-	-

Project Rank	Project Name / Project Street	Beginning Project Limits	Ending Project Limits	Priority Rank			
				Sewer	Storm	Street	Water
6	Boones Bend Road - Phase II						
	Boones Bend Road	Cypress Pt	Sacajawea Ln - 100' North	2. 3	1, 2	-	2
	Boones Bend Lane	Boones Bend Road	Dead End	-	-	-	3
	Sewer Easement (North)	Boones Bend Road	Boones Bend Rd - 350' East	2	-	-	-
7	Mollala Bend Road						
	Molalla Bend Rd	French Prairie Dr	Armitage Rd	3	1, 3	2	2
	Molalla Bend NE	Molalla Bend Rd	Dead End	-	-	2	2
	Molalla Bend SE	Molalla Bend Rd	Dead End	-	-	2	2
	Molalla Bend SW	Molalla Bend Rd	Dead End	-	-	2	2
	Storm Easement	Molalla Bend Rd	Miley Road	-	1	-	-
8	Country View Loop						
	French Prairie Drive	Country View Lane	Village Green Ct - 250' East	-	2	-	-
	Village Green Court	French Prairie Dr	French Prairie Dr - 150' South	2	3	-	-
	Country View Court West	French Prairie Dr	Country View Lp	-	3	-	-
	Country View Loop	Country View Ct West	Country View Ln	2	-	-	-
	Devonshire Court	Country View Ln	Dead End	3	3	-	2
9	Country View Lane - Phase II						
	Country View Lane	Devonshire Ct	Gate Post Rd - 500' South	3	-	-	-
	French Prairie Drive	Village Green Ct - 250' East	Arbor Lake Dr	-	2	-	-
	Gate Post Rd	Country View Lane	Dead End	-	3	-	2
10	French Prairie Drive - Phase V						
	French Prairie Drive	Arbor Lake Dr	Country View Ln	-	1	-	
	Arbor Lake Drive	French Prairie Dr	Country View Ln	-	-	-	2
	Country View Lane	Arbor Lake Dr	French Prairie Dr	-	-	-	2
	Sewer Easement	Country View Ct North	Country View Ln	3	-	-	-
	Storm Easement (North)	French Prairie Dr	Country View Ct North	-	3	-	-
	Storm Easement (South)	French Prairie Dr	Country View Ct South	-	3	-	-
11	French Prairie Drive - Phase IV						
	French Prairie Drive	Boones Bend Rd - 450' North	Charbonneau Dr	-	1, 2	-	-
	Charbonneau Drive	French Prairie Dr	Dead End	-	1, 2	-	2
	Water Easement	Woodbridge Ct	Charbonneau Dr	-	-	-	2
12	Sacajawea Lane						
	Boones Bend Road	Sacajawea Ln - 100' North	Sacajawea Ln - 225' South	3	2, 3	-	2
	Sacajawea Lane	Boones Bend Road	Sacajawea Ln (North)	3	3	1	2
	Sacajawea Lane (North)	Sacajawea Ln	Sacajawea Ln (NW)	-	3	1	2
	Sacajawea Lane (NW)	Sacajawea Ln (North)	Dead End	2	3	1	2
	Sacajawea Lane (NE)	Sacajawea Ln (North)	Dead End	2	-	1	2
	Sacajawea Lane (South)	Sacajawea Ln	Dead End	2	3	1	2
	Sewer Easement	Boones Bend Rd	Sacajawea Ln (NW)	2	-	-	-
	Utility Easement	Sacajawea Ln	Sacajawea Ln - 175' East	-	3	-	-

Project Rank	Project Name / Project Street	Beginning Project Limits	Ending Project Limits	Priority Rank			
				Sewer	Storm	Street	Water
13	French Prairie Drive - Phase I						
	French Prairie Drive	Miley Rd	Del Monte Dr - 300' North	3	2, 3	-	2
	Boones Bend Road	French Prairie Dr	Fairway Drive	-	-	-	2
	Lafayette Way	French Prairie Dr	French Prairie Dr - 100' East	-	3	1	-
	Del Monte Drive	French Prairie Dr	French Prairie Dr - 100' East	-	3	-	2
	Utility Easement (North)	French Prairie Dr	French Prairie Dr - 250' West	-	3	-	1
14	Old Farm Road - Phase II						
	Old Farm Road	Arbor Glen Lp - 275' South	Arbor Lake Dr	3	2	1	-
	Arbor Glen Loop	Arbor Glen Ct	Lake Bluff Ct	-	-	3	-
	Arbor Lake Drive	Old Farm Rd - 425' West	Old Farm Rd - 125' East	3	3	-	-
	Utility Easement	Old Farm Rd	Lake Bluff Ct	-	3	-	2
15	Lafayette Way						
	Lafayette Way	French Prairie Dr	Lafayette Way (West)	-	3	1	-
	Lafayette Way (West)	Lafayette Way	Dead End	-	3	1	-
	Lafayette Way (East)	Lafayette Way	Dead End	-	-	1	-
	Storm Easement	Juliette Dr	Juliette Dr - 200' West	-	3	-	-
16	Curry Drive						
	Curry Drive	Avalon Ct	French Prairie Dr - 100' North	3	2	-	-
	Bordeaux Court	Curry Dr	Dead End	-	2	-	-
	Utility Easement (East)	Curry Dr	Edgewater Ln	-	-	-	-
	Utility Easement (West)	Bordeaux Ct	Bordeaux Ct - 125' West	2	2	-	-
17	Arbor Lake Drive - Phase I						
	Arbor Lake Drive	Lake Dr	Downs Post Rd (South)	3	3	-	2
	Greens View Court	Arbor Lake Dr	Dead End	2	3	-	2
	Bunker Post Court	Arbor Lake Dr	Arbor Lake Dr - 50' East	3	-	3	2
	Downs Post Road	Arbor Lake Dr	Arbor Lake Dr - 250' East	2	-	-	2
18	East Lake Court						
	Arbor Lake Drive	Downs Post Rd (North)	Old Farm Rd - 425' West	2, 3	3	-	2
	East Lake Court	Arbor Lake Dr	Dead End	2, 3	3	-	1, 2
	East Lake Point	East Lake Court	Dead End	2	3	-	1
19	Armitage Road - Phase I						
	Armitage Rd	Armitage Ct South	Molalla Bend Rd	3	3	-	2
	Armitage Ct South	Armitage Rd	Dead End	-	-	-	2
	Armitage Rd "Eyebrow"	Armitage Rd	Dead End	-	-	-	2
	Armitage Ct (SW)	Armitage Rd	Dead End	2	3	-	2
20	Arbor Lake Drive - Phase II						
	Arbor Lake Drive	Downs Post Rd (North)	Downs Post Rd (South)	3	3	-	2
	Arbor Lake Court	Arbor Lake Dr - 225' West	Dead End	3	3	-	2
	Downs Post Road	Arbor Lake Dr - 250' East	Arbor Lake Road	2, 3	3	-	2
	Sewer Easement (West)	Arbor Lake Ct	Arbor Lake Ct - 250' NW	3	-	-	-
	Water Easement (West)	Arbor Lake Ct	Arbor Lake Ct - 550' West	-	-	-	2

Project Rank	Project Name / Project Street	Beginning Project Limits	Ending Project Limits	Priority Rank			
				Sewer	Storm	Street	Water
21	Country View Lane - Phase I						
	Country View Lane	Ironwood Ct	Wheatland Run	-	3	-	-
	Gordons Run	Country View Lane	Dead End	2	-	-	-
	Wheatland Run	Country View Lane	Dead End	3	-	-	-
22	Lake Drive						
	Lake Drive	Arbor Lake Dr - 50' North	French Prairie Dr	3	3	-	-
	Lake Court	Lake Dr	French Prairie Dr	2	-	-	-
23	Illahee Drive						
	Illahee Ct	Illahee Dr - 125' North	Curry Drive	2, 3	-	-	2
	Sewer Easement	Illahee Ct	Illahee Ct - 450' East	3	-	-	-
24	Middle Greens Road						
	Lake Point Ct	Middle Greens Rd	Lake Point Ct East	3	3	3	2
	Lake Point Ct East	Lake Point Ct	Dead End	3	-	3	1
	Middle Greens Rd	Lake Point Ct	Arbor Lake Dr	-	3	-	1, 3
25	Boones Bend Road - Phase I						
	Boones Bend Road	Fairway Dr	Winchester Wy - 350' North	-	3	-	2
	Winchester Way	Boones Bend Rd	Dead End	-	3	3	-
	Lake Point Court (West)	Lake Point Ct (East)	Dead End	3	3	3	2
	Storm Easement (West)	Boones Bend Rd	Boones Bend Rd - 100' West	-	3	-	-
	Storm Easement (East)	Boones Bend Rd	Boones Bend Rd - 50' East	-	3	-	-
	Storm Easement (North)	Winchester Wy	Winchester Wy - 125' North	-	3	-	-
	Utility Easement	Winchester Wy	Lake Point Ct	3	3	-	2
26	Fairway Drive Phase I						
	Fairway Drive	Boones Bend Rd	Middle Greens Rd	3	3	3	2
	Middle Greens Rd	Lake Point Ct	Fairway Drive	-	3	3	2
	Storm Easement (West)	Fairway Dr	Fairway Dr - 150' North	-	3	-	-
	Storm Easement (East)	Fairway Dr	Miley Road	-	3	-	-
27	Fairway Drive - Phase II						
	Fairway Drive	Middle Greens Rd	Arbor Lake Dr	3	3	3	-
	Arbor Lake Drive	Lake Dr	French Prairie Dr	-	3	-	-
	Lake Drive	Arbork Lake Dr	Arbor Lake Dr - 50' North	-	3	-	-
	Storm Easement (Center)	Fairway Dr	Miley Rd	-	3	-	-
	Storm Easement (East)	Fairway Dr	Miley Rd	-	3	-	-
28	Armitage Road - Phase II						
	Armitage Road	French Prairie Dr	Armitage Ct South	-	-	-	2
	Armitage Court	Armitage Rd	Dead End	3	-	3	2
	Armitage Court North	Armitage Rd	Dead End	-	-	-	2
29	Lake Bluff Court						
	Lake Bluff Court	Dead End (West)	Dead End (East)	-	3	3	2
	Utility Easement (West)	Lakeside Lp	Lake Bluff Ct	-	3	-	2
	Storm Easement (North)	Utility Easement (West)	200' North	-	3	-	-

Project Rank	Project Name / Project Street	Beginning Project Limits	Ending Project Limits	Priority Rank			
				Sewer	Storm	Street	Water
30	Del Monte Drive						
	Del Monte Drive	Carmel Cir	French Prairie Dr - 100' East	-	-	-	2
	Cypress Point	Boones Bend Rd	Carmel Cir	-	-	3	2
31	Lakeside Loop / Village Green Ct						
	Lakeside Loop	Lakeside Dr	Lakeside Lp	3	3	-	2
	Village Green Court	French Prairie Dr - 150' South	Dead End	3	3	-	-
	Storm Easement (North)	French Prairie Dr - 250' South	French Prairie Dr - 525' South	-	3	-	-
	Utility Easement (South)	Village Green Ct	Village Green Ct - 150' South	-	3	-	-
32	French Prairie Drive - Phase VI						
	French Prairie Drive	Miley Rd	Armitage Rd	-	3	-	-
	Fountain Lake Drive	French Prairie Dr	Lake Dr	3	3	-	-
33	Arbor Lake Drive - Phase III						
	Arbor Lake Drive	Old Farm Rd - 125' East	Village Crest Ln	3	3	-	-
	Village Crest Lane	Arbor Lake Dr	Arbor Lake Dr - 500' South	-	3	-	-
	Village Crest Court	Arbor Lake Dr	Dead End	-	3	-	-
	Utility Easement (North)	Village Crest Ct	Village Crest Ct - 125' North	-	3	-	-
	Storm Easement (South)	Arbor Lake Dr	Village Crest Ln	-	3	-	-
34	Estates Post Road						
	Estates Post Road	Armitage Rd (North)	Armitage Rd (South)	-	-	-	2
	Estates Ct North	Estates Post Rd	Dead End	-	-	-	2
	Estates Ct South	Estates Post Rd	Dead End	-	-	-	2
	Storm Easement (North)	Estates Post Rd	French Prairie Dr	-	3	-	-
	Storm Easement (South)	Estates Post Rd	French Prairie Dr	-	-	-	-
35	Charbonneau Storm Improvements Ph I						
	Storm Easement (North)	French Prairie Rd - 125' North	Gordons Run	-	3	-	-
	Storm Easement (South)	Village Green Cir - 50' South	Arbor Glen Ct - 350' South	-	3	-	-
36	Charbonneau Storm Improvements Ph II						
	Utility Easement	French Prairie Dr - 125' South	Charbonneau Dr - 250' South	-	3	-	-
37	Mariners Drive Water Improvements						
	Mariners Drive	Woodbridge Ct	Dead End	-	-	-	2
	Woodbridge Court	Mariners Dr - 125' West	Charbonneau Dr -175' West	-	-	-	2
	Water Easement (South)	Mariners Dr	Mariners Dr - 275' South	-	-	-	2
38	Louvonne & Juliette Street						
	Louvonne Drive	Riviera Ln	French Prairie Dr	-	-	-	-
	Juliette Drive	Riviera Ln - 200' West	French Prairie Dr	-	-	-	-

APPENDIX B

PROJECT DETAILS &
ESTIMATED COSTS

COMPLETE REPAIR SCENARIO

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Project Location Map
Complete Repair Scenario

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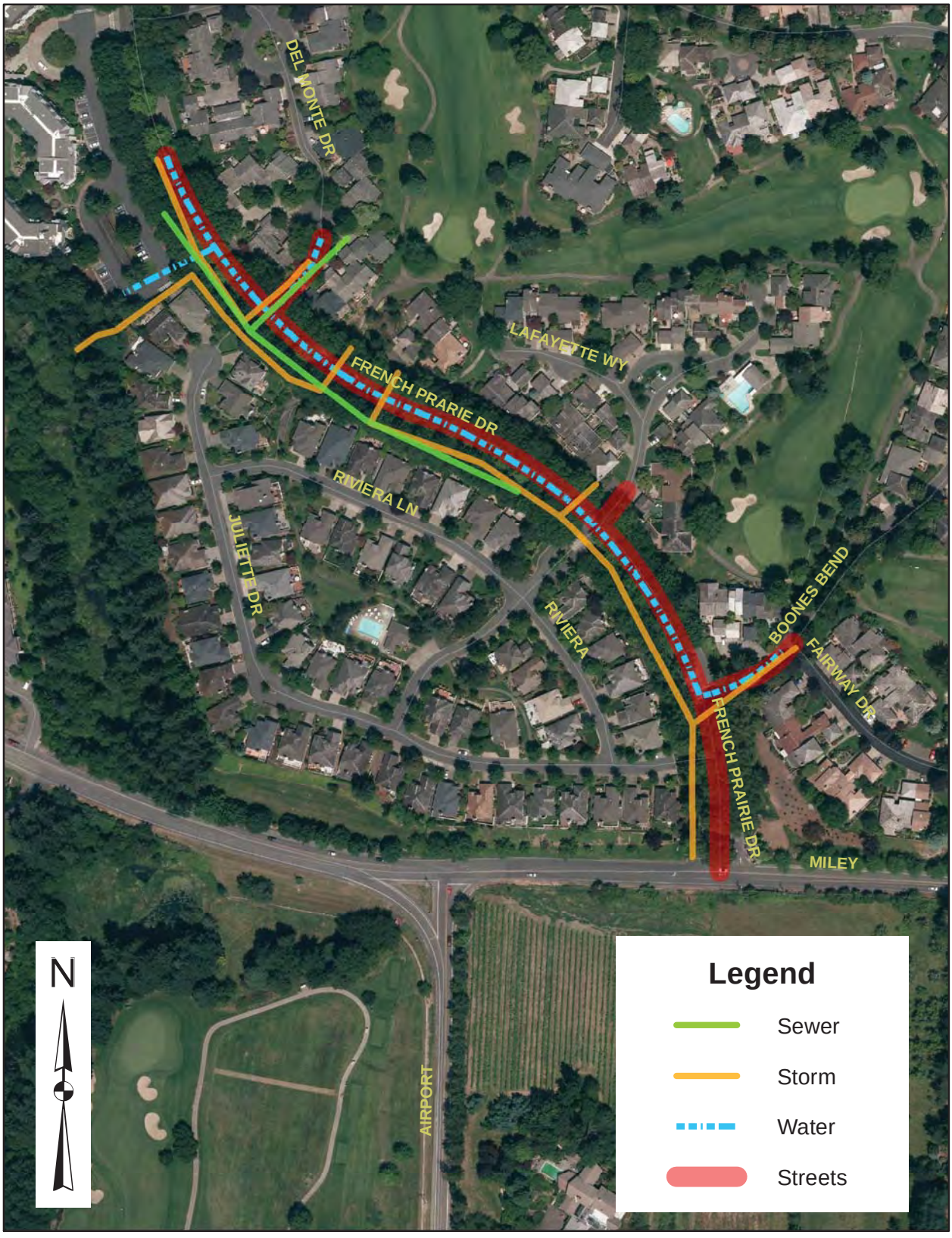
Project #1 - French Prairie Drive Phase I

$2,815,600.50

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
					French Prairie Drive							**$2,247,453.00**
Sewer	10	790	10	790			$201.00	$158,790.00	$31,758.00	$47,637.00	$33,345.90	$271,530.90
Storm	36	230	36	230			$350.00	$80,500.00	$16,100.00	$24,150.00	$16,905.00	$137,655.00
	15	430	24	430			$253.00	$108,790.00	$21,758.00	$32,637.00	$22,845.90	$186,030.90
	15	320	15	320			$202.00	$64,640.00	$12,928.00	$19,392.00	$13,574.40	$110,534.40
	12	1330	12	1330			$192.00	$255,360.00	$51,072.00	$76,608.00	$53,625.60	$436,665.60
Water	10	1350	12	1350			$178.00	$240,300.00	$48,060.00	$72,090.00	$50,463.00	$410,913.00
Streets			48	300		1760	$13.00	$22,880.00	$4,576.00	$6,864.00	$4,804.80	$39,124.80
			48	1360		7980	$48.00	$383,040.00	$76,608.00	$114,912.00	$80,438.40	$654,998.40
					Boones Bend Road							**$216,178.20**
Storm	30	225	30	225			$300.00	$67,500.00	$13,500.00	$20,250.00	$14,175.00	$115,425.00
Water	12	180	12	180			$178.00	$32,040.00	$6,408.00	$9,612.00	$6,728.40	$54,788.40
Streets			24	190		560	$48.00	$26,880.00	$5,376.00	$8,064.00	$5,644.80	$45,964.80
					Lafayette Way							**$42,681.60**
Storm	8	85	12	85			$192.00	$16,320.00	$3,264.00	$4,896.00	$3,427.20	$27,907.20
Streets			18	80		180	$48.00	$8,640.00	$1,728.00	$2,592.00	$1,814.40	$14,774.40
					Del Monte Drive							**$189,639.00**
Sewer	8	235	8	235			$170.00	$39,950.00	$7,990.00	$11,985.00	$8,389.50	$68,314.50
Storm	12	155	12	155			$192.00	$29,760.00	$5,952.00	$8,928.00	$6,249.60	$50,889.60
Water	4	165	8	165			$142.00	$23,430.00	$4,686.00	$7,029.00	$4,920.30	$40,065.30
Streets			18	165		370	$48.00	$17,760.00	$3,552.00	$5,328.00	$3,729.60	$30,369.60
					Utility Easement North							**$119,648.70**
Storm	12	235	12	235			$192.00	$45,120.00	$9,024.00	$13,536.00	$9,475.20	$77,155.20
Water	N/A	N/A	8	175			$142.00	$24,850.00	$4,970.00	$7,455.00	$5,218.50	$42,493.50

Project #1 - French Prairie Drive Phase I

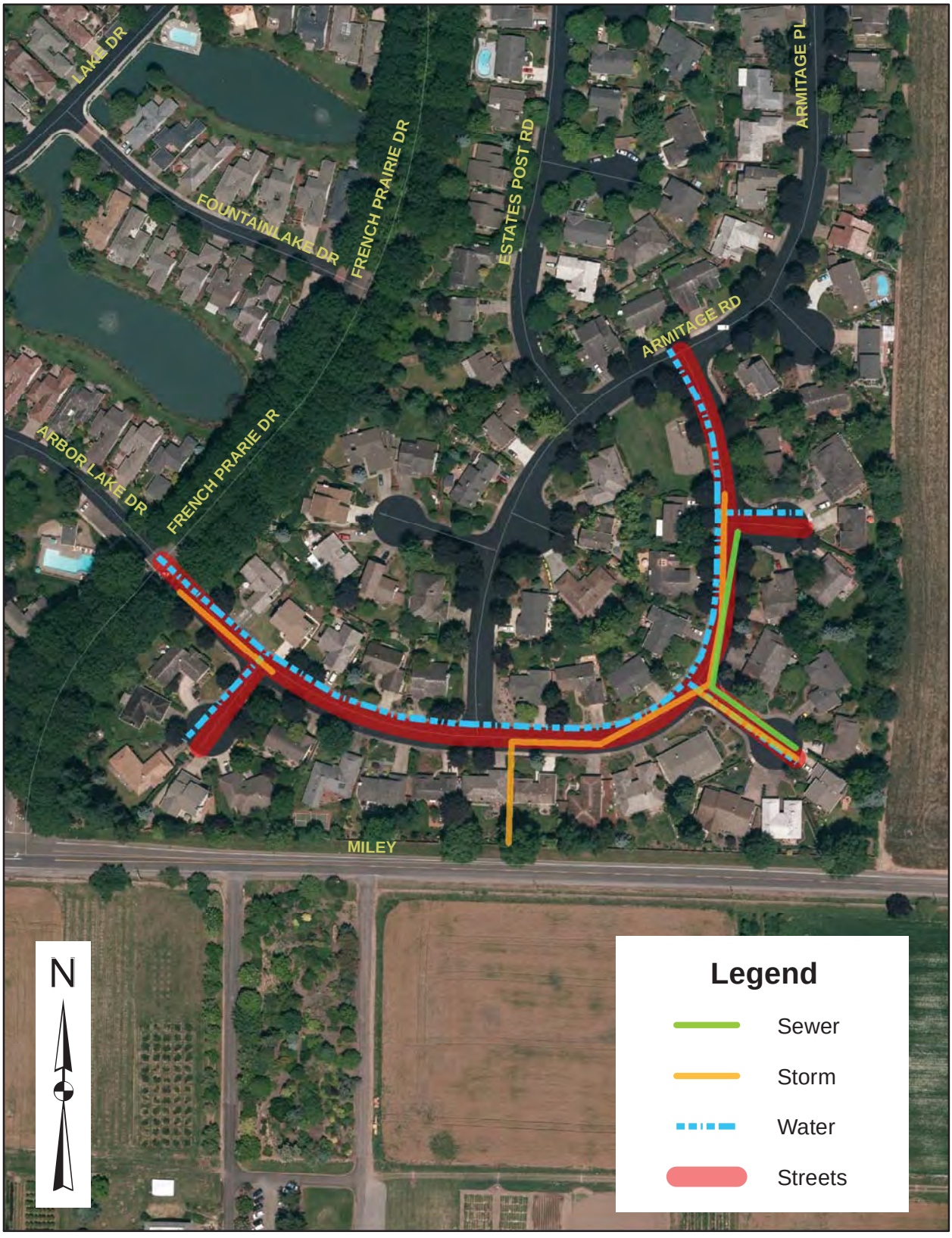


Project #2 - Mollala Bend Road

$1,173,367.80

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
					Mollala Bend Road							**$790,840.80**
Sewer	8	230	8	230			$170.00	$39,100.00	$7,820.00	$11,730.00	$8,211.00	$66,861.00
Storm	18	580	18	580			$218.00	$126,440.00	$25,288.00	$37,932.00	$26,552.40	$216,212.40
	12	175	12	175			$192.00	$33,600.00	$6,720.00	$10,080.00	$7,056.00	$57,456.00
Water	8	1350	8	1350			$142.00	$191,700.00	$38,340.00	$57,510.00	$40,257.00	$327,807.00
Streets			36	575		2530	$12.00	$30,360.00	$6,072.00	$9,108.00	$6,375.60	$51,915.60
			36	195		860	$48.00	$41,280.00	$8,256.00	$12,384.00	$8,668.80	$70,588.80
					Mollala Bend NE							**$46,016.10**
Water	4	130	4	130			$132.00	$17,160.00	$3,432.00	$5,148.00	$3,603.60	$29,343.60
Streets			55	29	76	750	$13.00	$9,750.00	$1,950.00	$2,925.00	$2,047.50	$16,672.50
					Mollala Bend SE							**$214,331.40**
Sewer	8	150	8	150			$170.00	$25,500.00	$5,100.00	$7,650.00	$5,355.00	$43,605.00
Storm	12	170	12	170			$192.00	$32,640.00	$6,528.00	$9,792.00	$6,854.40	$55,814.40
Water	4	200	4	200			$132.00	$26,400.00	$5,280.00	$7,920.00	$5,544.00	$45,144.00
Streets			28	85	76	850	$48.00	$40,800.00	$8,160.00	$12,240.00	$8,568.00	$69,768.00
					Mollala Bend SW							**$57,285.00**
Water	4	175	4	175			$132.00	$23,100.00	$4,620.00	$6,930.00	$4,851.00	$39,501.00
Streets			28	70	76	800	$13.00	$10,400.00	$2,080.00	$3,120.00	$2,184.00	$17,784.00
					Storm Easement							**$64,894.50**
Storm	24	150	24	150			$253.00	$37,950.00	$7,590.00	$11,385.00	$7,969.50	$64,894.50

Project #2 - Mollala Bend Road

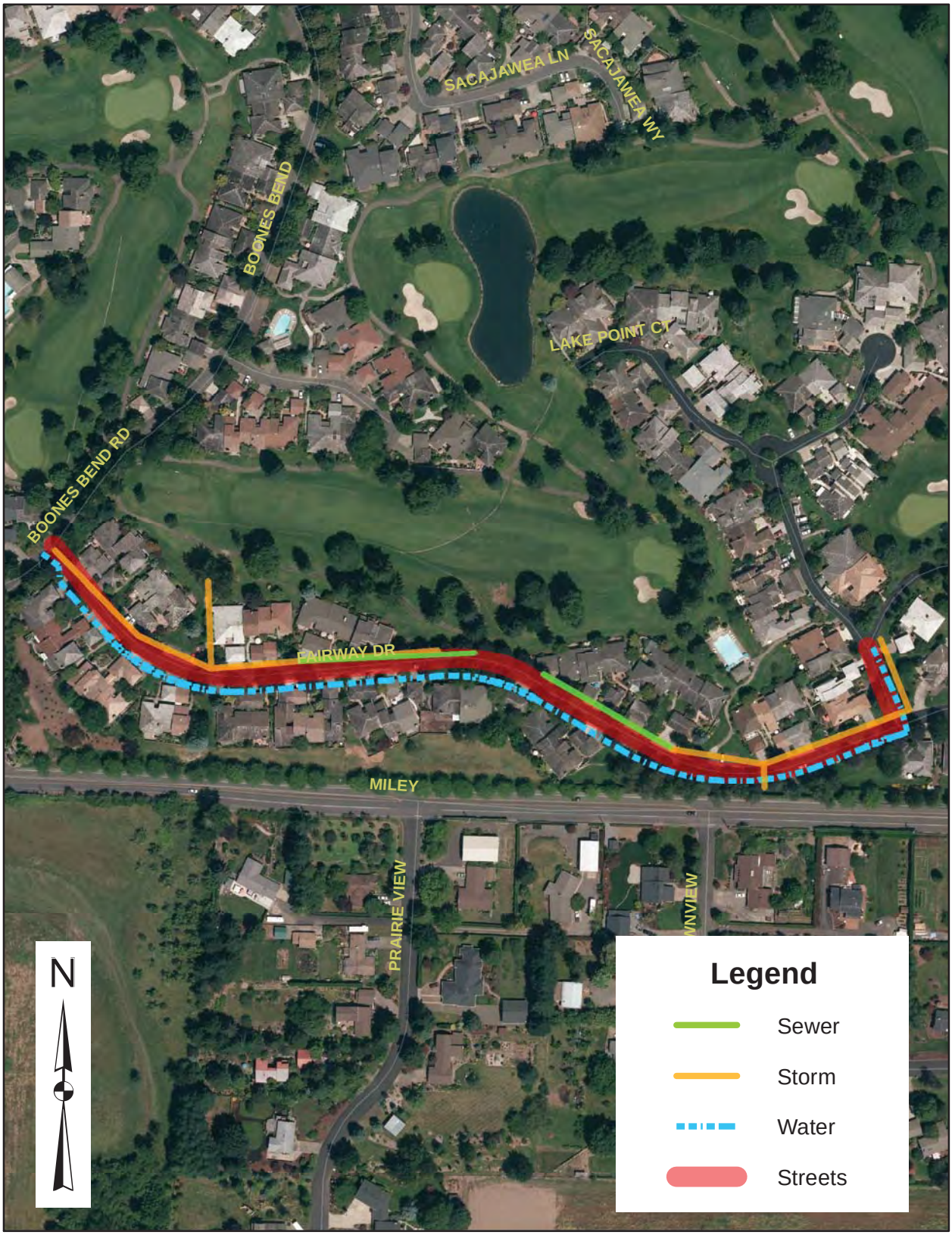


Project #3 - Fairway Drive Phase I

$1,622,926.80

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
Fairway Drive												**$1,441,906.20**
Sewer	8	550	8	550			$170.00	$93,500.00	$18,700.00	$28,050.00	$19,635.00	$159,885.00
Storm	15	270	15	270			$202.00	$54,540.00	$10,908.00	$16,362.00	$11,453.40	$93,263.40
	12	895	12	895			$192.00	$171,840.00	$34,368.00	$51,552.00	$36,086.40	$293,846.40
Water	10	1670	12	1670			$178.00	$297,260.00	$59,452.00	$89,178.00	$62,424.60	$508,314.60
Streets			24	1605		4710	$48.00	$226,080.00	$45,216.00	$67,824.00	$47,476.80	$386,596.80
Middle Greens Road												**$114,997.50**
Storm	15	135	15	135			$202.00	$27,270.00	$5,454.00	$8,181.00	$5,726.70	$46,631.70
Water	6	170	8	170			$142.00	$24,140.00	$4,828.00	$7,242.00	$5,069.40	$41,279.40
Streets			20	135		330	$48.00	$15,840.00	$3,168.00	$4,752.00	$3,326.40	$27,086.40
Storm Easement West												**$49,248.00**
Storm	12	150	12	150			$192.00	$28,800.00	$5,760.00	$8,640.00	$6,048.00	$49,248.00
Storm Easement East												**$16,775.10**
Storm	18	45	18	45			$218.00	$9,810.00	$1,962.00	$2,943.00	$2,060.10	$16,775.10

Project #3 - Fairway Drive Phase I



Project #4 - Estates Post Road

$786,309.30

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
Estates Post Road												**$590,001.30**
Sewer	8	240	8	240			$170.00	$40,800.00	$8,160.00	$12,240.00	$8,568.00	$69,768.00
Storm	10	200	12	200			$192.00	$38,400.00	$7,680.00	$11,520.00	$8,064.00	$65,664.00
Water	8	1000	8	1000			$142.00	$142,000.00	$28,400.00	$42,600.00	$29,820.00	$242,820.00
Streets			36	570		2510	$13.00	$32,630.00	$6,526.00	$9,789.00	$6,852.30	$55,797.30
			36	430		1900	$48.00	$91,200.00	$18,240.00	$27,360.00	$19,152.00	$155,952.00
Estates Court North												**$50,068.80**
Water	4	145	4	145			$132.00	$19,140.00	$3,828.00	$5,742.00	$4,019.40	$32,729.40
Streets			36	36	80	780	$13.00	$10,140.00	$2,028.00	$3,042.00	$2,129.40	$17,339.40
Estates Court South												**$49,384.80**
Water	4	140	4	140			$132.00	$18,480.00	$3,696.00	$5,544.00	$3,880.80	$31,600.80
Streets			36	41	80	800	$13.00	$10,400.00	$2,080.00	$3,120.00	$2,184.00	$17,784.00
Storm Easement North												**$50,889.60**
Storm	12	155	12	155			$192.00	$29,760.00	$5,952.00	$8,928.00	$6,249.60	$50,889.60
Storm Easement South												**$45,964.80**
Storm	10	140	12	140			$192.00	$26,880.00	$5,376.00	$8,064.00	$5,644.80	$45,964.80

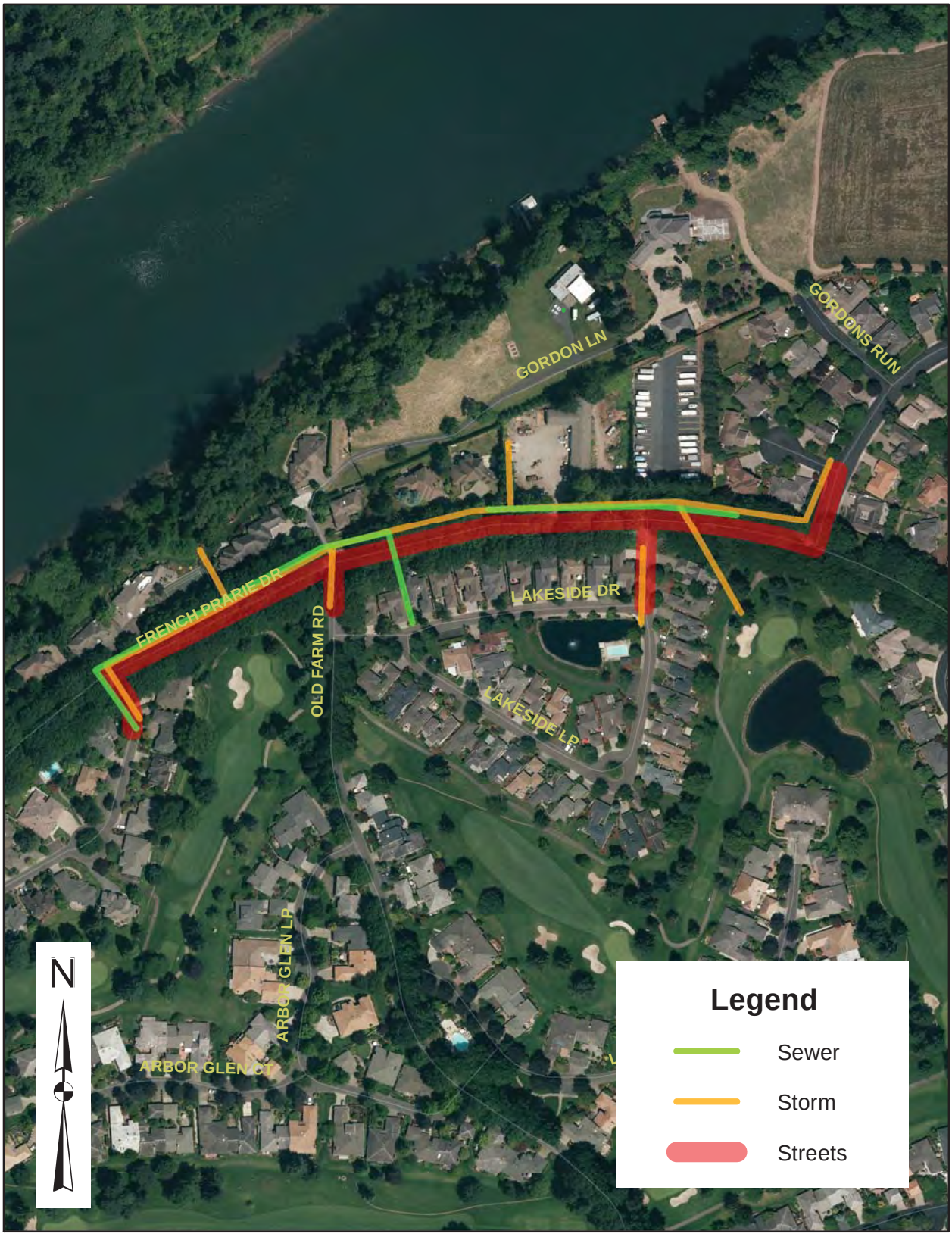
Project #4 - Estates Post Road

Project #5 - French Prairie Drive Phase II

$2,479,944.60

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
					French Prairie Drive							**$1,849,980.60**
Sewer	12	520	12	520			$233.00	$121,160.00	$24,232.00	$36,348.00	$25,443.60	$207,183.60
	8	640	8	640			$170.00	$108,800.00	$21,760.00	$32,640.00	$22,848.00	$186,048.00
Storm	30	240	36	240			$350.00	$84,000.00	$16,800.00	$25,200.00	$17,640.00	$143,640.00
	27	700	36	700			$350.00	$245,000.00	$49,000.00	$73,500.00	$51,450.00	$418,950.00
	21	260	36	260			$350.00	$91,000.00	$18,200.00	$27,300.00	$19,110.00	$155,610.00
	21	280	30	280			$300.00	$84,000.00	$16,800.00	$25,200.00	$17,640.00	$143,640.00
Streets			48	350		2060	$13.00	$26,780.00	$5,356.00	$8,034.00	$5,623.80	$45,793.80
			48	1140		6690	$48.00	$321,120.00	$64,224.00	$96,336.00	$67,435.20	$549,115.20
					Village Greens Circle							**$111,731.40**
Sewer	8	145	8	145			$170.00	$24,650.00	$4,930.00	$7,395.00	$5,176.50	$42,151.50
Storm	18	125	18	125			$218.00	$27,250.00	$5,450.00	$8,175.00	$5,722.50	$46,597.50
Streets			18	125		280	$48.00	$13,440.00	$2,688.00	$4,032.00	$2,822.40	$22,982.40
					Old Farm Road							**$93,981.60**
Storm	30	120	36	120			$350.00	$42,000.00	$8,400.00	$12,600.00	$8,820.00	$71,820.00
Streets			24	90		270	$48.00	$12,960.00	$2,592.00	$3,888.00	$2,721.60	$22,161.60
					Lakeside Loop							**$94,221.00**
Storm	10	245	12	245			$192.00	$47,040.00	$9,408.00	$14,112.00	$9,878.40	$80,438.40
Streets			24	210		620	$13.00	$8,060.00	$1,612.00	$2,418.00	$1,692.60	$13,782.60
					Countryview Lane							**$62,859.60**
Storm	15	135	15	135			$202.00	$27,270.00	$5,454.00	$8,181.00	$5,726.70	$46,631.70
Streets			36	165		730	$13.00	$9,490.00	$1,898.00	$2,847.00	$1,992.90	$16,227.90
					Storm Outfall							**$77,805.00**
Storm	30	130	36	130			$350.00	$45,500.00	$9,100.00	$13,650.00	$9,555.00	$77,805.00
					Sewer Easement West							**$55,233.00**
Sewer	8	190	8	190			$170.00	$32,300.00	$6,460.00	$9,690.00	$6,783.00	$55,233.00
					Storm Easement West							**$44,323.20**
Storm	12	135	12	135			$192.00	$25,920.00	$5,184.00	$7,776.00	$5,443.20	$44,323.20
					Storm Easement East							**$89,809.20**
Storm	15	260	15	260			$202.00	$52,520.00	$10,504.00	$15,756.00	$11,029.20	$89,809.20

Project #5 - French Prairie Drive Phase II

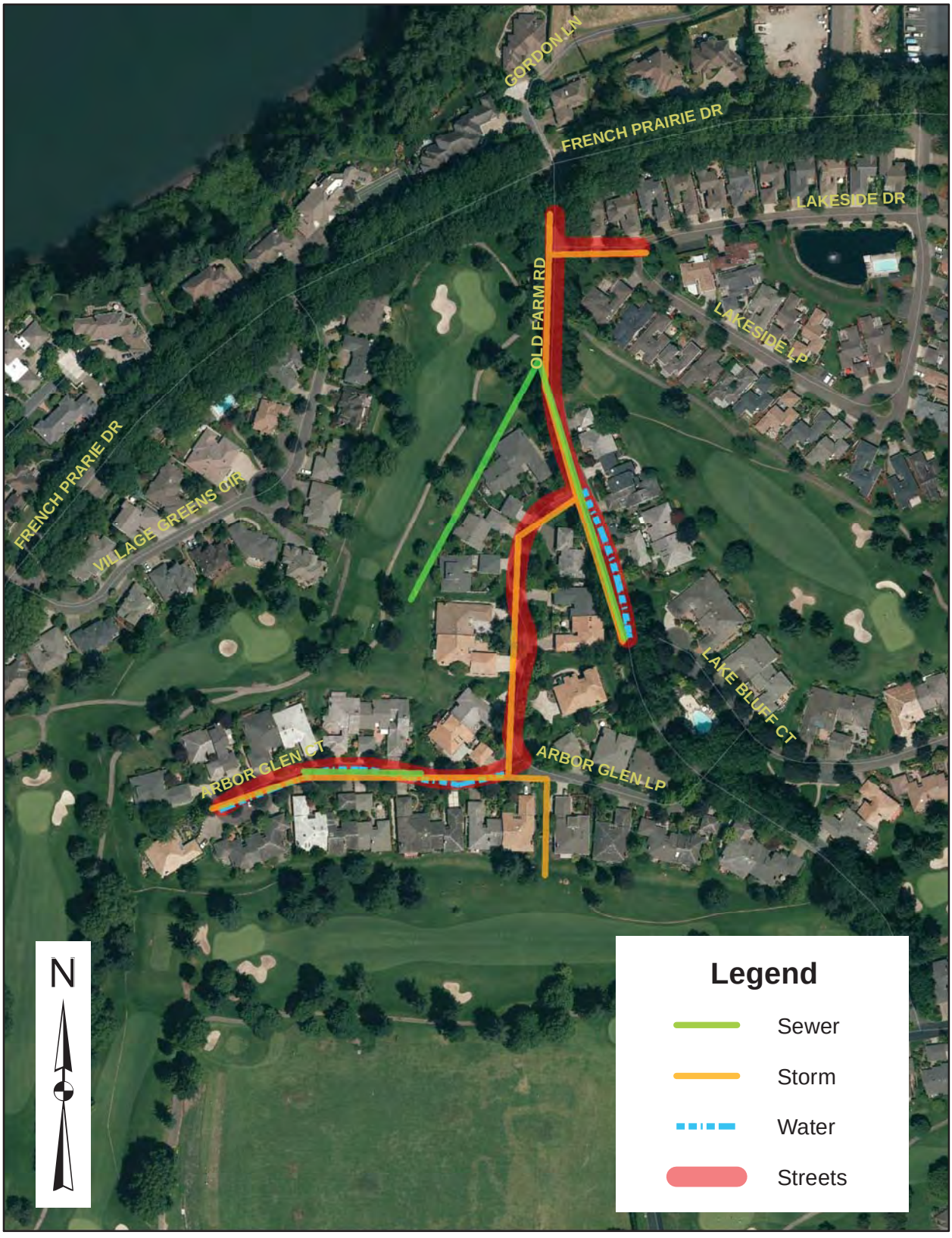


Project #6 - Old Farm Road Phase I

$1,880,076.60

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
					Old Farm Road							**$807,017.40**
Sewer	8	500	8	500			$170.00	$85,000.00	$17,000.00	$25,500.00	$17,850.00	$145,350.00
Storm	30	300	36	300			$350.00	$105,000.00	$21,000.00	$31,500.00	$22,050.00	$179,550.00
	24	460	30	460			$300.00	$138,000.00	$27,600.00	$41,400.00	$28,980.00	$235,980.00
Water	4	270	8	270			$142.00	$38,340.00	$7,668.00	$11,502.00	$8,051.40	$65,561.40
Streets			24	750		2200	$48.00	$105,600.00	$21,120.00	$31,680.00	$22,176.00	$180,576.00
					Lakeside Drive							**$65,595.60**
Storm	10	170	12	170			$192.00	$32,640.00	$6,528.00	$9,792.00	$6,854.40	$55,814.40
Streets			24	150		440	$13.00	$5,720.00	$1,144.00	$1,716.00	$1,201.20	$9,781.20
					Arbor Glen Loop							**$306,158.40**
Storm	12	540	12	540			$192.00	$103,680.00	$20,736.00	$31,104.00	$21,772.80	$177,292.80
	10	70	12	70			$192.00	$13,440.00	$2,688.00	$4,032.00	$2,822.40	$22,982.40
Streets			20	525		1290	$48.00	$61,920.00	$12,384.00	$18,576.00	$13,003.20	$105,883.20
					Arbor Glen Court							**$508,861.80**
Sewer	8	205	8	205			$170.00	$34,850.00	$6,970.00	$10,455.00	$7,318.50	$59,593.50
Storm	12	355	12	355			$192.00	$68,160.00	$13,632.00	$20,448.00	$14,313.60	$116,553.60
	10	170	12	170			$192.00	$32,640.00	$6,528.00	$9,792.00	$6,854.40	$55,814.40
Water	6	515	8	515			$142.00	$73,130.00	$14,626.00	$21,939.00	$15,357.30	$125,052.30
Streets			18	440		970	$48.00	$46,560.00	$9,312.00	$13,968.00	$9,777.60	$79,617.60
			80	90		880	$48.00	$42,240.00	$8,448.00	$12,672.00	$8,870.40	$72,230.40
					Sewer Easement West							**$136,629.00**
Sewer	8	470	8	470			$170.00	$79,900.00	$15,980.00	$23,970.00	$16,779.00	$136,629.00
					Storm Easement South							**$55,814.40**
Storm	10	170	12	170			$192.00	$32,640.00	$6,528.00	$9,792.00	$6,854.40	$55,814.40

Project #6 - Old Farm Road Phase I



Project #7 - Arbor Lake Drive Phase I

$1,505,415.60

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
Arbor Lake Drive												**$858,813.30**
Sewer	8	710	8	710			$170.00	$120,700.00	$24,140.00	$36,210.00	$25,347.00	$206,397.00
Storm	12	350	12	350			$192.00	$67,200.00	$13,440.00	$20,160.00	$14,112.00	$114,912.00
Water	10	1125	12	1125			$178.00	$200,250.00	$40,050.00	$60,075.00	$42,052.50	$342,427.50
Streets			24	435		1280	$13.00	$16,640.00	$3,328.00	$4,992.00	$3,494.40	$28,454.40
			24	690		2030	$48.00	$97,440.00	$19,488.00	$29,232.00	$20,462.40	$166,622.40
Greens View Court												**$152,959.50**
Sewer	6	145	8	145			$170.00	$24,650.00	$4,930.00	$7,395.00	$5,176.50	$42,151.50
Storm	12	145	12	145			$192.00	$27,840.00	$5,568.00	$8,352.00	$5,846.40	$47,606.40
Water	4	120	4	120			$132.00	$15,840.00	$3,168.00	$4,752.00	$3,326.40	$27,086.40
Streets			20	60	55	440	$48.00	$21,120.00	$4,224.00	$6,336.00	$4,435.20	$36,115.20
Bunker Post Court												**$255,747.60**
Sewer	6	230	8	230			$170.00	$39,100.00	$7,820.00	$11,730.00	$8,211.00	$66,861.00
Storm	10	220	12	220			$192.00	$42,240.00	$8,448.00	$12,672.00	$8,870.40	$72,230.40
Water	4	210	8	210			$142.00	$29,820.00	$5,964.00	$8,946.00	$6,262.20	$50,992.20
Streets			20	160	65	800	$48.00	$38,400.00	$7,680.00	$11,520.00	$8,064.00	$65,664.00
Downs Post Road												**$237,895.20**
Sewer	6	90	8	90			$170.00	$15,300.00	$3,060.00	$4,590.00	$3,213.00	$26,163.00
Storm	12	255	12	255			$192.00	$48,960.00	$9,792.00	$14,688.00	$10,281.60	$83,721.60
Water	4	250	8	250			$142.00	$35,500.00	$7,100.00	$10,650.00	$7,455.00	$60,705.00
Streets			20	335		820	$48.00	$39,360.00	$7,872.00	$11,808.00	$8,265.60	$67,305.60

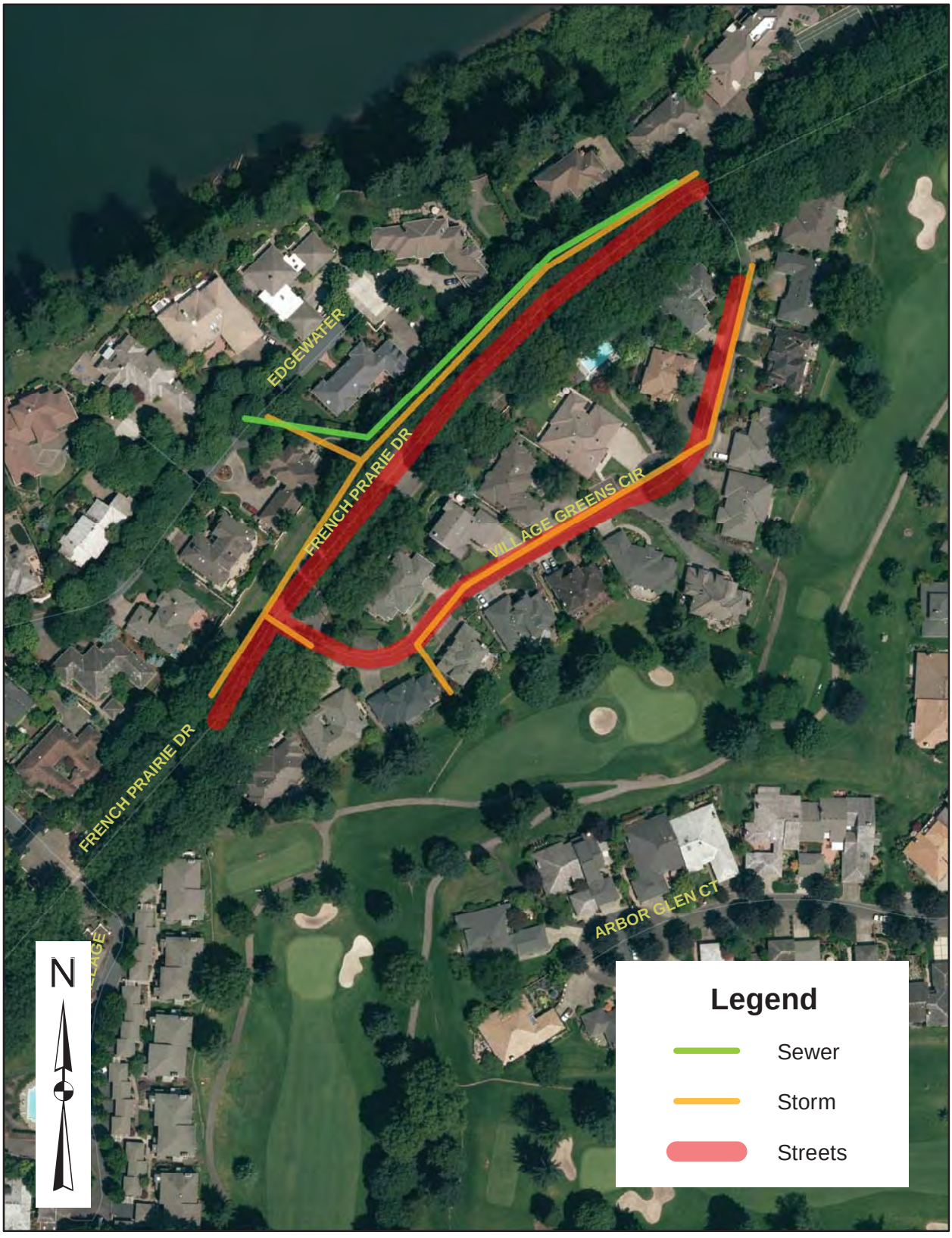
Project #7 - Arbor Lake Drive Phase I

Project #8 - Village Greens Circle

$1,227,985.20

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
					Village Greens Circle							**$277,515.90**
Storm	15	620	15	620			$202.00	$125,240.00	$25,048.00	$37,572.00	$26,300.40	$214,160.40
	10	65	12	65			$192.00	$12,480.00	$2,496.00	$3,744.00	$2,620.80	$21,340.80
Streets			20	770		1890	$13.00	$24,570.00	$4,914.00	$7,371.00	$5,159.70	$42,014.70
					French Prairie Drive							**$811,882.35**
Sewer	12	465	12	465			$233.00	$108,345.00	$21,669.00	$32,503.50	$22,752.45	$185,269.95
Storm	21	510	27	510			$276.00	$140,760.00	$28,152.00	$42,228.00	$29,559.60	$240,699.60
	12	320	12	320			$192.00	$61,440.00	$12,288.00	$18,432.00	$12,902.40	$105,062.40
Streets			48	340		2000	$13.00	$26,000.00	$5,200.00	$7,800.00	$5,460.00	$44,460.00
			48	490		2880	$48.00	$138,240.00	$27,648.00	$41,472.00	$29,030.40	$236,390.40
					Utility Easement North							**$114,407.55**
Sewer	12	145	12	145			$233.00	$33,785.00	$6,757.00	$10,135.50	$7,094.85	$57,772.35
Storm	18	120	27	120			$276.00	$33,120.00	$6,624.00	$9,936.00	$6,955.20	$56,635.20
					Storm Easement South							**$24,179.40**
Storm	15	70	15	70			$202.00	$14,140.00	$2,828.00	$4,242.00	$2,969.40	$24,179.40

Project #8 - Village Greens Circle

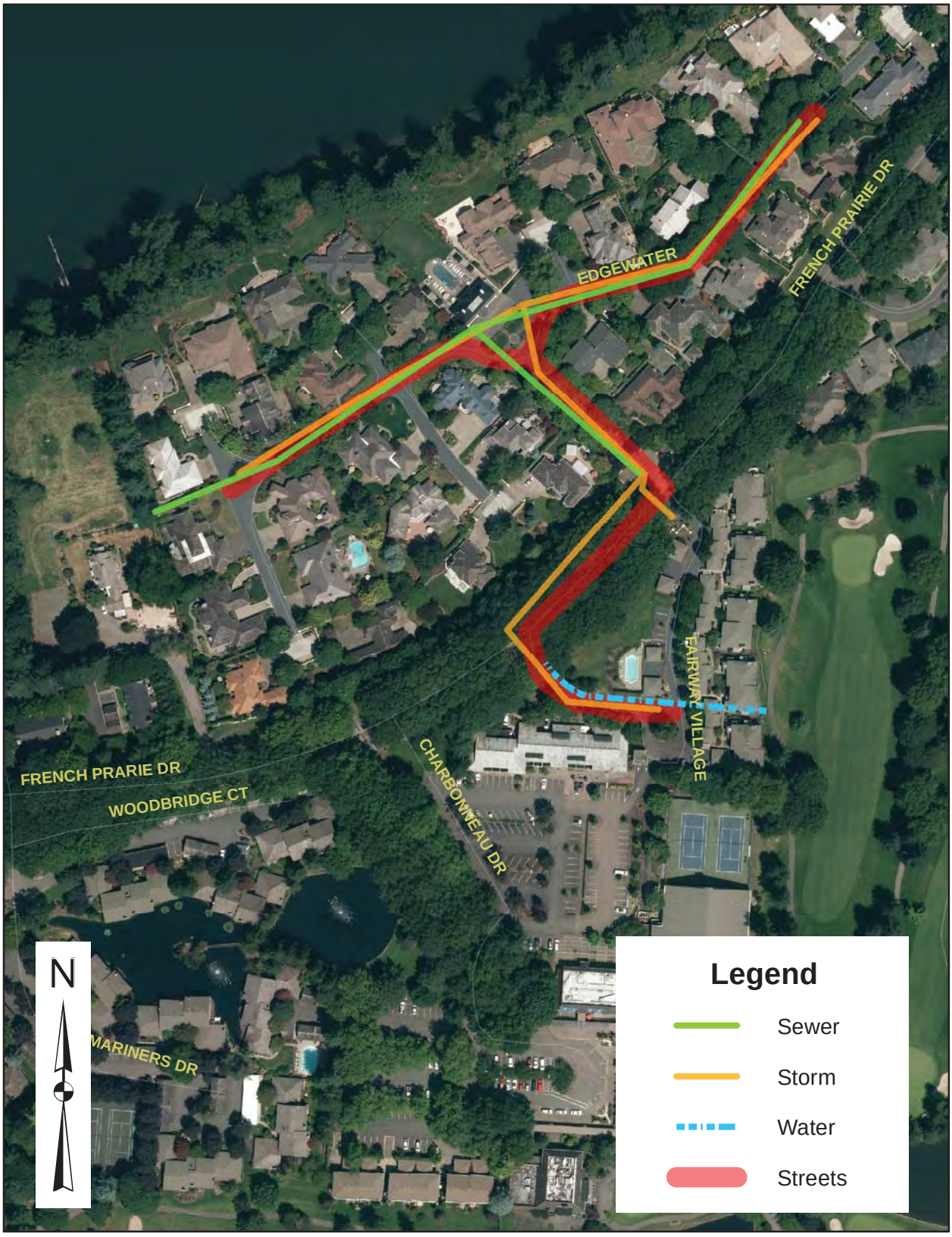


Project #9 - Edgewater Lane

$1,792,473.30

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
Edgewater Lane (E-W)												**$1,143,904.50**
Sewer	15	195	15	195			$278.00	$54,210.00	$10,842.00	$16,263.00	$11,384.10	$92,699.10
	12	920	12	920			$233.00	$214,360.00	$42,872.00	$64,308.00	$45,015.60	$366,555.60
Storm	18	520	27	520			$276.00	$143,520.00	$28,704.00	$43,056.00	$30,139.20	$245,419.20
	15	475	27	475			$276.00	$131,100.00	$26,220.00	$39,330.00	$27,531.00	$224,181.00
Streets			20	1070		2620	$48.00	$125,760.00	$25,152.00	$37,728.00	$26,409.60	$215,049.60
Edgewater Lane (N-S)												**$249,164.10**
Sewer	8	315	8	315			$170.00	$53,550.00	$10,710.00	$16,065.00	$11,245.50	$91,570.50
Storm	12	310	12	310			$192.00	$59,520.00	$11,904.00	$17,856.00	$12,499.20	$101,779.20
Streets			20	275		680	$48.00	$32,640.00	$6,528.00	$9,792.00	$6,854.40	$55,814.40
French Prairie Drive												**$162,108.00**
Storm	12	380	12	380			$192.00	$72,960.00	$14,592.00	$21,888.00	$15,321.60	$124,761.60
Streets			48	285		1680	$13.00	$21,840.00	$4,368.00	$6,552.00	$4,586.40	$37,346.40
Fairway Village Loop												**$237,296.70**
Storm	12	270	12	270			$192.00	$51,840.00	$10,368.00	$15,552.00	$10,886.40	$88,646.40
Water	6	190	8	335			$142.00	$47,570.00	$9,514.00	$14,271.00	$9,989.70	$81,344.70
Streets			20	335		820	$48.00	$39,360.00	$7,872.00	$11,808.00	$8,265.60	$67,305.60

Project #9 - EdgewaterLane

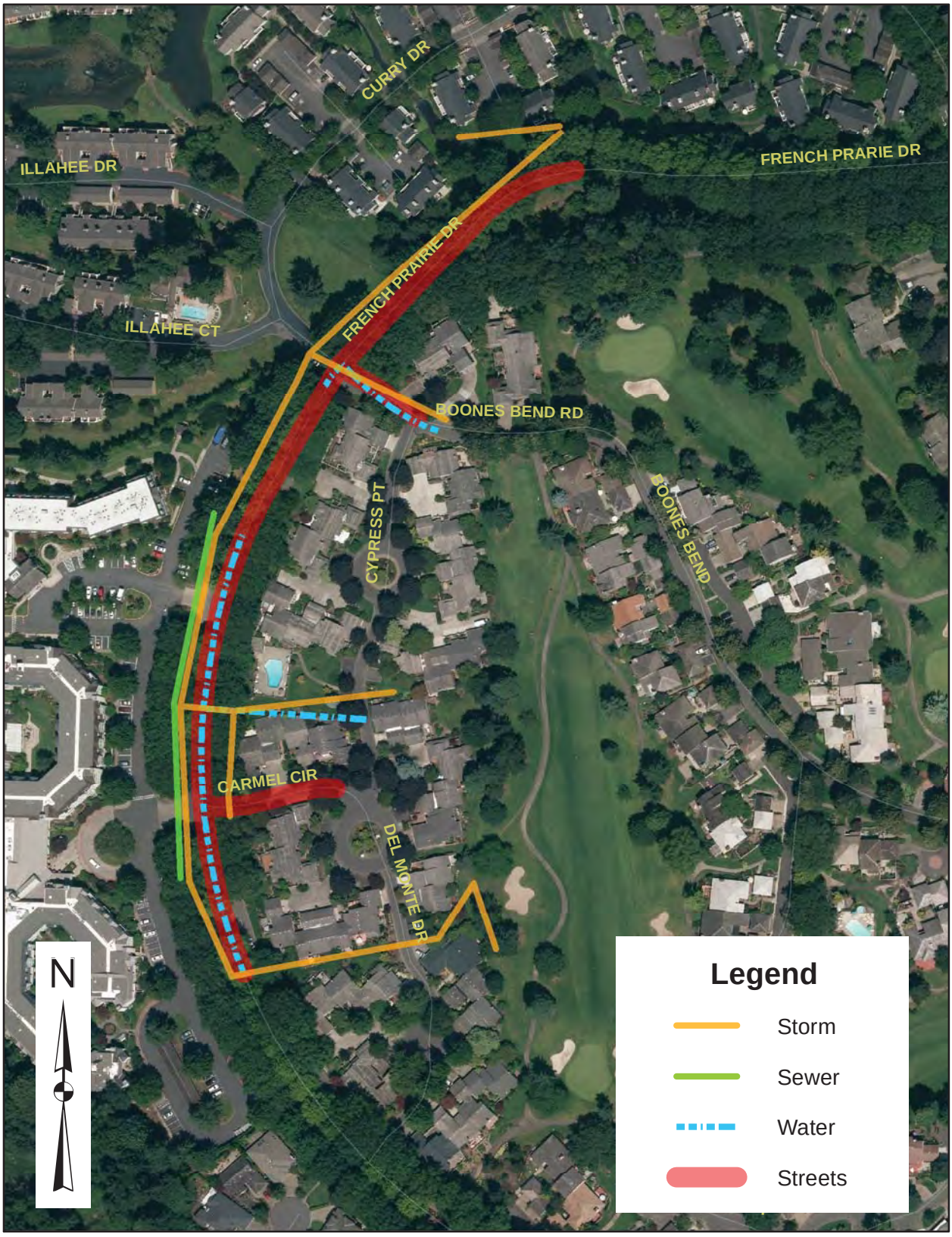


Project #10 - French Prairie Drive Phase III

$2,105,360.55

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
					French Prairie Drive							**$1,429,106.85**
Sewer	10	530	10	530			$201.00	$106,530.00	$21,306.00	$31,959.00	$22,371.30	$182,166.30
Storm	30	480	30	480			$300.00	$144,000.00	$28,800.00	$43,200.00	$30,240.00	$246,240.00
	24	545	24	545			$253.00	$137,885.00	$27,577.00	$41,365.50	$28,955.85	$235,783.35
	18	400	24	400			$218.00	$87,200.00	$17,440.00	$26,160.00	$18,312.00	$149,112.00
Water	10	690	12	690			$178.00	$122,820.00	$24,564.00	$36,846.00	$25,792.20	$210,022.20
Streets			48	725		4260	$13.00	$55,380.00	$11,076.00	$16,614.00	$11,629.80	$94,699.80
			48	645		3790	$48.00	$181,920.00	$36,384.00	$54,576.00	$38,203.20	$311,083.20
					Boones Bend Road							**$195,453.00**
Storm	27	220	27	220			$276.00	$60,720.00	$12,144.00	$18,216.00	$12,751.20	$103,831.20
Water	12	150	12	150			$178.00	$26,700.00	$5,340.00	$8,010.00	$5,607.00	$45,657.00
Streets			24	190		560	$48.00	$26,880.00	$5,376.00	$8,064.00	$5,644.80	$45,964.80
					Carmel Circle							**$10,670.40**
Streets			20	195		480	$13.00	$6,240.00	$1,248.00	$1,872.00	$1,310.40	$10,670.40
					Storm Easement North							**$92,767.50**
Storm	36	155	36	155			$350.00	$54,250.00	$10,850.00	$16,275.00	$11,392.50	$92,767.50
					Utility Easement East							**$208,089.90**
Storm	12	230	12	230			$192.00	$44,160.00	$8,832.00	$13,248.00	$9,273.60	$75,513.60
	8	230	12	230			$192.00	$44,160.00	$8,832.00	$13,248.00	$9,273.60	$75,513.60
Water	6	235	8	235			$142.00	$33,370.00	$6,674.00	$10,011.00	$7,007.70	$57,062.70
					Storm Easement South							**$169,272.90**
Storm	15	395	15	395			$202.00	$79,790.00	$15,958.00	$23,937.00	$16,755.90	$136,440.90
	12	100	12	100			$192.00	$19,200.00	$3,840.00	$5,760.00	$4,032.00	$32,832.00

Project #10 - French Prairie Drive Phase III

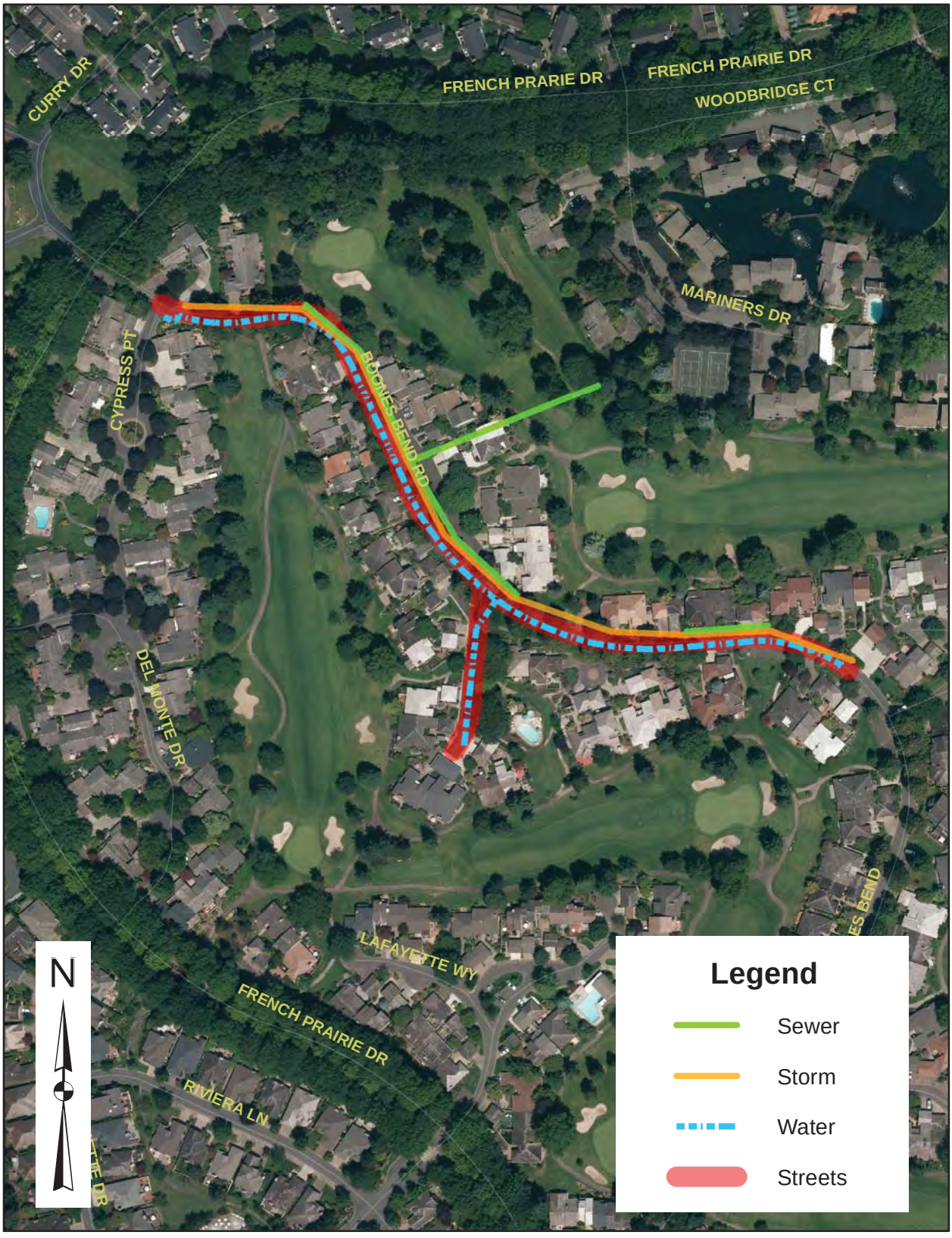


Project #11 - Boones Bend Road Phase II

$1,909,052.55

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
Boones Bend Road												**$1,691,027.55**
Sewer	12	330	12	330			$233.00	$76,890.00	$15,378.00	$23,067.00	$16,146.90	$131,481.90
	8	440	8	440			$170.00	$74,800.00	$14,960.00	$22,440.00	$15,708.00	$127,908.00
Storm	24	320	24	320			$253.00	$80,960.00	$16,192.00	$24,288.00	$17,001.60	$138,441.60
	21	690	24	690			$253.00	$174,570.00	$34,914.00	$52,371.00	$36,659.70	$298,514.70
	18	425	24	425			$253.00	$107,525.00	$21,505.00	$32,257.50	$22,580.25	$183,867.75
Water	12	1480	12	1480			$178.00	$263,440.00	$52,688.00	$79,032.00	$55,322.40	$450,482.40
Streets			24	1495		4390	$48.00	$210,720.00	$42,144.00	$63,216.00	$44,251.20	$360,331.20
Boones Bend Lane												**$78,574.50**
Water	6	40	8	265			$142.00	$37,630.00	$7,526.00	$11,289.00	$7,902.30	$64,347.30
Streets			18	290		640	$13.00	$8,320.00	$1,664.00	$2,496.00	$1,747.20	$14,227.20
Sewer Easement North												**$139,450.50**
Sewer	12	350	12	350			$233.00	$81,550.00	$16,310.00	$24,465.00	$17,125.50	$139,450.50

Project #11 - Boones Bend Road Phase II



Project #12 - Country View Loop

$1,073,384.10

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
French Prairie Drive												**$414,931.50**
Storm	21	365	36	365			$350.00	$127,750.00	$25,550.00	$38,325.00	$26,827.50	$218,452.50
	18	310	18	310			$218.00	$67,580.00	$13,516.00	$20,274.00	$14,191.80	$115,561.80
Streets			48	620		3640	$13.00	$47,320.00	$9,464.00	$14,196.00	$9,937.20	$80,917.20
Village Green Court												**$174,368.70**
Sewer	8	195	8	195			$170.00	$33,150.00	$6,630.00	$9,945.00	$6,961.50	$56,686.50
Storm	15	210	15	210			$202.00	$42,420.00	$8,484.00	$12,726.00	$8,908.20	$72,538.20
Streets			24	185		550	$48.00	$26,400.00	$5,280.00	$7,920.00	$5,544.00	$45,144.00
Country View Court West												**$91,433.70**
Storm	10	225	12	225			$192.00	$43,200.00	$8,640.00	$12,960.00	$9,072.00	$73,872.00
Streets			28	50	80	790	$13.00	$10,270.00	$2,054.00	$3,081.00	$2,156.70	$17,561.70
Country View Loop												**$180,558.90**
Sewer	8	265	8	265			$170.00	$45,050.00	$9,010.00	$13,515.00	$9,460.50	$77,035.50
Storm	15	330	15	180			$202.00	$36,360.00	$7,272.00	$10,908.00	$7,635.60	$62,175.60
Streets			30	505		1860	$13.00	$24,180.00	$4,836.00	$7,254.00	$5,077.80	$41,347.80
Devonshire Court												**$212,091.30**
Sewer	6	155	8	155			$170.00	$26,350.00	$5,270.00	$7,905.00	$5,533.50	$45,058.50
Storm	10	185	12	185			$192.00	$35,520.00	$7,104.00	$10,656.00	$7,459.20	$60,739.20
Water	2	140	4	140			$132.00	$18,480.00	$3,696.00	$5,544.00	$3,880.80	$31,600.80
Streets			28	85	80	910	$48.00	$43,680.00	$8,736.00	$13,104.00	$9,172.80	$74,692.80

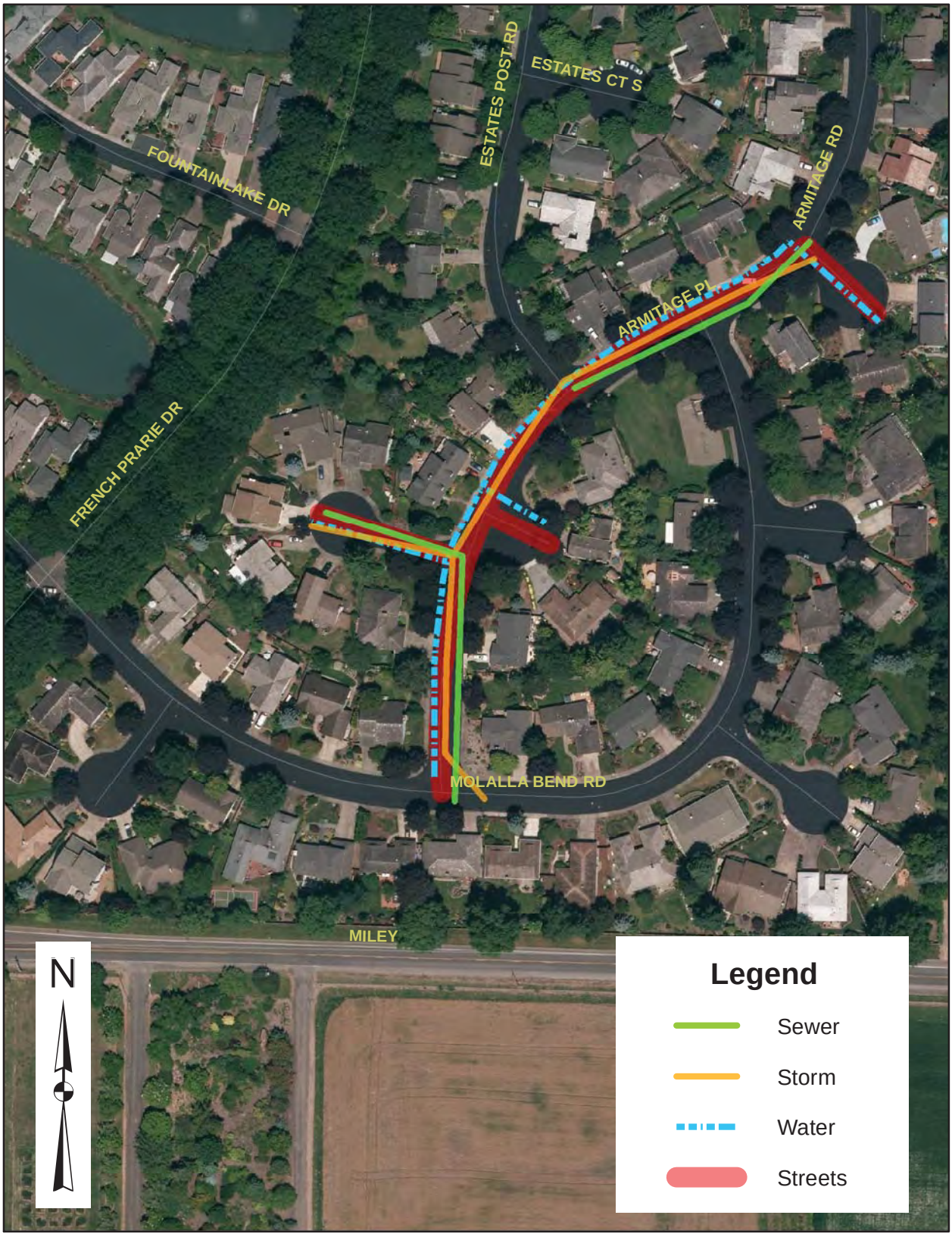
Project #12 - Country View Loop

Project #13 - Armitage Road Phase I

$1,298,702.25

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	ConstructionCost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
Armitage Road												**$1,003,282.65**
Sewer	8	615	8	615			$170.00	$104,550.00	$20,910.00	$31,365.00	$21,955.50	$178,780.50
Storm	24	75	24	75			$253.00	$18,975.00	$3,795.00	$5,692.50	$3,984.75	$32,447.25
	18	700	18	700			$218.00	$152,600.00	$30,520.00	$45,780.00	$32,046.00	$260,946.00
	12	100	12	100			$192.00	$19,200.00	$3,840.00	$5,760.00	$4,032.00	$32,832.00
Water	8	825	8	825			$142.00	$117,150.00	$23,430.00	$35,145.00	$24,601.50	$200,326.50
Street			36	825		3630	$48.00	$174,240.00	$34,848.00	$52,272.00	$36,590.40	$297,950.40
Armitage Court South												**$50,530.50**
Water	4	150	4	150			$132.00	$19,800.00	$3,960.00	$5,940.00	$4,158.00	$33,858.00
Street			36	30	80	750	$13.00	$9,750.00	$1,950.00	$2,925.00	$2,047.50	$16,672.50
Armitage Road "Eyebrow"												**$34,097.40**
Water	4	90	4	90			$132.00	$11,880.00	$2,376.00	$3,564.00	$2,494.80	$20,314.80
Street					80	620	$13.00	$8,060.00	$1,612.00	$2,418.00	$1,692.60	$13,782.60
Armitage Court												**$210,791.70**
Sewer	8	165	8	165			$170.00	$28,050.00	$5,610.00	$8,415.00	$5,890.50	$47,965.50
Storm	12	165	12	165			$192.00	$31,680.00	$6,336.00	$9,504.00	$6,652.80	$54,172.80
Water	4	165	4	165			$132.00	$21,780.00	$4,356.00	$6,534.00	$4,573.80	$37,243.80
Street			28	90	76	870	$48.00	$41,760.00	$8,352.00	$12,528.00	$8,769.60	$71,409.60

Project #13 - Armitage Road Phase I

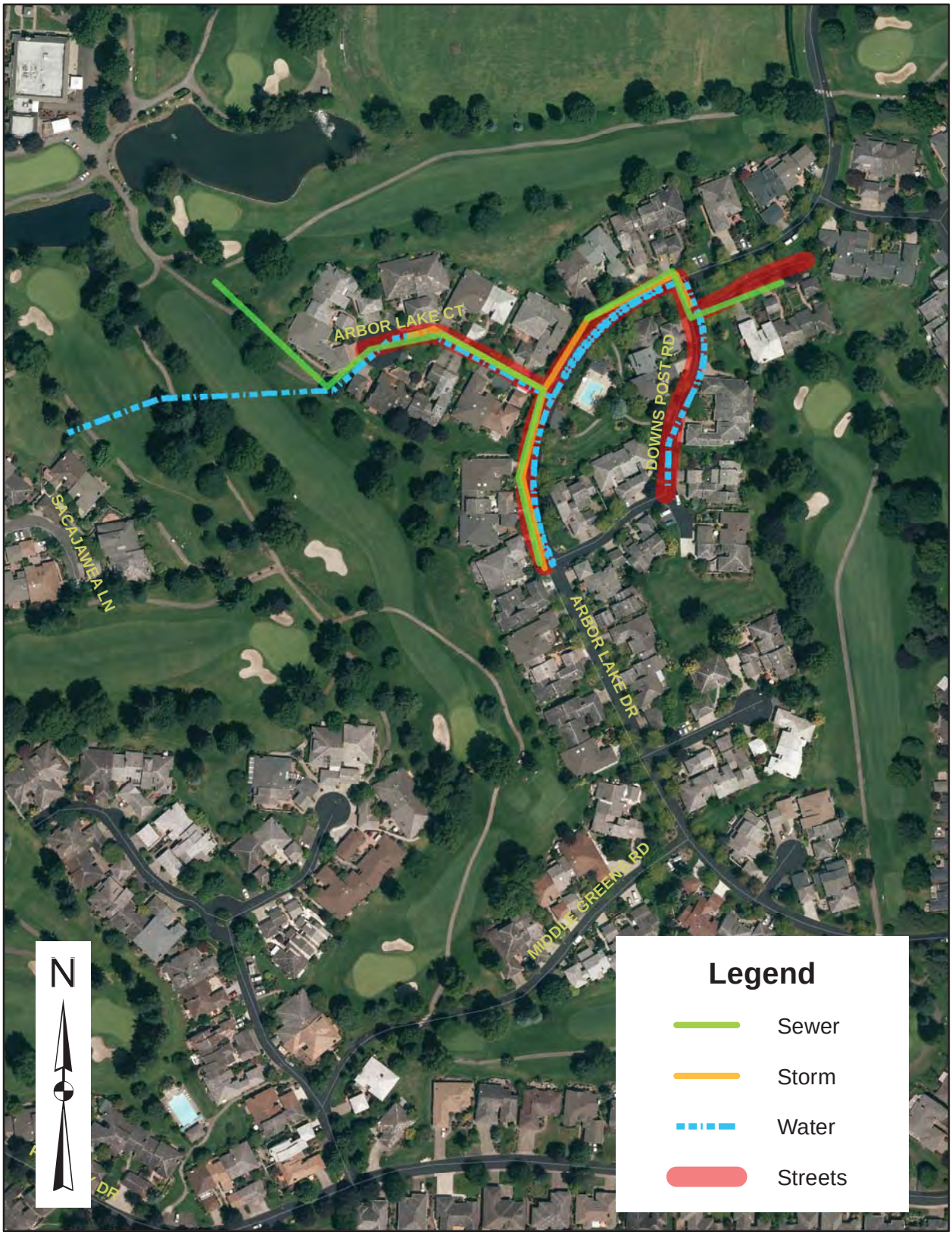


Project #14 - Arbor Lake Drive Phase II

$1,617,993.45

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
Arbor Lake Drive												**$718,978.05**
Sewer	8	480	8	480			$170.00	$81,600.00	$16,320.00	$24,480.00	$17,136.00	$139,536.00
Storm	21	315	24	315			$253.00	$79,695.00	$15,939.00	$23,908.50	$16,735.95	$136,278.45
	12	320	12	320			$192.00	$61,440.00	$12,288.00	$18,432.00	$12,902.40	$105,062.40
Water	10	620	12	620			$178.00	$110,360.00	$22,072.00	$33,108.00	$23,175.60	$188,715.60
Streets			24	620		1820	$48.00	$87,360.00	$17,472.00	$26,208.00	$18,345.60	$149,385.60
Arbor Lake Court												**$382,356.00**
Sewer	8	330	8	330			$170.00	$56,100.00	$11,220.00	$16,830.00	$11,781.00	$95,931.00
Storm	12	260	12	260			$192.00	$49,920.00	$9,984.00	$14,976.00	$10,483.20	$85,363.20
Water	12	310	12	310			$178.00	$55,180.00	$11,036.00	$16,554.00	$11,587.80	$94,357.80
Streets			20	280	80	1300	$48.00	$62,400.00	$12,480.00	$18,720.00	$13,104.00	$106,704.00
Downs Post Road												**$229,379.40**
Sewer	8	85	8	85			$170.00	$14,450.00	$2,890.00	$4,335.00	$3,034.50	$24,709.50
	6	170	8	170			$170.00	$28,900.00	$5,780.00	$8,670.00	$6,069.00	$49,419.00
Storm	12	60	12	60			$192.00	$11,520.00	$2,304.00	$3,456.00	$2,419.20	$19,699.20
Water	4	375	8	375			$142.00	$53,250.00	$10,650.00	$15,975.00	$11,182.50	$91,057.50
Streets			20	530		1300	$13.00	$16,900.00	$3,380.00	$5,070.00	$3,549.00	$28,899.00
			20	75		190	$48.00	$9,120.00	$1,824.00	$2,736.00	$1,915.20	$15,595.20
Sewer Easement West												**$104,652.00**
Sewer	8	360	8	360			$170.00	$61,200.00	$12,240.00	$18,360.00	$12,852.00	$104,652.00
Water Easement West												**$182,628.00**
Water	12	600	12	600			$178.00	$106,800.00	$21,360.00	$32,040.00	$22,428.00	$182,628.00

Project #14 - Arbor Lake Drive Phase II



Project #15 - Country View Lane Phase I

$712,078.20

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
					Country View Lane							**$517,719.60**
Storm	15	445	15	445			$202.00	$89,890.00	$17,978.00	$26,967.00	$18,876.90	$153,711.90
	12	760	12	760			$192.00	$145,920.00	$29,184.00	$43,776.00	$30,643.20	$249,523.20
Streets			36	1170		5150	$13.00	$66,950.00	$13,390.00	$20,085.00	$14,059.50	$114,484.50
					Gordon's Run							**$99,128.70**
Sewer	8	250	8	250			$170.00	$42,500.00	$8,500.00	$12,750.00	$8,925.00	$72,675.00
Streets			36	270		1190	$13.00	$15,470.00	$3,094.00	$4,641.00	$3,248.70	$26,453.70
					Wheatland Run							**$95,229.90**
Sewer	8	245	8	245			$170.00	$41,650.00	$8,330.00	$12,495.00	$8,746.50	$71,221.50
Streets			36	245		1080	$13.00	$14,040.00	$2,808.00	$4,212.00	$2,948.40	$24,008.40

Project #15 - Country View Lane Phase I

Project #16 - Lake Drive

$646,209.00

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
Lake Drive												**$566,471.70**
Sewer	8	185	8	185			$170.00	$31,450.00	$6,290.00	$9,435.00	$6,604.50	$53,779.50
Storm	15	480	15	480			$202.00	$96,960.00	$19,392.00	$29,088.00	$20,361.60	$165,801.60
	12	695	12	695			$192.00	$133,440.00	$26,688.00	$40,032.00	$28,022.40	$228,182.40
Streets			24	1000		2940	$13.00	$38,220.00	$7,644.00	$11,466.00	$8,026.20	$65,356.20
			24	220		650	$48.00	$31,200.00	$6,240.00	$9,360.00	$6,552.00	$53,352.00
Lake Court												**$79,737.30**
Sewer	8	220	8	220			$170.00	$37,400.00	$7,480.00	$11,220.00	$7,854.00	$63,954.00
Streets			24	240		710	$13.00	$9,230.00	$1,846.00	$2,769.00	$1,938.30	$15,783.30

Project #16 - Lake Drive

Project #17 - Middle Greens Road

$1,221,367.50

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
Lake Point Court												**$298,651.50**
Sewer	8	275	8	275			$170.00	$46,750.00	$9,350.00	$14,025.00	$9,817.50	$79,942.50
Storm	12	55	12	55			$192.00	$10,560.00	$2,112.00	$3,168.00	$2,217.60	$18,057.60
	8	110	12	110			$192.00	$21,120.00	$4,224.00	$6,336.00	$4,435.20	$36,115.20
Water	6	370	8	370			$142.00	$52,540.00	$10,508.00	$15,762.00	$11,033.40	$89,843.40
Streets			20	370		910	$48.00	$43,680.00	$8,736.00	$13,104.00	$9,172.80	$74,692.80
Lake Point Court (East)												**$296,514.00**
Sewer	8	140	8	140			$170.00	$23,800.00	$4,760.00	$7,140.00	$4,998.00	$40,698.00
Storm	12	310	12	310			$192.00	$59,520.00	$11,904.00	$17,856.00	$12,499.20	$101,779.20
Water	6	260	8	260			$142.00	$36,920.00	$7,384.00	$11,076.00	$7,753.20	$63,133.20
	4	50	4	50			$132.00	$6,600.00	$1,320.00	$1,980.00	$1,386.00	$11,286.00
Streets			20	255	60	970	$48.00	$46,560.00	$9,312.00	$13,968.00	$9,777.60	$79,617.60
Middle Greens Road												**$626,202.00**
Storm	15	375	15	375			$202.00	$75,750.00	$15,150.00	$22,725.00	$15,907.50	$129,532.50
	12	410	12	410			$192.00	$78,720.00	$15,744.00	$23,616.00	$16,531.20	$134,611.20
Water	4	335	8	815			$142.00	$115,730.00	$23,146.00	$34,719.00	$24,303.30	$197,898.30
Streets			20	815		2000	$48.00	$96,000.00	$19,200.00	$28,800.00	$20,160.00	$164,160.00

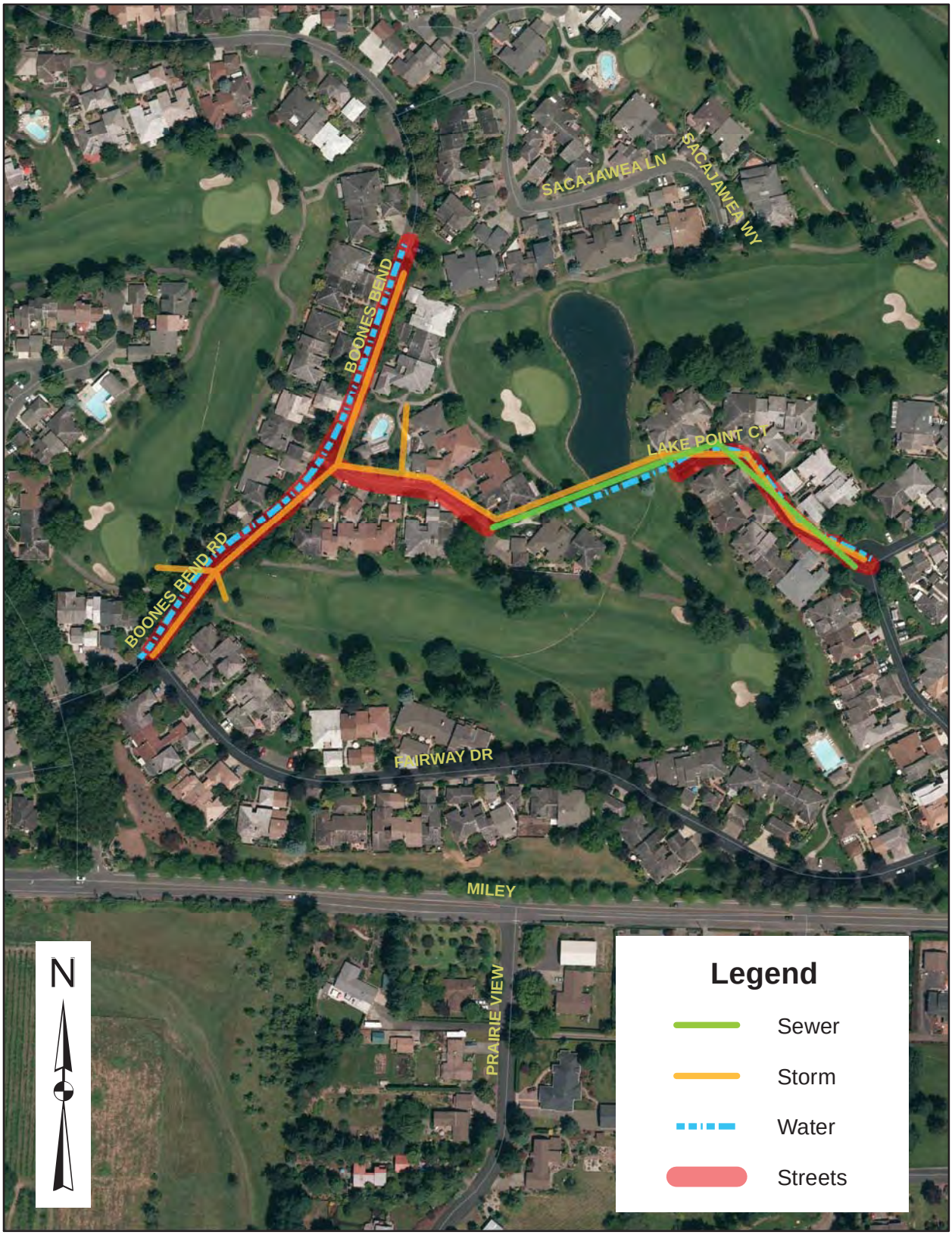
Project #17 - Middle Greens Road

Project #18 - Boones Bend Road Phase I

$1,865,934.90

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
Boones Bend Road												**$912,285.00**
Storm	27	185	27	185			$276.00	$51,060.00	$10,212.00	$15,318.00	$10,722.60	$87,312.60
	21	280	24	280			$253.00	$70,840.00	$14,168.00	$21,252.00	$14,876.40	$121,136.40
	12	350	12	350			$192.00	$67,200.00	$13,440.00	$20,160.00	$14,112.00	$114,912.00
Water	12	1080	12	1080			$178.00	$192,240.00	$38,448.00	$57,672.00	$40,370.40	$328,730.40
Streets			24	1080		3170	$48.00	$152,160.00	$30,432.00	$45,648.00	$31,953.60	$260,193.60
Winchester Way												**$128,951.10**
Storm	18	300	18	300			$218.00	$65,400.00	$13,080.00	$19,620.00	$13,734.00	$111,834.00
Streets			20	315		770	$13.00	$10,010.00	$2,002.00	$3,003.00	$2,102.10	$17,117.10
Lake Point Court (West												**$476,235.00**
Sewer	8	415	8	415			$170.00	$70,550.00	$14,110.00	$21,165.00	$14,815.50	$120,640.50
Storm	18	425	18	425			$218.00	$92,650.00	$18,530.00	$27,795.00	$19,456.50	$158,431.50
Water	6	430	8	430			$142.00	$61,060.00	$12,212.00	$18,318.00	$12,822.60	$104,412.60
Streets			20	390	42	1130	$48.00	$54,240.00	$10,848.00	$16,272.00	$11,390.40	$92,750.40
Storm Easement West												**$32,832.00**
Storm	?	100	12	100			$192.00	$19,200.00	$3,840.00	$5,760.00	$4,032.00	$32,832.00
Storm Easement East												**$16,416.00**
Storm	?	50	12	50			$192.00	$9,600.00	$1,920.00	$2,880.00	$2,016.00	$16,416.00
Storm Easement North												**$39,398.40**
Storm	12	120	12	120			$192.00	$23,040.00	$4,608.00	$6,912.00	$4,838.40	$39,398.40
Utility Easement												**$259,817.40**
Sewer	8	325	8	325			$170.00	$55,250.00	$11,050.00	$16,575.00	$11,602.50	$94,477.50
Storm	18	310	18	310			$218.00	$67,580.00	$13,516.00	$20,274.00	$14,191.80	$115,561.80
Water	6	205	8	205			$142.00	$29,110.00	$5,822.00	$8,733.00	$6,113.10	$49,778.10

Project #18 - Boones Bend Road Phase I



Project #19 - Armitage Road Phase II

$1,007,720.10

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
Armitage Road												**$700,296.30**
Storm	12	230	12	230			$192.00	$44,160.00	$8,832.00	$13,248.00	$9,273.60	$75,513.60
	10	420	12	420			$192.00	$80,640.00	$16,128.00	$24,192.00	$16,934.40	$137,894.40
Water	8	1030	8	1030			$142.00	$146,260.00	$29,252.00	$43,878.00	$30,714.60	$250,104.60
Streets			36	515		2270	$13.00	$29,510.00	$5,902.00	$8,853.00	$6,197.10	$50,462.10
			36	515		2270	$48.00	$108,960.00	$21,792.00	$32,688.00	$22,881.60	$186,321.60
Armitage Court												**$246,564.90**
Sewer	6	240	8	240			$170.00	$40,800.00	$8,160.00	$12,240.00	$8,568.00	$69,768.00
Water	4	265	8	265			$142.00	$37,630.00	$7,526.00	$11,289.00	$7,902.30	$64,347.30
Streets			36	170	80	1370	$48.00	$65,760.00	$13,152.00	$19,728.00	$13,809.60	$112,449.60
Armitage Court North												**$60,858.90**
Water	4	180	4	180			$132.00	$23,760.00	$4,752.00	$7,128.00	$4,989.60	$40,629.60
Streets			36	65	80	910	$13.00	$11,830.00	$2,366.00	$3,549.00	$2,484.30	$20,229.30

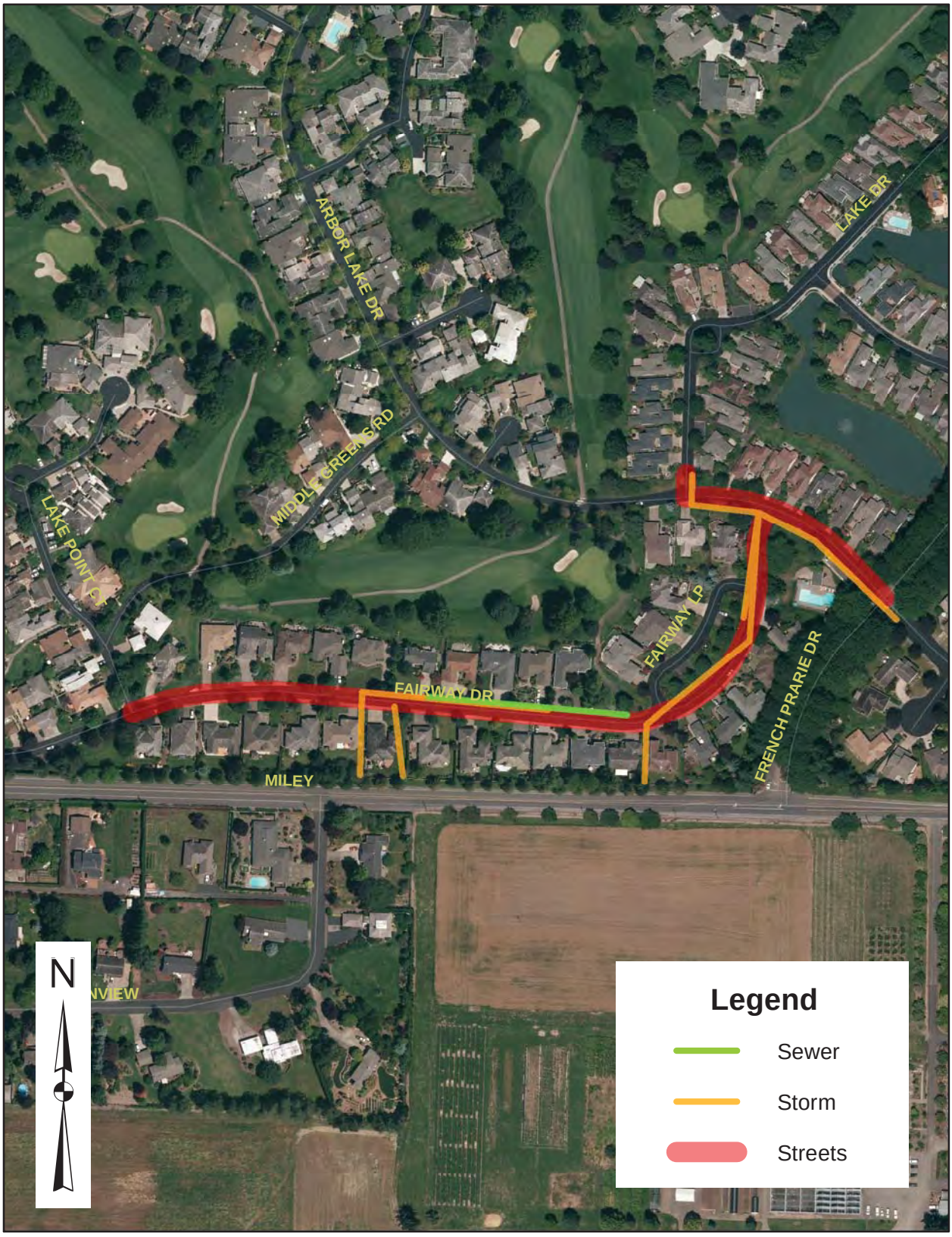
Project #19 - Armitage Road Phase II

Project #20 - Fairway Drive Phase II

$1,082,105.10

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
Fairway Drive												**$646,687.80**
Sewer	8	400	8	400			$170.00	$68,000.00	$13,600.00	$20,400.00	$14,280.00	$116,280.00
Storm	18	525	18	525			$218.00	$114,450.00	$22,890.00	$34,335.00	$24,034.50	$195,709.50
	12	590	12	590			$192.00	$113,280.00	$22,656.00	$33,984.00	$23,788.80	$193,708.80
Streets			24	1230		3610	$13.00	$46,930.00	$9,386.00	$14,079.00	$9,855.30	$80,250.30
			24	250		740	$48.00	$35,520.00	$7,104.00	$10,656.00	$7,459.20	$60,739.20
Arbor Lake Drive												**$263,117.70**
Storm	30	355	30	355			$300.00	$106,500.00	$21,300.00	$31,950.00	$22,365.00	$182,115.00
	18	135	18	135			$218.00	$29,430.00	$5,886.00	$8,829.00	$6,180.30	$50,325.30
Streets			24	470		1380	$13.00	$17,940.00	$3,588.00	$5,382.00	$3,767.40	$30,677.40
Lake Drive												**$25,786.80**
Storm	15	65	15	65			$202.00	$13,130.00	$2,626.00	$3,939.00	$2,757.30	$22,452.30
Streets			24	50		150	$13.00	$1,950.00	$390.00	$585.00	$409.50	$3,334.50
Storm Easement West												**$55,814.40**
Storm	12	170	12	170			$192.00	$32,640.00	$6,528.00	$9,792.00	$6,854.40	$55,814.40
Storm Easement Center												**$45,964.80**
Storm	12	140	12	140			$192.00	$26,880.00	$5,376.00	$8,064.00	$5,644.80	$45,964.80
Storm Easement East												**$44,733.60**
Storm	18	120	18	120			$218.00	$26,160.00	$5,232.00	$7,848.00	$5,493.60	$44,733.60

Project #20 - Fairway Drive Phase II

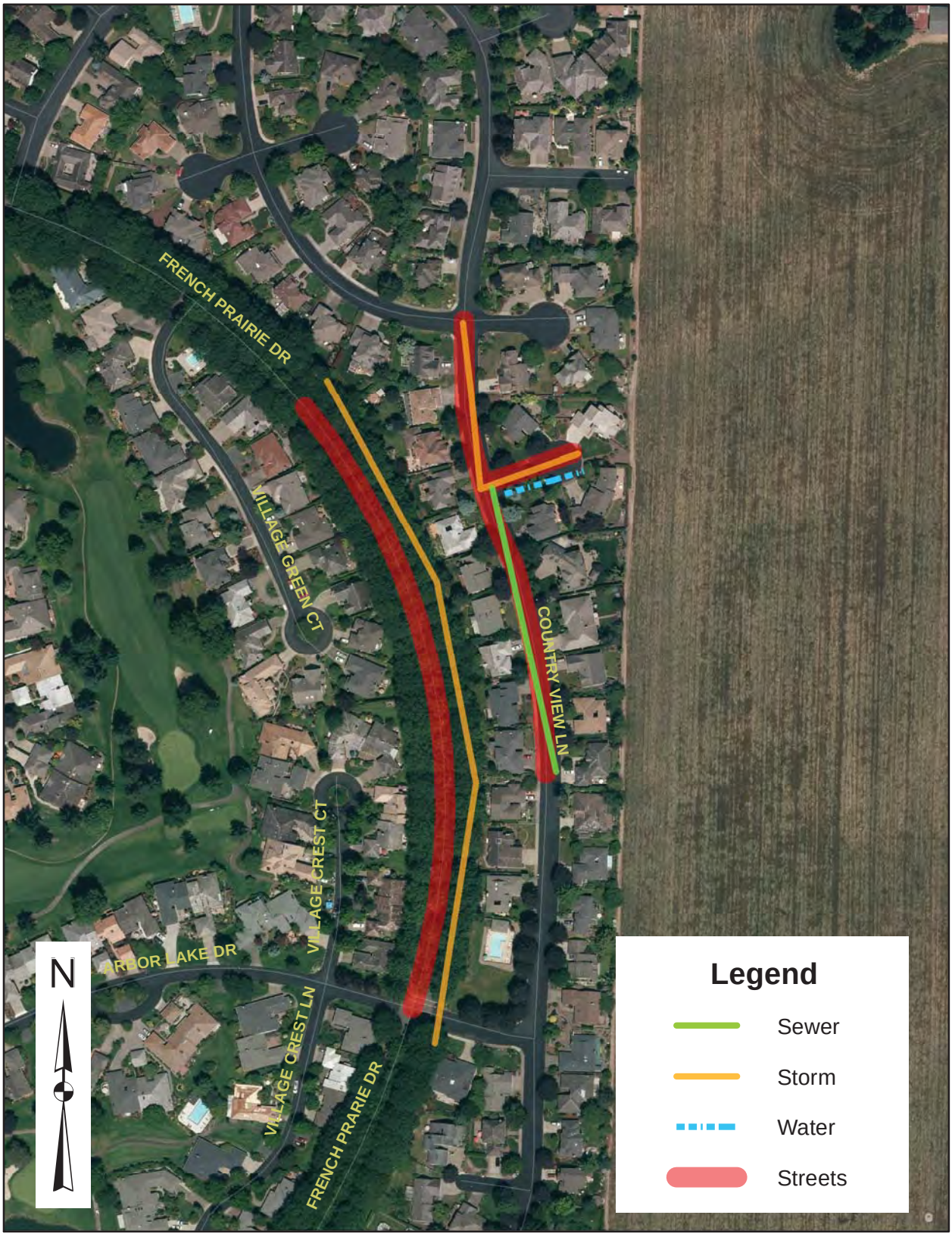


Project #21 - Country View Lane Phase II

$941,440.50

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
Country View Lane												**$318,812.40**
Sewer	8	500	8	500			$170.00	$85,000.00	$17,000.00	$25,500.00	$17,850.00	$145,350.00
Storm	12	290	12	290			$192.00	$55,680.00	$11,136.00	$16,704.00	$11,692.80	$95,212.80
Streets			36	800		3520	$13.00	$45,760.00	$9,152.00	$13,728.00	$9,609.60	$78,249.60
French Prairie Drive												**$451,183.50**
Storm	15	1200	15	1200			$202.00	$242,400.00	$48,480.00	$72,720.00	$50,904.00	$414,504.00
Streets		1095	48	280		1650	$13.00	$21,450.00	$4,290.00	$6,435.00	$4,504.50	$36,679.50
Gate Post Road												**$171,444.60**
Storm	10	180	12	180			$192.00	$34,560.00	$6,912.00	$10,368.00	$7,257.60	$59,097.60
Water	1.5	145	4	145			$132.00	$19,140.00	$3,828.00	$5,742.00	$4,019.40	$32,729.40
Streets			36	80	80	970	$48.00	$46,560.00	$9,312.00	$13,968.00	$9,777.60	$79,617.60

Project #21 - Country View Lane Phase II



Project #22 - French Prairie Drive Phase V

$664,796.70

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
French Prairie Drive												**$304,722.00**
Storm	12	660	12	660			$192.00	$126,720.00	$25,344.00	$38,016.00	$26,611.20	$216,691.20
Streets			48	675		3960	$13.00	$51,480.00	$10,296.00	$15,444.00	$10,810.80	$88,030.80
Arbor Lake Drive												**$74,829.60**
Water	10	175	12	175			$178.00	$31,150.00	$6,230.00	$9,345.00	$6,541.50	$53,266.50
Streets			36	220		970	$13.00	$12,610.00	$2,522.00	$3,783.00	$2,648.10	$21,563.10
Country View Lane												**$66,450.60**
Water	6	140	8	140			$142.00	$19,880.00	$3,976.00	$5,964.00	$4,174.80	$33,994.80
Streets			36	330		1460	$13.00	$18,980.00	$3,796.00	$5,694.00	$3,985.80	$32,455.80
Sewer Easement												**$138,082.50**
Sewer	8	475	8	475			$170.00	$80,750.00	$16,150.00	$24,225.00	$16,957.50	$138,082.50
Storm Easement (North)												**$42,818.40**
Storm	10	125	12	125			$192.00	$24,000.00	$4,800.00	$7,200.00	$5,040.00	$41,040.00
Streets					28	80	$13.00	$1,040.00	$208.00	$312.00	$218.40	$1,778.40
Storm Easement (South)												**$37,893.60**
Storm	10	110	12	110			$192.00	$21,120.00	$4,224.00	$6,336.00	$4,435.20	$36,115.20
Streets					28	80	$13.00	$1,040.00	$208.00	$312.00	$218.40	$1,778.40

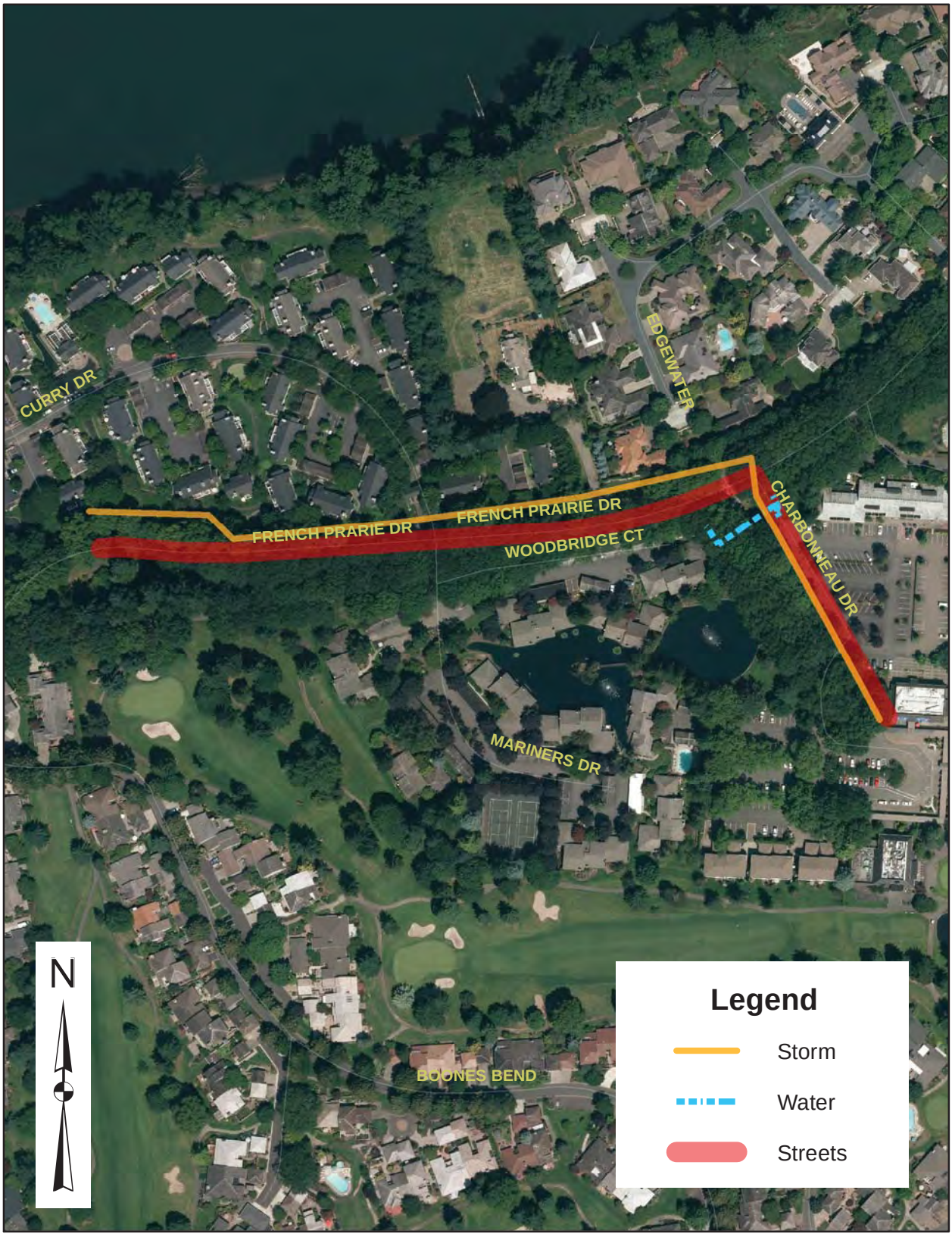
Project #22 - French Prairie Drive Phase V

Project #23 - French Prairie Drive Phase IV

$888,858.00

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
					French Prairie Drive							**$637,795.80**
Storm	30	205	30	205			$300.00	$61,500.00	$12,300.00	$18,450.00	$12,915.00	$105,165.00
	18	965	18	965			$218.00	$210,370.00	$42,074.00	$63,111.00	$44,177.70	$359,732.70
	15	70	15	70			$202.00	$14,140.00	$2,828.00	$4,242.00	$2,969.40	$24,179.40
Streets			48	1140		6690	$13.00	$86,970.00	$17,394.00	$26,091.00	$18,263.70	$148,718.70
					Charbonneau Drive							**$202,361.40**
Storm	15	440	15	440			$202.00	$88,880.00	$17,776.00	$26,664.00	$18,664.80	$151,984.80
Water	10	45	12	45			$178.00	$8,010.00	$1,602.00	$2,403.00	$1,682.10	$13,697.10
Streets			28	480		1650	$13.00	$21,450.00	$4,290.00	$6,435.00	$4,504.50	$36,679.50
					Water Easement							**$48,700.80**
Water	6	160	12	160			$178.00	$28,480.00	$5,696.00	$8,544.00	$5,980.80	$48,700.80

Project #23 - French Prairie Drive Phase IV



Project #24 - Louvonne & Juliette Storm

$187,740.90

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
Louvonne Drive												**$59,610.60**
Storm	12	145	12	145			$192.00	$27,840.00	$5,568.00	$8,352.00	$5,846.40	$47,606.40
Streets			30	145		540	$13.00	$7,020.00	$1,404.00	$2,106.00	$1,474.20	$12,004.20
Juliette Drive												**$128,130.30**
Storm	12	330	12	330			$192.00	$63,360.00	$12,672.00	$19,008.00	$13,305.60	$108,345.60
Streets			22	330		890	$13.00	$11,570.00	$2,314.00	$3,471.00	$2,429.70	$19,784.70

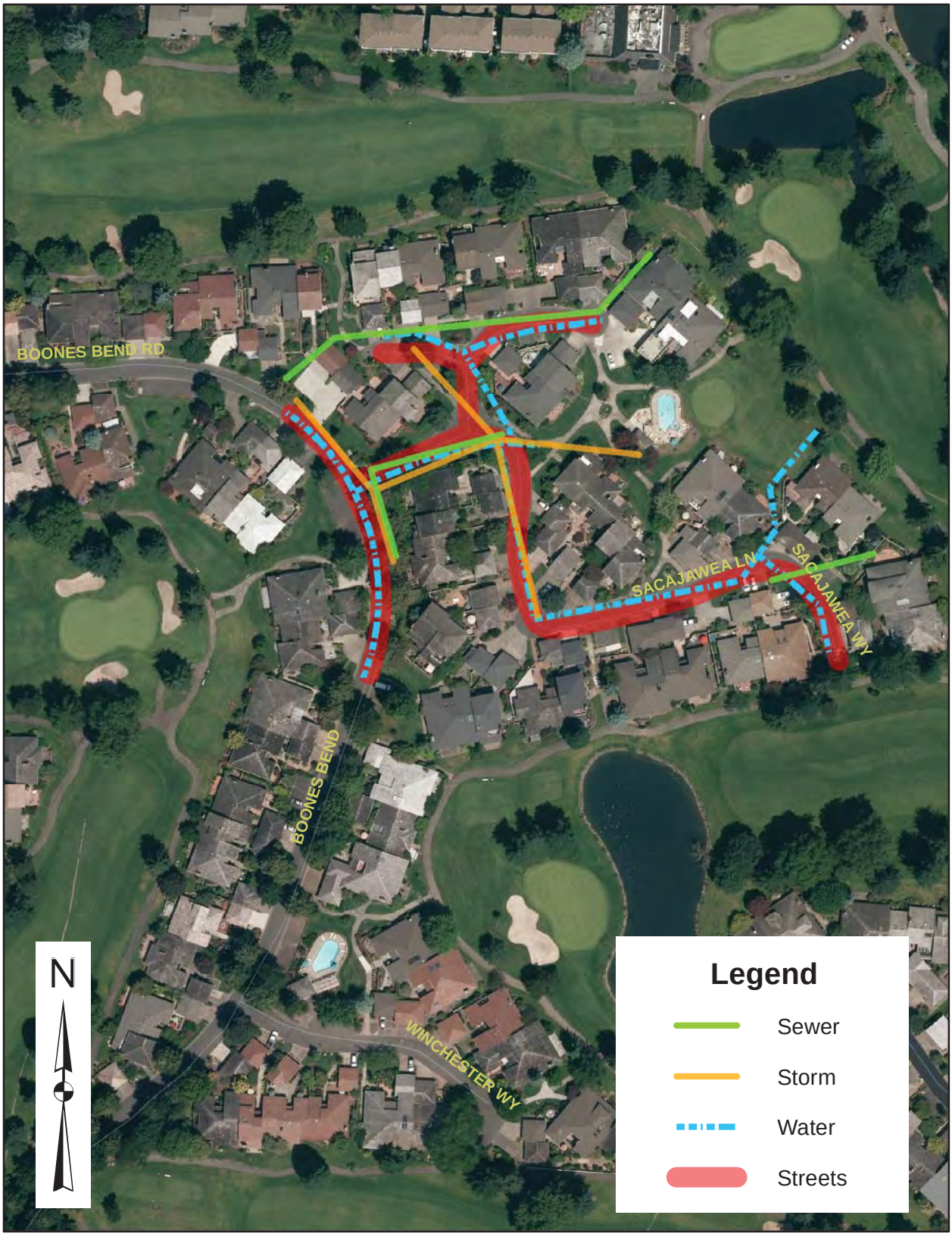
Project #24 - Louvonne & Juliette Storm

Project #25 - Sacajawea Lane

$1,361,818.35

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
Boones Bend Road												**$311,074.65**
Sewer	8	105	8	105			$170.00	$17,850.00	$3,570.00	$5,355.00	$3,748.50	$30,523.50
Storm	15	135	24	135			$253.00	$34,155.00	$6,831.00	$10,246.50	$7,172.55	$58,405.05
	12	85	12	85			$192.00	$16,320.00	$3,264.00	$4,896.00	$3,427.20	$27,907.20
Water	12	355	12	355			$178.00	$63,190.00	$12,638.00	$18,957.00	$13,269.90	$108,054.90
Streets			24	355		1050	$48.00	$50,400.00	$10,080.00	$15,120.00	$10,584.00	$86,184.00
Sacajawea Lane												**$204,943.50**
Sewer	8	160	8	160			$170.00	$27,200.00	$5,440.00	$8,160.00	$5,712.00	$46,512.00
Storm	12	155	12	155			$192.00	$29,760.00	$5,952.00	$8,928.00	$6,249.60	$50,889.60
Water	12	205	12	205			$178.00	$36,490.00	$7,298.00	$10,947.00	$7,662.90	$62,397.90
Streets			28	160		550	$48.00	$26,400.00	$5,280.00	$7,920.00	$5,544.00	$45,144.00
Sacajawea Lane (North)												**$103,403.70**
Storm	10	140	12	140			$192.00	$26,880.00	$5,376.00	$8,064.00	$5,644.80	$45,964.80
Water	6	125	8	125			$142.00	$17,750.00	$3,550.00	$5,325.00	$3,727.50	$30,352.50
Streets			28	95		330	$48.00	$15,840.00	$3,168.00	$4,752.00	$3,326.40	$27,086.40
Sacajawea Lane (NW)												**$82,849.50**
Sewer	8	135	8	135			$170.00	$22,950.00	$4,590.00	$6,885.00	$4,819.50	$39,244.50
Water	2	95	4	95			$132.00	$12,540.00	$2,508.00	$3,762.00	$2,633.40	$21,443.40
Streets			36	60		270	$48.00	$12,960.00	$2,592.00	$3,888.00	$2,721.60	$22,161.60
Sacajawea Lane (NE)												**$150,069.60**
Sewer	8	170	8	170			$170.00	$28,900.00	$5,780.00	$8,670.00	$6,069.00	$49,419.00
	6	90	8	90			$170.00	$15,300.00	$3,060.00	$4,590.00	$3,213.00	$26,163.00
Water	2	170	4	170			$132.00	$22,440.00	$4,488.00	$6,732.00	$4,712.40	$38,372.40
Streets			18	135	38	440	$48.00	$21,120.00	$4,224.00	$6,336.00	$4,435.20	$36,115.20
Sacajawea Lane (South)												**$433,502.10**
Sewer	6	120	8	120			$170.00	$20,400.00	$4,080.00	$6,120.00	$4,284.00	$34,884.00
Storm	10	210	12	210			$192.00	$40,320.00	$8,064.00	$12,096.00	$8,467.20	$68,947.20
Water	6	215	8	215			$142.00	$30,530.00	$6,106.00	$9,159.00	$6,411.30	$52,206.30
	4	440	8	440			$142.00	$62,480.00	$12,496.00	$18,744.00	$13,120.80	$106,840.80
	2	145	4	145			$132.00	$19,140.00	$3,828.00	$5,742.00	$4,019.40	$32,729.40
Streets			20	685		1680	$48.00	$80,640.00	$16,128.00	$24,192.00	$16,934.40	$137,894.40
Sewer Easement												**$21,802.50**
Sewer	8	75	8	75			$170.00	$12,750.00	$2,550.00	$3,825.00	$2,677.50	$21,802.50
Utility Easement												**$54,172.80**
Storm	8	165	12	165			$192.00	$31,680.00	$6,336.00	$9,504.00	$6,652.80	$54,172.80

Project #25 - Sacajawea Lane



Project #26 - Old Farm Road Phase II

$1,178,805.60

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
					Old Farm Road							**$725,809.50**
Sewer	8	245	8	245			$170.00	$41,650.00	$8,330.00	$12,495.00	$8,746.50	$71,221.50
Storm	30	300	30	300			$300.00	$90,000.00	$18,000.00	$27,000.00	$18,900.00	$153,900.00
	24	560	30	560			$300.00	$168,000.00	$33,600.00	$50,400.00	$35,280.00	$287,280.00
Streets			24	885		2600	$48.00	$124,800.00	$24,960.00	$37,440.00	$26,208.00	$213,408.00
					Arbor Glen Loop							**$24,897.60**
Streets			20	455		1120	$13.00	$14,560.00	$2,912.00	$4,368.00	$3,057.60	$24,897.60
					Arbor Lake Drive							**$377,055.00**
Sewer	8	165	8	165			$170.00	$28,050.00	$5,610.00	$8,415.00	$5,890.50	$47,965.50
Storm	30	425	30	425			$300.00	$127,500.00	$25,500.00	$38,250.00	$26,775.00	$218,025.00
	15	130	15	130			$202.00	$26,260.00	$5,252.00	$7,878.00	$5,514.60	$44,904.60
Streets			24	385		1130	$13.00	$14,690.00	$2,938.00	$4,407.00	$3,084.90	$25,119.90
			24	170		500	$48.00	$24,000.00	$4,800.00	$7,200.00	$5,040.00	$41,040.00
					Utility Easement							**$51,043.50**
Storm	10	100	12	100			$192.00	$19,200.00	$3,840.00	$5,760.00	$4,032.00	$32,832.00
Water	4	75	8	75			$142.00	$10,650.00	$2,130.00	$3,195.00	$2,236.50	$18,211.50

Project #26 - Old Farm Road Phase II

Project #27 - Lafayette Way

$467,257.50

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
Lafayette Way												**$119,016.00**
Storm	8	285	12	285			$192.00	$54,720.00	$10,944.00	$16,416.00	$11,491.20	$93,571.20
Streets			20	125		310	$48.00	$14,880.00	$2,976.00	$4,464.00	$3,124.80	$25,444.80
Lafayette Way (West)												**$174,009.60**
Storm	8	325	12	325			$192.00	$62,400.00	$12,480.00	$18,720.00	$13,104.00	$106,704.00
Streets			20	270	40	820	$48.00	$39,360.00	$7,872.00	$11,808.00	$8,265.60	$67,305.60
Lafayette (East)												**$103,420.80**
Streets			20	450	40	1260	$48.00	$60,480.00	$12,096.00	$18,144.00	$12,700.80	$103,420.80
Storm Easement												**$70,811.10**
Storm	15	205	15	205			$202.00	$41,410.00	$8,282.00	$12,423.00	$8,696.10	$70,811.10

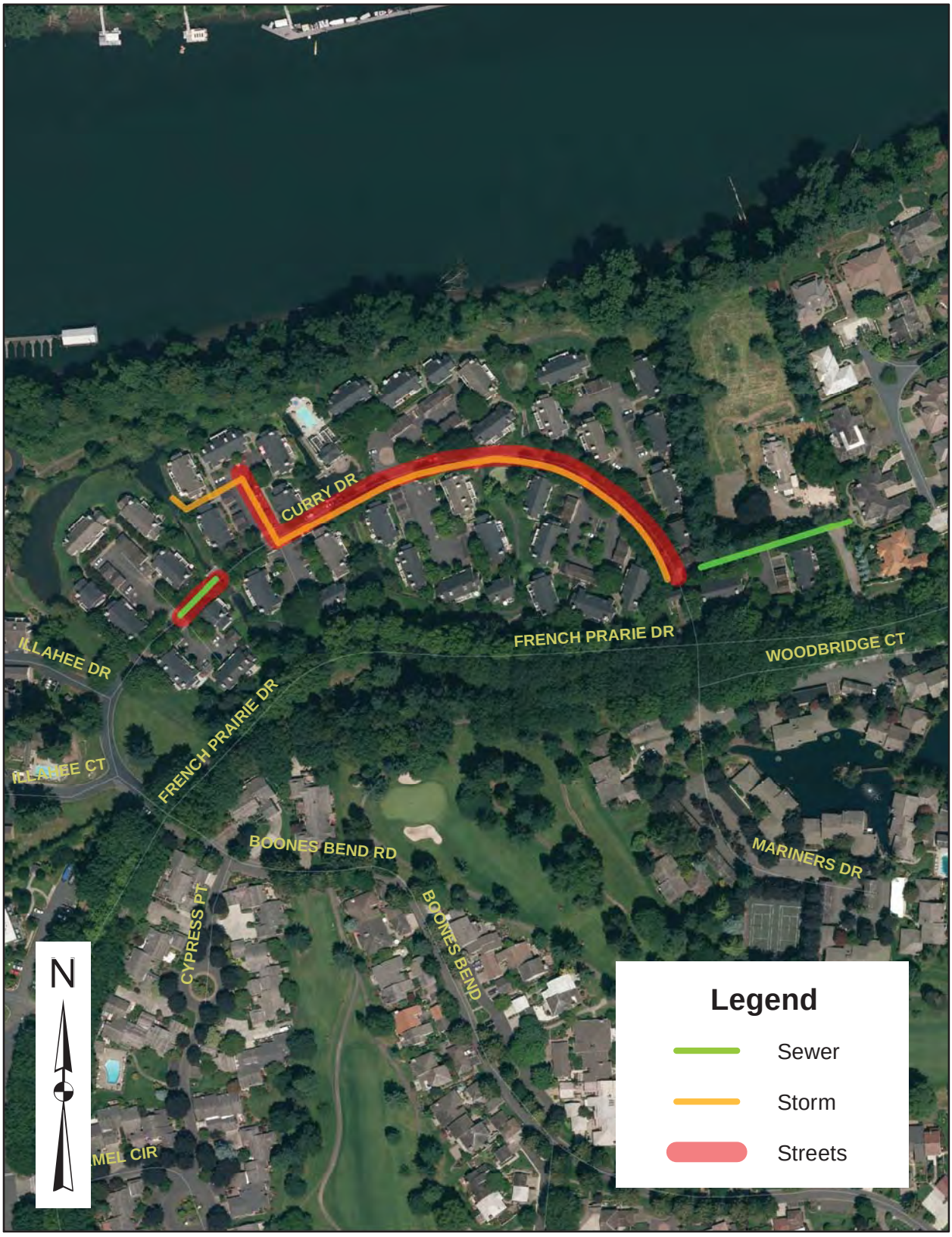
Project #27 - Lafayette Way

Project #28 - Curry Drive

$625,432.50

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
Curry Drive												**$377,311.50**
Sewer	15	90	15	90			$278.00	$25,020.00	$5,004.00	$7,506.00	$5,254.20	$42,784.20
Storm	18	405	18	405			$218.00	$88,290.00	$17,658.00	$26,487.00	$18,540.90	$150,975.90
	15	100	15	100			$202.00	$20,200.00	$4,040.00	$6,060.00	$4,242.00	$34,542.00
	10	290	12	290			$192.00	$55,680.00	$11,136.00	$16,704.00	$11,692.80	$95,212.80
Streets			22	900		2420	$13.00	$31,460.00	$6,292.00	$9,438.00	$6,606.60	$53,796.60
Bordeaux Court												**$67,579.20**
Storm	18	130	18	130			$218.00	$28,340.00	$5,668.00	$8,502.00	$5,951.40	$48,461.40
Streets			44	130	40	860	$13.00	$11,180.00	$2,236.00	$3,354.00	$2,347.80	$19,117.80
Utility Easement (East)												**$52,189.20**
Storm	18	140	18	140			$218.00	$30,520.00	$6,104.00	$9,156.00	$6,409.20	$52,189.20
Utility Easement (West)												**$128,352.60**
Sewer	15	270	15	270			$278.00	$75,060.00	$15,012.00	$22,518.00	$15,762.60	$128,352.60

Project #28 - Curry Drive

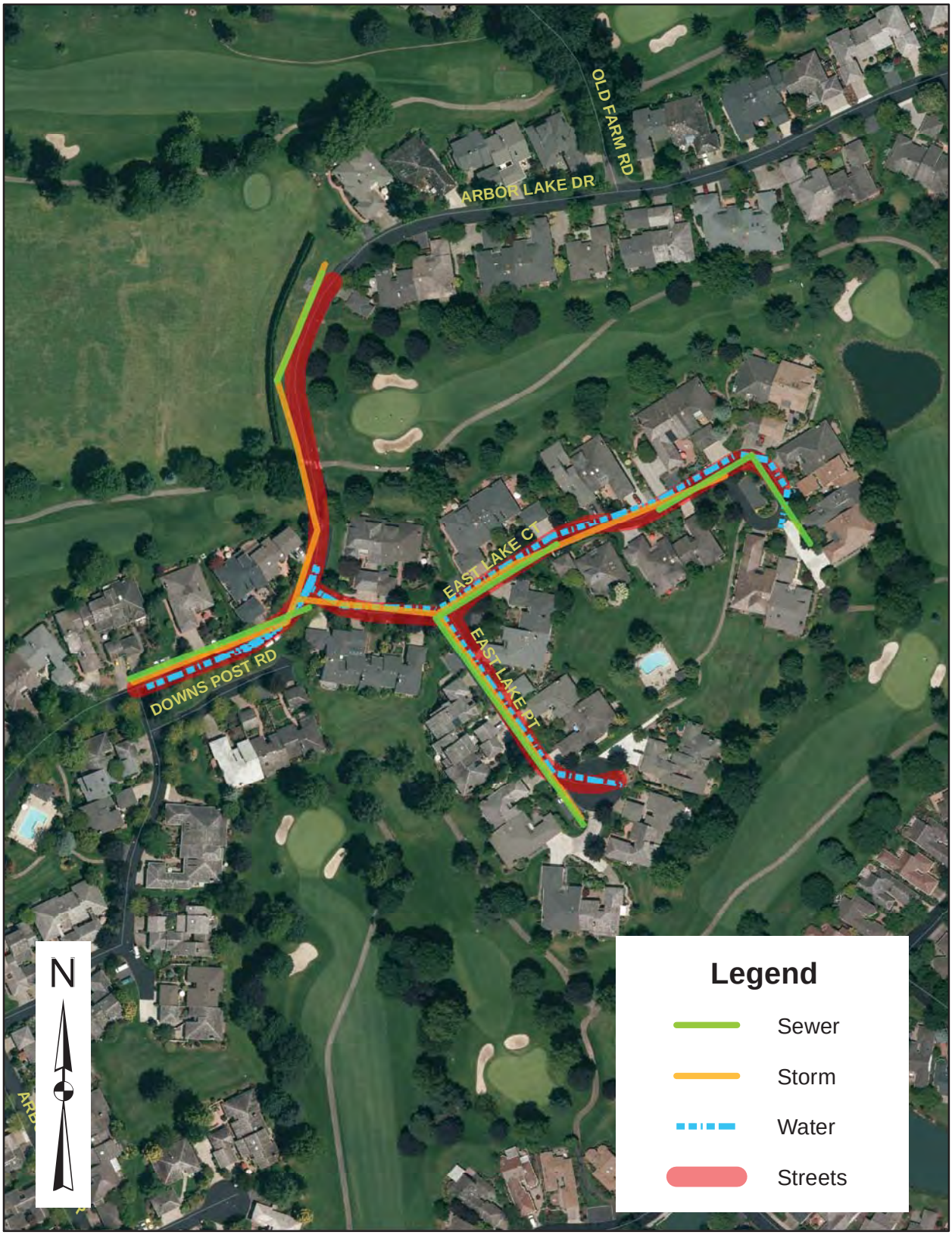


Project #29 - East Lake Court

$1,862,361.00

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
					Arbor Lake Drive							**$736,155.00**
Sewer	8	445	8	445			$170.00	$75,650.00	$15,130.00	$22,695.00	$15,886.50	$129,361.50
Storm	30	405	30	405			$300.00	$121,500.00	$24,300.00	$36,450.00	$25,515.00	$207,765.00
	27	140	27	140			$276.00	$38,640.00	$7,728.00	$11,592.00	$8,114.40	$66,074.40
	24	240	24	240			$253.00	$60,720.00	$12,144.00	$18,216.00	$12,751.20	$103,831.20
Water	10	320	12	320			$178.00	$56,960.00	$11,392.00	$17,088.00	$11,961.60	$97,401.60
Streets			24	280		830	$13.00	$10,790.00	$2,158.00	$3,237.00	$2,265.90	$18,450.90
			24	470		1380	$48.00	$66,240.00	$13,248.00	$19,872.00	$13,910.40	$113,270.40
					East Lake Court							**$698,039.10**
Sewer	8	510	8	510			$170.00	$86,700.00	$17,340.00	$26,010.00	$18,207.00	$148,257.00
Storm	15	205	15	205			$202.00	$41,410.00	$8,282.00	$12,423.00	$8,696.10	$70,811.10
	12	130	12	130			$192.00	$24,960.00	$4,992.00	$7,488.00	$5,241.60	$42,681.60
	10	330	12	330			$192.00	$63,360.00	$12,672.00	$19,008.00	$13,305.60	$108,345.60
Water	8	200	8	200			$142.00	$28,400.00	$5,680.00	$8,520.00	$5,964.00	$48,564.00
	6	475	8	475			$142.00	$67,450.00	$13,490.00	$20,235.00	$14,164.50	$115,339.50
	4	155	8	155			$142.00	$22,010.00	$4,402.00	$6,603.00	$4,622.10	$37,637.10
Streets			20	630		1540	$48.00	$73,920.00	$14,784.00	$22,176.00	$15,523.20	$126,403.20
					East Lake Point							**$428,166.90**
Sewer	8	365	8	365			$170.00	$62,050.00	$12,410.00	$18,615.00	$13,030.50	$106,105.50
Storm	10	360	12	360			$192.00	$69,120.00	$13,824.00	$20,736.00	$14,515.20	$118,195.20
Water	6	390	8	390			$142.00	$55,380.00	$11,076.00	$16,614.00	$11,629.80	$94,699.80
Streets			20	290	80	1330	$48.00	$63,840.00	$12,768.00	$19,152.00	$13,406.40	$109,166.40

Project #29 - East Lake Court

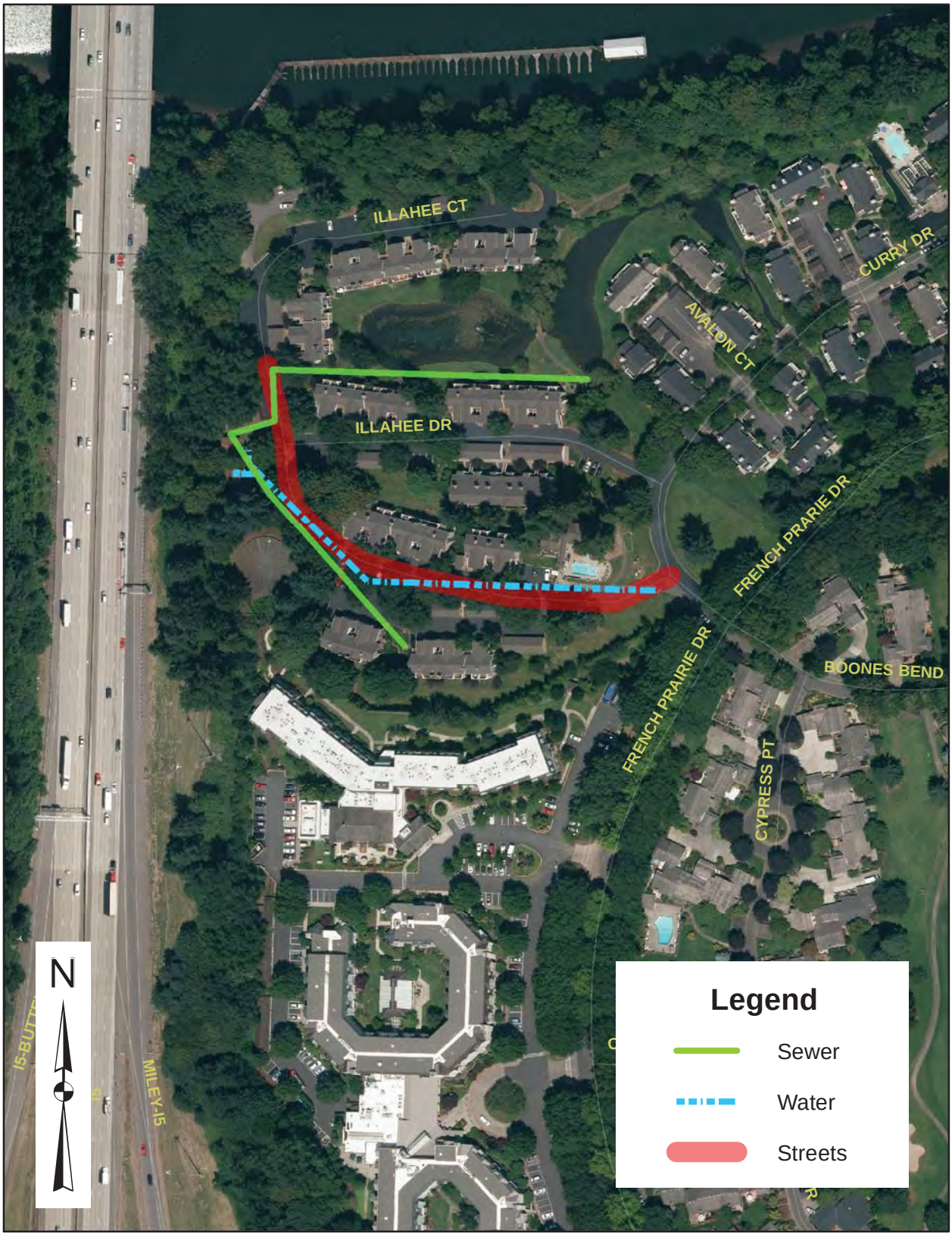


Project #30 - Illahee Drive

$758,658.60

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
					Illahee Court							**$544,737.60**
Sewer	15	430	15	430			$278.00	$119,540.00	$23,908.00	$35,862.00	$25,103.40	$204,413.40
Water	14	680	18	680			$230.00	$156,400.00	$31,280.00	$46,920.00	$32,844.00	$267,444.00
	12	70	12	70			$178.00	$12,460.00	$2,492.00	$3,738.00	$2,616.60	$21,306.60
Streets			24	790		2320	$13.00	$30,160.00	$6,032.00	$9,048.00	$6,333.60	$51,573.60
					Sewer Easement							**$213,921.00**
Sewer	15	450	15	450			$278.00	$125,100.00	$25,020.00	$37,530.00	$26,271.00	$213,921.00

Project #30 - Illahee Drive

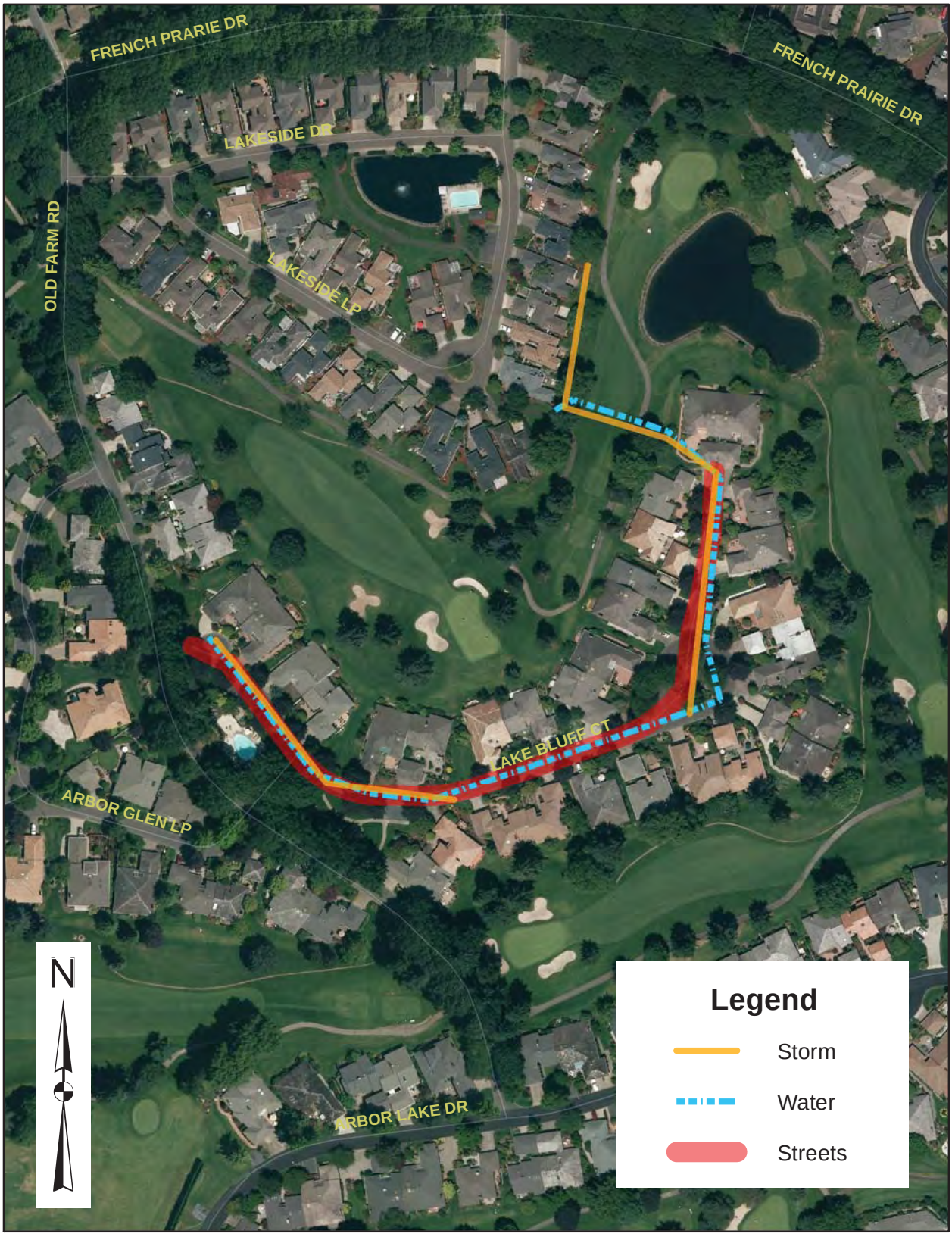


Project #31 - Lake Bluff Court

$979,009.20

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
Lake Bluff Court												**$764,489.70**
Storm	10	825	12	825			$192.00	$158,400.00	$31,680.00	$47,520.00	$33,264.00	$270,864.00
Water	6	1185	8	1185			$142.00	$168,270.00	$33,654.00	$50,481.00	$35,336.70	$287,741.70
Streets			20	360		880	$13.00	$11,440.00	$2,288.00	$3,432.00	$2,402.40	$19,562.40
			20	925		2270	$48.00	$108,960.00	$21,792.00	$32,688.00	$22,881.60	$186,321.60
Utility Easement West												**$145,572.30**
Storm	10	240	12	240			$192.00	$46,080.00	$9,216.00	$13,824.00	$9,676.80	$78,796.80
Water	6	275	8	275			$142.00	$39,050.00	$7,810.00	$11,715.00	$8,200.50	$66,775.50
Storm Easement North												**$68,947.20**
Storm	10	210	12	210			$192.00	$40,320.00	$8,064.00	$12,096.00	$8,467.20	$68,947.20

Project #31 - Lake Bluff Court



Project #32 - Del Monte Drive

$278,712.90

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
					Del Monte Drive							**$117,699.30**
Water	6	90	8	90			$142.00	$12,780.00	$2,556.00	$3,834.00	$2,683.80	$21,853.80
	4	305	8	305			$142.00	$43,310.00	$8,662.00	$12,993.00	$9,095.10	$74,060.10
Streets			18	445		980	$13.00	$12,740.00	$2,548.00	$3,822.00	$2,675.40	$21,785.40
					Cypress Point							**$161,013.60**
Water	6	290	8	290			$142.00	$41,180.00	$8,236.00	$12,354.00	$8,647.80	$70,417.80
	4	255	8	255			$142.00	$36,210.00	$7,242.00	$10,863.00	$7,604.10	$61,919.10
Streets			18	585		1290	$13.00	$16,770.00	$3,354.00	$5,031.00	$3,521.70	$28,676.70

Project #32 - Del Monte Drive

Project #33 - Lakeside Loop & Village Green Court

$897,972.30

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
Lakeside Loop												**$416,043.00**
Sewer	8	270	8	270			$170.00	$45,900.00	$9,180.00	$13,770.00	$9,639.00	$78,489.00
Storm	10	670	12	670			$192.00	$128,640.00	$25,728.00	$38,592.00	$27,014.40	$219,974.40
Water	6	140	8	140			$142.00	$19,880.00	$3,976.00	$5,964.00	$4,174.80	$33,994.80
Streets			24	300		880	$13.00	$11,440.00	$2,288.00	$3,432.00	$2,402.40	$19,562.40
			24	265		780	$48.00	$37,440.00	$7,488.00	$11,232.00	$7,862.40	$64,022.40
Village Green Court												**$342,786.60**
Sewer	8	305	8	305			$170.00	$51,850.00	$10,370.00	$15,555.00	$10,888.50	$88,663.50
Storm	10	505	12	505			$192.00	$96,960.00	$19,392.00	$29,088.00	$20,361.60	$165,801.60
Streets			24	220		650	$13.00	$8,450.00	$1,690.00	$2,535.00	$1,774.50	$14,449.50
			24	305		900	$48.00	$43,200.00	$8,640.00	$12,960.00	$9,072.00	$73,872.00
Storm Easement (North)												**$91,536.30**
Storm	15	265	15	265			$202.00	$53,530.00	$10,706.00	$16,059.00	$11,241.30	$91,536.30
Utility Easement (South)												**$47,606.40**
Storm	10	145	12	145			$192.00	$27,840.00	$5,568.00	$8,352.00	$5,846.40	$47,606.40

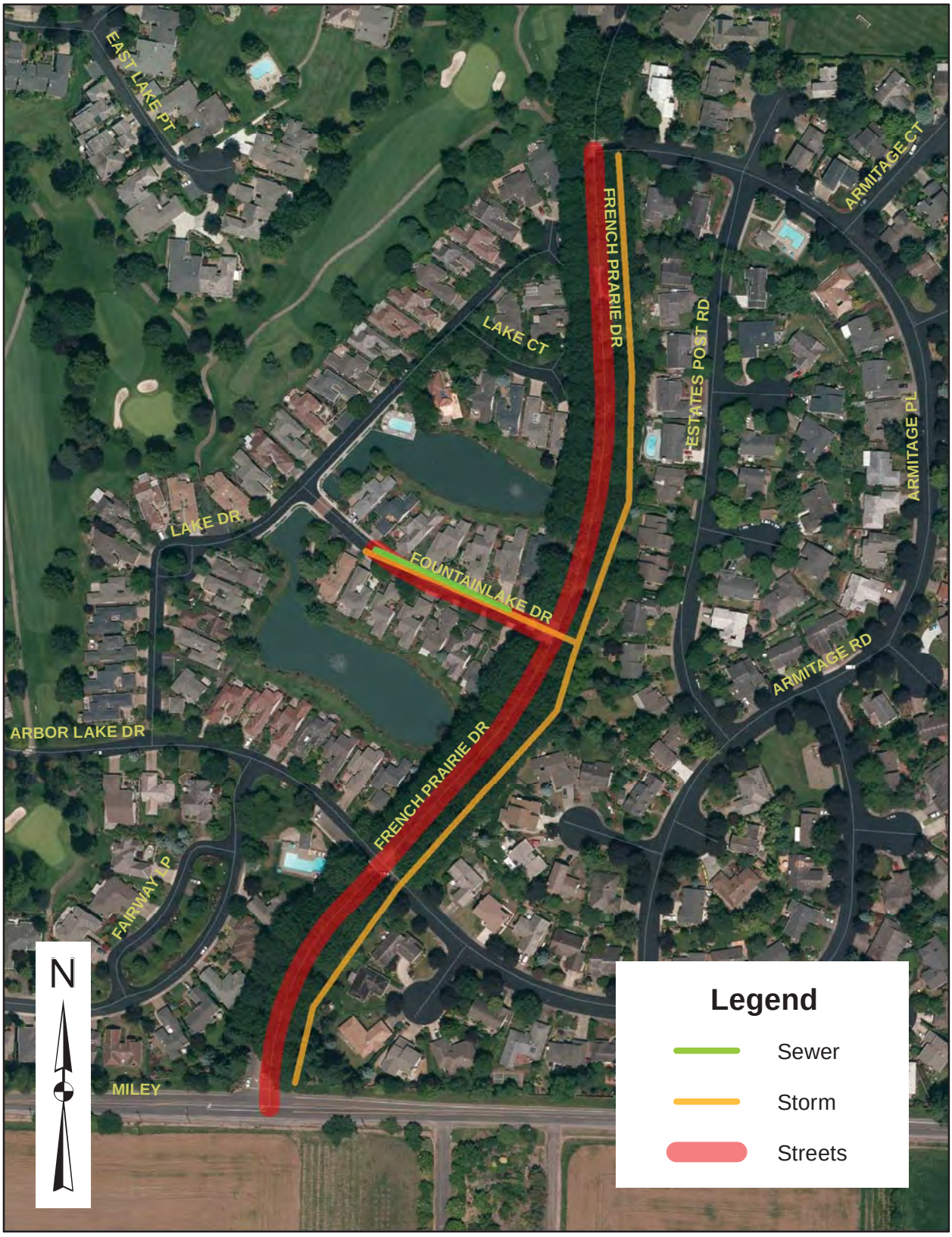
Project #33 - Lakeside Loop & Village Green Court

Project #34 - French Prairie Drive Phase VI

$1,277,464.05

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
					French Prairie Drive							**$989,739.45**
Storm	?	385	30	385			$300.00	$115,500.00	$23,100.00	$34,650.00	$24,255.00	$197,505.00
	24	410	24	410			$253.00	$103,730.00	$20,746.00	$31,119.00	$21,783.30	$177,378.30
	21	385	24	385			$253.00	$97,405.00	$19,481.00	$29,221.50	$20,455.05	$166,562.55
	18	220	18	220			$218.00	$47,960.00	$9,592.00	$14,388.00	$10,071.60	$82,011.60
	15	375	15	375			$202.00	$75,750.00	$15,150.00	$22,725.00	$15,907.50	$129,532.50
Streets			48	1815		10650	$13.00	$138,450.00	$27,690.00	$41,535.00	$29,074.50	$236,749.50
					Fountain Lake Drive							**$287,724.60**
Sewer	8	250	8	250			$170.00	$42,500.00	$8,500.00	$12,750.00	$8,925.00	$72,675.00
Storm	12	400	12	400			$192.00	$76,800.00	$15,360.00	$23,040.00	$16,128.00	$131,328.00
Streets			24	345		1020	$48.00	$48,960.00	$9,792.00	$14,688.00	$10,281.60	$83,721.60

Project #34 - French Prairie Drive Phase VI

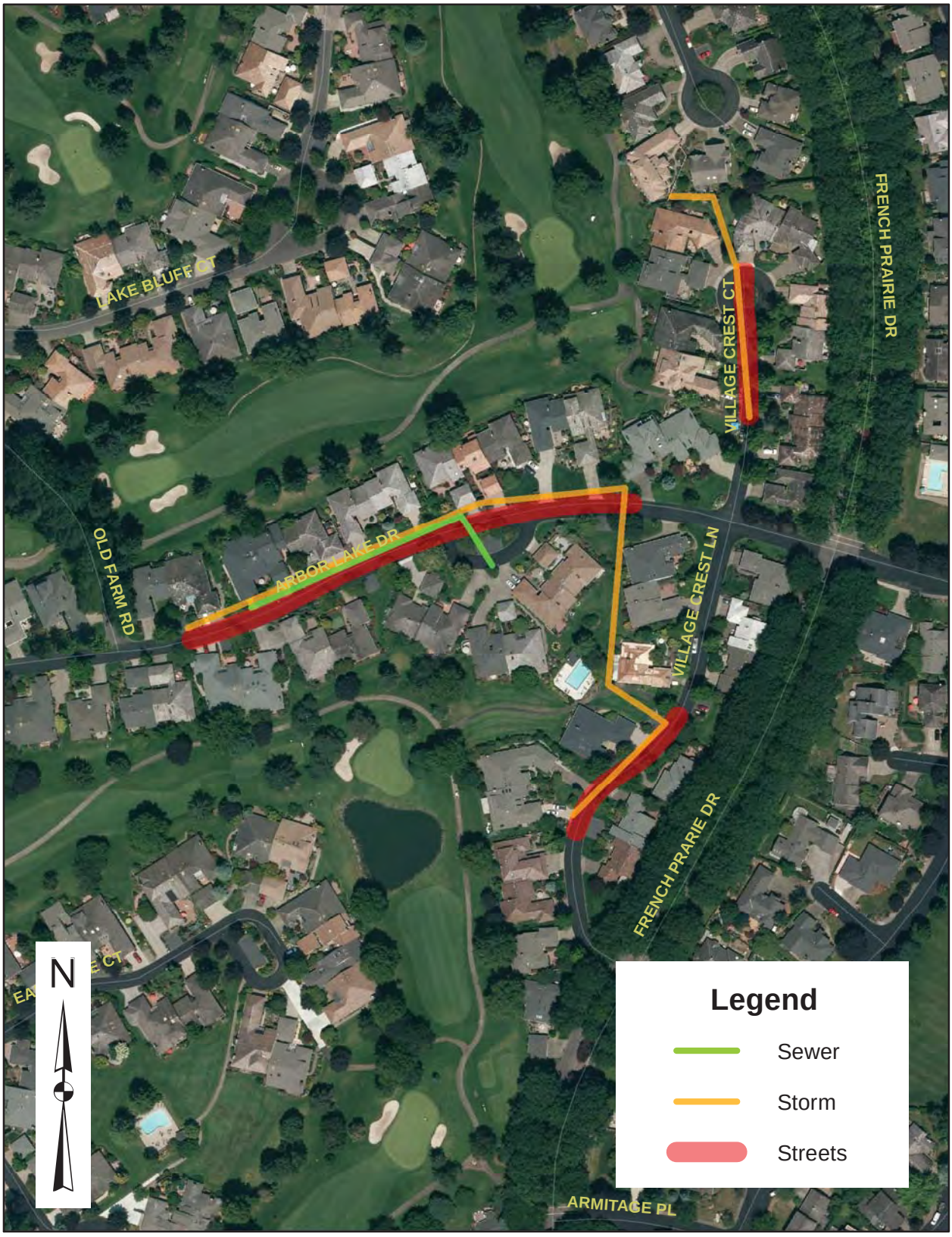


Project #35 - Arbor Lake Drive Phase III

$799,425.00

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
Arbor Lake Drive												**$455,783.40**
Sewer	8	415	8	415			$170.00	$70,550.00	$14,110.00	$21,165.00	$14,815.50	$120,640.50
Storm	15	665	15	665			$202.00	$134,330.00	$26,866.00	$40,299.00	$28,209.30	$229,704.30
Streets			24	320		940	$13.00	$12,220.00	$2,444.00	$3,666.00	$2,566.20	$20,896.20
			24	350		1030	$48.00	$49,440.00	$9,888.00	$14,832.00	$10,382.40	$84,542.40
Village Crest Lane												**$77,052.60**
Storm	10	190	12	190			$192.00	$36,480.00	$7,296.00	$10,944.00	$7,660.80	$62,380.80
Streets			24	225		660	$13.00	$8,580.00	$1,716.00	$2,574.00	$1,801.80	$14,671.80
Village Crest Court												**$86,013.00**
Storm	10	220	12	220			$192.00	$42,240.00	$8,448.00	$12,672.00	$8,870.40	$72,230.40
Streets			24	210		620	$13.00	$8,060.00	$1,612.00	$2,418.00	$1,692.60	$13,782.60
Utility Easement (North)												**$54,172.80**
Storm	10	165	12	165			$192.00	$31,680.00	$6,336.00	$9,504.00	$6,652.80	$54,172.80
Storm Easement (South)												**$126,403.20**
Storm	12	285	12	285			$192.00	$54,720.00	$10,944.00	$16,416.00	$11,491.20	$93,571.20
	10	100	12	100			$192.00	$19,200.00	$3,840.00	$5,760.00	$4,032.00	$32,832.00

Project #35 - Arbor Lake Drive Phase III



Project #36 - Charbonneau Storm Improvements Phase I

$307,423.80

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
Storm Easement												**$307,423.80**
Storm	15	890	15	890			$202.00	$179,780.00	$35,956.00	$53,934.00	$37,753.80	$307,423.80

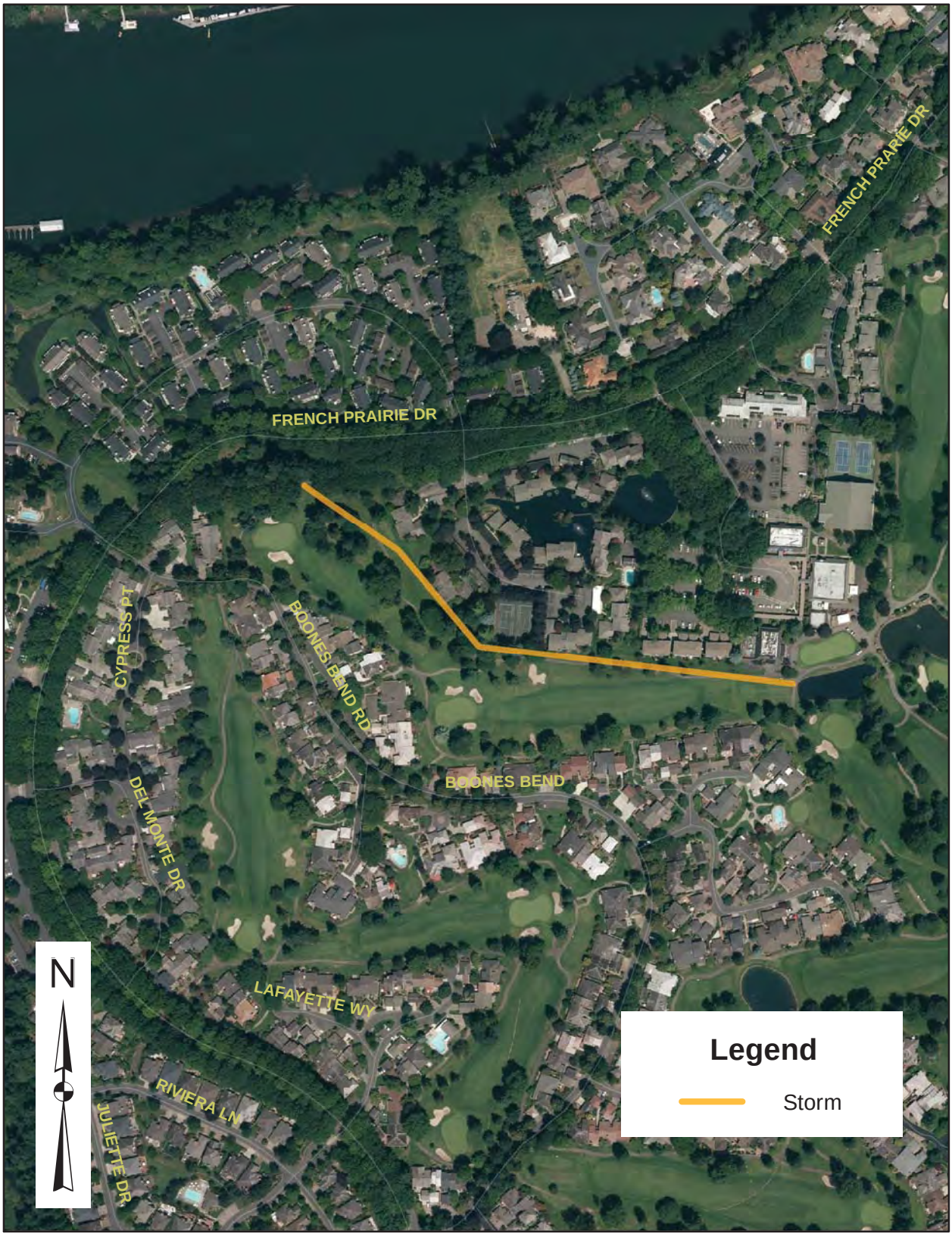
Project #36 - Charbonneau Storm Improvements Phase I

Project #37 - Charbonneau Storm Improvements Phase II

$529,304.85

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
Storm Easement												**$529,304.85**
Storm	36	65	36	65			$350.00	$22,750.00	$4,550.00	$6,825.00	$4,777.50	$38,902.50
	24	235	24	235			$253.00	$59,455.00	$11,891.00	$17,836.50	$12,485.55	$101,668.05
	18	325	18	325			$218.00	$70,850.00	$14,170.00	$21,255.00	$14,878.50	$121,153.50
	12	815	12	815			$192.00	$156,480.00	$31,296.00	$46,944.00	$32,860.80	$267,580.80

Project #37 - Charbonneau Storm Improvements Phase II

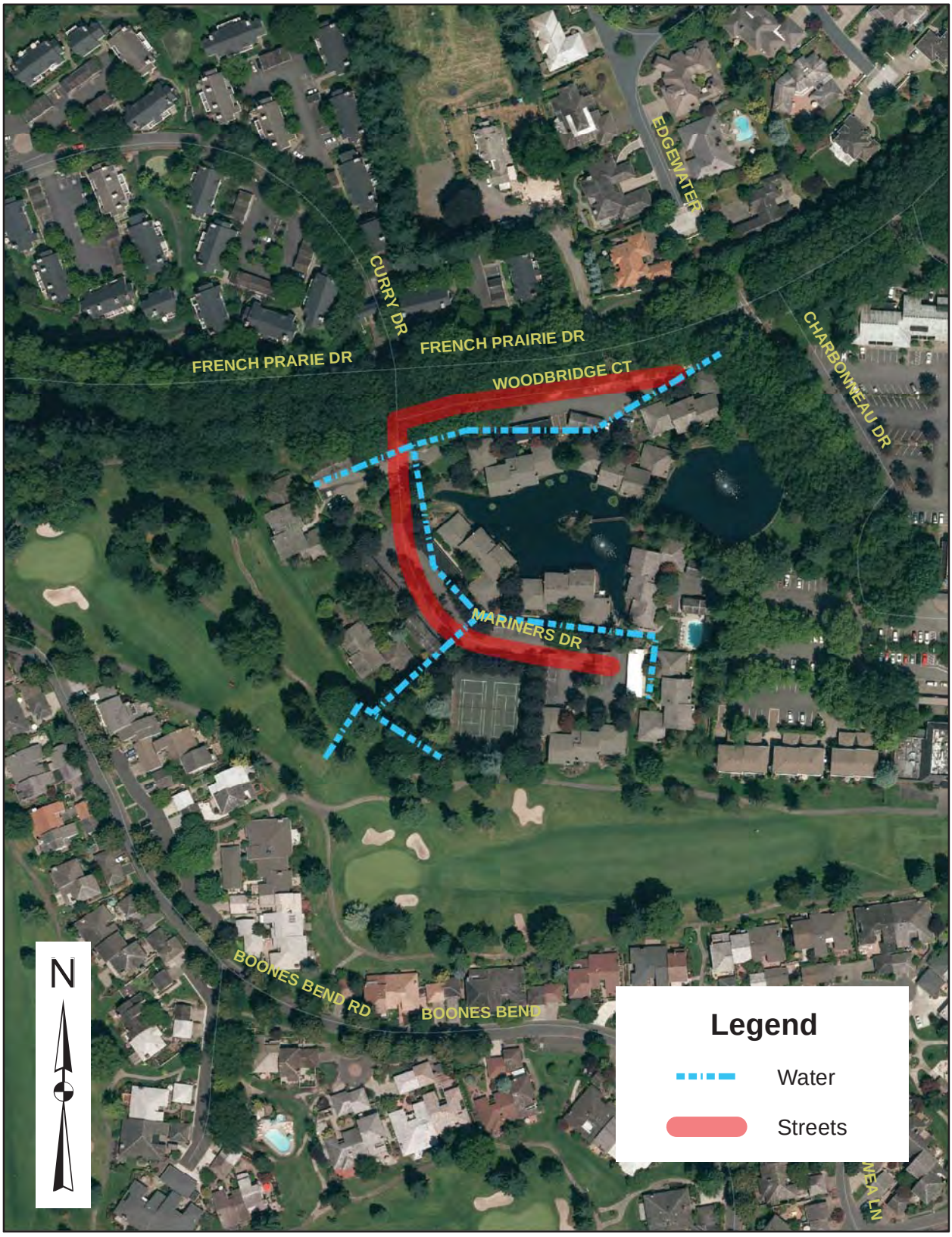


Project #38 - Mariners Drive Water Improvements

$575,500.50

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
					Mariners Drive							**$210,928.50**
Water	6	275	12	275			$178.00	$48,950.00	$9,790.00	$14,685.00	$10,279.50	$83,704.50
	6	195	8	195			$142.00	$27,690.00	$5,538.00	$8,307.00	$5,814.90	$47,349.90
	4	155	8	155			$142.00	$22,010.00	$4,402.00	$6,603.00	$4,622.10	$37,637.10
Streets			28	555		1900	$13.00	$24,700.00	$4,940.00	$7,410.00	$5,187.00	$42,237.00
					Woodbridge Court							**$229,122.90**
Water	6	475	12	475			$178.00	$84,550.00	$16,910.00	$25,365.00	$17,755.50	$144,580.50
	2	155	8	155			$142.00	$22,010.00	$4,402.00	$6,603.00	$4,622.10	$37,637.10
Streets			28	615		2110	$13.00	$27,430.00	$5,486.00	$8,229.00	$5,760.30	$46,905.30
					Water Easement (South)							**$135,449.10**
Water	12	235	12	235			$178.00	$41,830.00	$8,366.00	$12,549.00	$8,784.30	$71,529.30
	6	210	12	210			$178.00	$37,380.00	$7,476.00	$11,214.00	$7,849.80	$63,919.80

Project #38 - Mariners Drive Water Improvements



APPENDIX C

PROJECT DETAILS &
ESTIMATED COSTS

HIGH PRIORITY SPOT REPAIR SCENARIO

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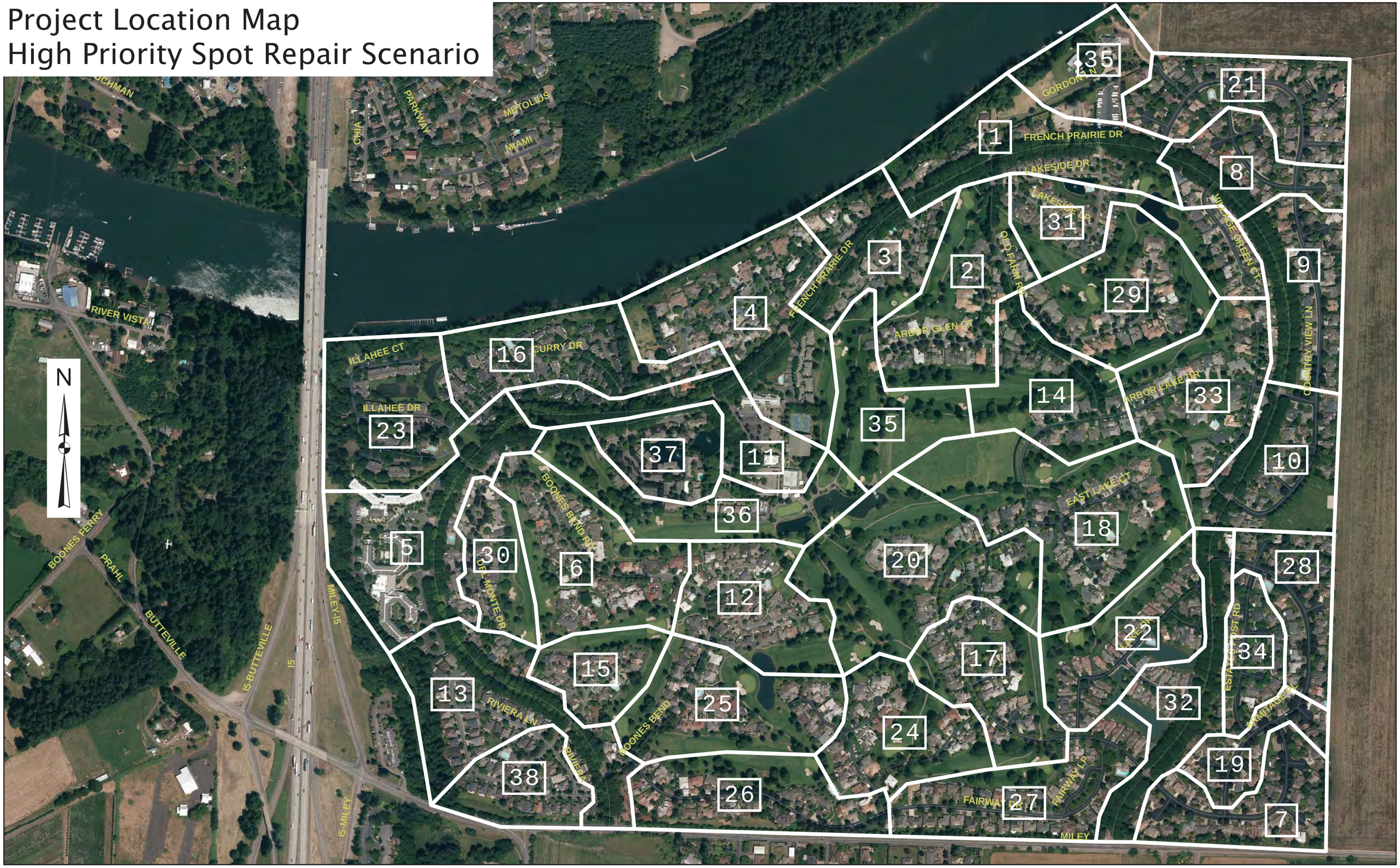
Project Location Map
High Priority Spot Repair Scenario

Project Location Map
High Priority Spot Repair Scenario



Spot Repair Projects

Project #SR-1 - 8000 Block of Fairway Drive — $261,219.60

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
Fairway Drive												**$261,219.60**
Sewer	8	300	8	300			$170.00	$51,000.00	$10,200.00	$15,300.00	$10,710.00	$87,210.00
Storm	12	530	12	530			$192.00	$101,760.00	$20,352.00	$30,528.00	$21,369.60	$174,009.60

Project #SR-2 - Estates Post Road — $181,396.80

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
Estates Post Road												**$135,432.00**
Sewer	8	240	8	240			$170.00	$40,800.00	$8,160.00	$12,240.00	$8,568.00	$69,768.00
Storm	10	200	12	200			$192.00	$38,400.00	$7,680.00	$11,520.00	$8,064.00	$65,664.00
Storm Easement												**$45,964.80**
Storm	10	140	12	140			$192.00	$26,880.00	$5,376.00	$8,064.00	$5,644.80	$45,964.80

Project #SR-3 - Mollala Bend SE — $99,419.40

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
Mollala Bend SE												**$99,419.40**
Sewer	8	150	8	150			$170.00	$25,500.00	$5,100.00	$7,650.00	$5,355.00	$43,605.00
Storm	12	170	12	170			$192.00	$32,640.00	$6,528.00	$9,792.00	$6,854.40	$55,814.40

Project #SR-4 - French Prairie Dr. Near Del Monte Dr. — $241,888.05

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
French Prairie Drive												**$173,573.55**
Sewer	10	505	10	505			$201.00	$101,505.00	$20,301.00	$30,451.50	$21,316.05	$173,573.55
Del Monte Drive												**$68,314.50**
Sewer	8	235	8	235			$170.00	$39,950.00	$7,990.00	$11,985.00	$8,389.50	$68,314.50

Project #SR-5 - 7300 & 7800 Block of Fairway Drive — $300,173.40

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
Fairway Drive												**$244,359.00**
Storm	18	260	18	260			$218.00	$56,680.00	$11,336.00	$17,004.00	$11,902.80	$96,922.80
	15	270	15	270			$202.00	$54,540.00	$10,908.00	$16,362.00	$11,453.40	$93,263.40
	12	165	12	165			$192.00	$31,680.00	$6,336.00	$9,504.00	$6,652.80	$54,172.80
Storm Easement West												**$55,814.40**
Storm	12	170	12	170			$192.00	$32,640.00	$6,528.00	$9,792.00	$6,854.40	$55,814.40

Project #SR-6 - Armitage Road South

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
Armitage Road												**$173,342.70**
Storm	18	465	18	465			$218.00	$101,370.00	$20,274.00	$30,411.00	$21,287.70	$173,342.70

Project #SR-7 - Middle Greens Road — $189,861.30

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
Middle Greens Road												**$88,082.10**
Storm	15	255	15	255			$202.00	$51,510.00	$10,302.00	$15,453.00	$10,817.10	$88,082.10
Lake Point Court (East)												**$101,779.20**
Storm	12	310	12	310			$192.00	$59,520.00	$11,904.00	$17,856.00	$12,499.20	$101,779.20

Project #SR-8 - Country View Loop — $157,388.40

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
Country View Loop												**$62,175.60**
Storm	15	180	15	180			$202.00	$36,360.00	$7,272.00	$10,908.00	$7,635.60	$62,175.60
Country View Lane												**$95,212.80**
Storm	12	290	12	290			$192.00	$55,680.00	$11,136.00	$16,704.00	$11,692.80	$95,212.80

Project #SR-9 - Boones Bend Road — $157,781.70

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
Boones Bend Road												**$114,912.00**
Storm	12	350	12	350			$192.00	$67,200.00	$13,440.00	$20,160.00	$14,112.00	$114,912.00
Winchester Way												**$42,869.70**
Storm	18	115	18	115			$218.00	$25,070.00	$5,014.00	$7,521.00	$5,264.70	$42,869.70

Project #SR-10 - Arbor Lake Drive — $313,545.60

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
Arbor Lake Drive												**$105,062.40**
Storm	12	320	12	320			$192.00	$61,440.00	$12,288.00	$18,432.00	$12,902.40	$105,062.40
Downs Post Road												**$83,721.60**
Storm	12	255	12	255			$192.00	$48,960.00	$9,792.00	$14,688.00	$10,281.60	$83,721.60
Bunker Post Court												**$54,172.80**
Storm	10	165	12	165			$192.00	$31,680.00	$6,336.00	$9,504.00	$6,652.80	$54,172.80
Arbor Lake Court												**$70,588.80**
Storm	12	215	12	215			$192.00	$41,280.00	$8,256.00	$12,384.00	$8,668.80	$70,588.80

Project #SR-11 - Armitage Road - North — $213,408.00

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
Armitage Road												**$213,408.00**
Storm	12	230	12	230			$192.00	$44,160.00	$8,832.00	$13,248.00	$9,273.60	$75,513.60
	10	420	12	420			$192.00	$80,640.00	$16,128.00	$24,192.00	$16,934.40	$137,894.40

Project #SR-12 - Lake Drive — $107,114.40

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
Lake Drive												**$107,114.40**
Storm	15	120	15	120			$202.00	$24,240.00	$4,848.00	$7,272.00	$5,090.40	$41,450.40
	12	200	12	200			$192.00	$38,400.00	$7,680.00	$11,520.00	$8,064.00	$65,664.00

Project #SR-13 - Country View Lane — $226,540.80

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
Country View Lane												**$226,540.80**
Storm	12	690	12	690			$192.00	$132,480.00	$26,496.00	$39,744.00	$27,820.80	$226,540.80

Project #SR-14 - Juliette Drive — $223,770.60

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
Juliette Drive												**$108,345.60**
Storm	12	330	12	330			$192.00	$63,360.00	$12,672.00	$19,008.00	$13,305.60	$108,345.60
Boones Bend Road												**$115,425.00**
Storm	30	225	30	225			$300.00	$67,500.00	$13,500.00	$20,250.00	$14,175.00	$115,425.00

Project #SR-15 - Louvonne Drive — $104,600.70

Utility	Existing Size / Width (in / ft)	Existing Length (ft)	Proposed Size / Width (in / ft)	Proposed Length (ft)	Cul-De-Sac Diameter (ft)	Pave Area (sy)	Unit Cost ($ / ft)	Total Cost	Design & CM Cost (20%)	Contingency (30%)	City Overhead (14%)	Total Project Cost
Juliette Drive												**$47,606.40**
Storm	12	145	12	145			$192.00	$27,840.00	$5,568.00	$8,352.00	$5,846.40	$47,606.40
Boones Bend Road												**$56,994.30**
Storm	15	165	15	165			$202.00	$33,330.00	$6,666.00	$9,999.00	$6,999.30	$56,994.30

Project #SR-1 - 8000 Block of Fairway Drive

Project #SR-2 - Estates Post Road

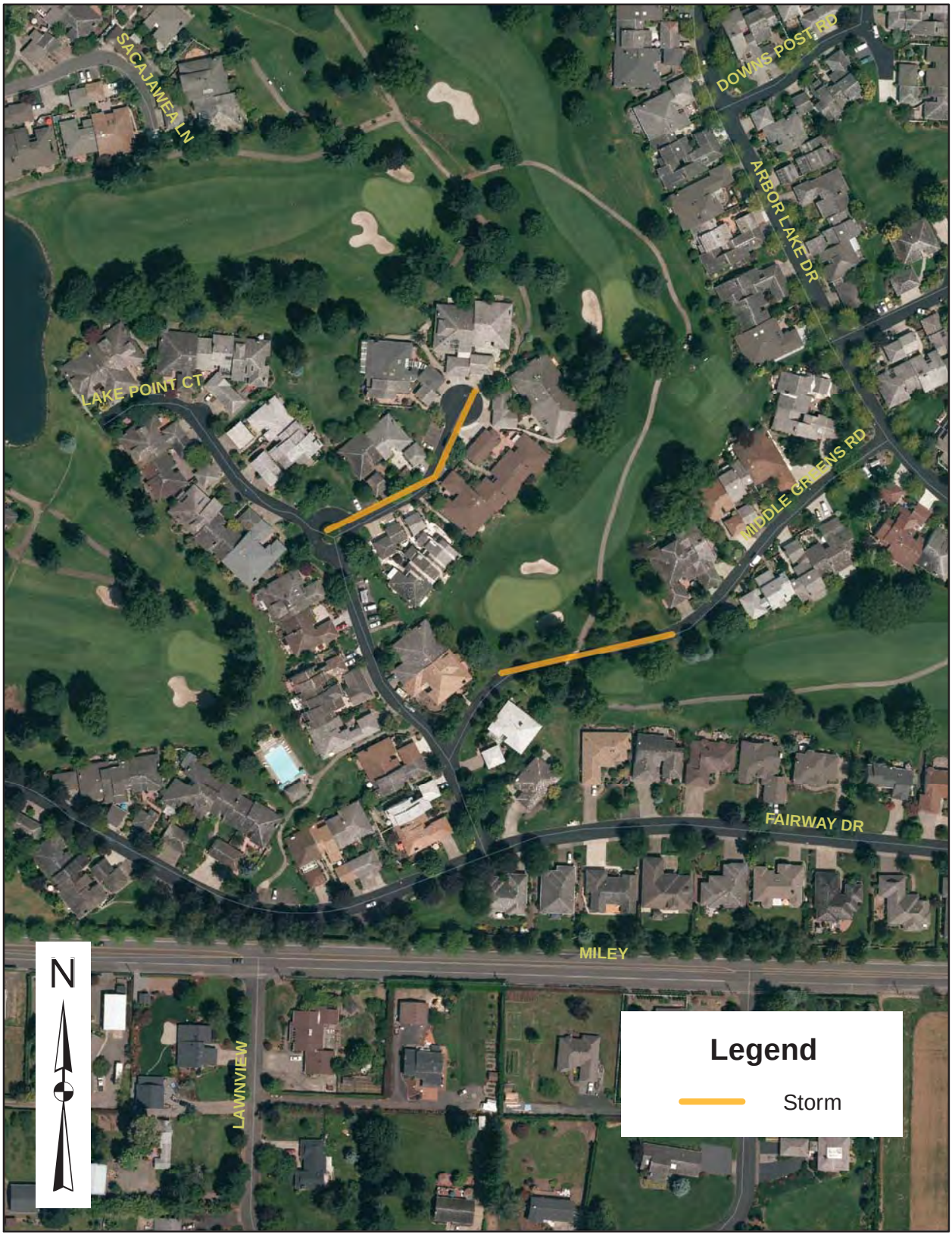
Project #SR-3 - Mollala Bend SE

Project #SR-4 - French Prairie Drive Near Del Monte Drive

Project #SR-5 - 7300 & 7800 Block of Fairway Drive

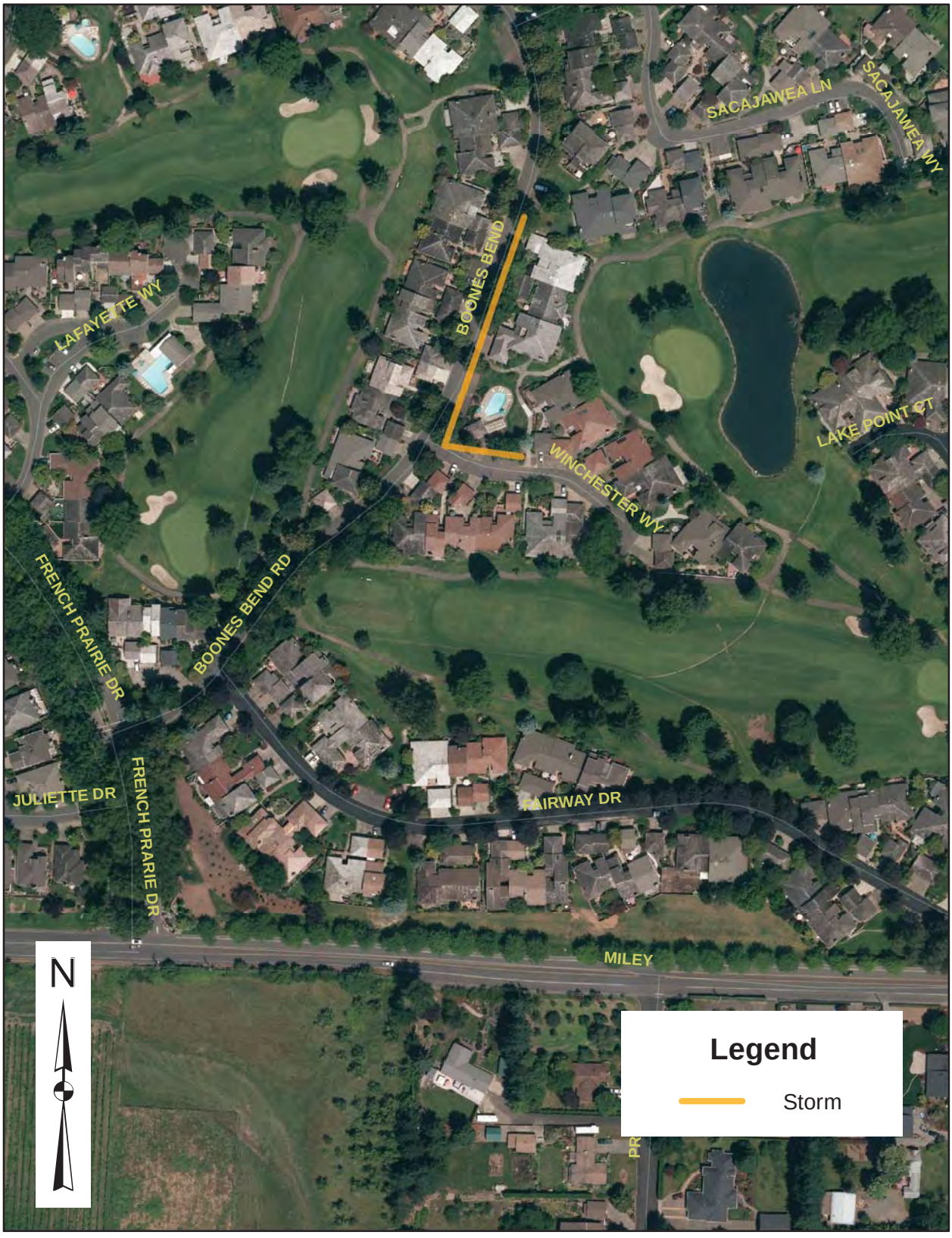
Project #SR-6 - Armitage Road South

Project #SR-7 - Middle Greens Road



Project #SR-8 - Country View Loop

Project #SR-9 - Boones Bend Road



Project #SR-10 - Arbor Lake Drive

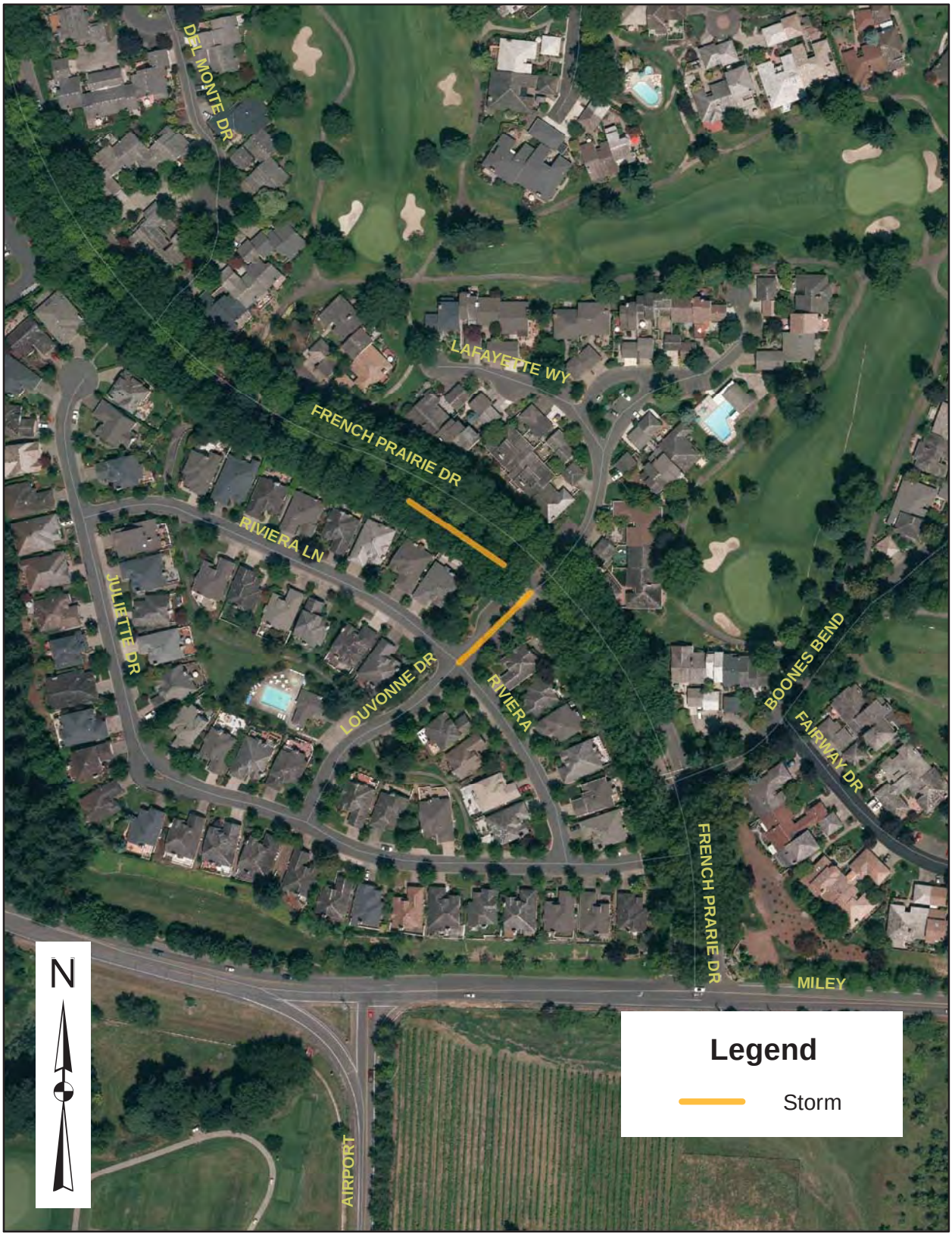
Project #SR-11 - Armitage Road North

Project #SR-12 - Lake Drive

Project #SR-13 - Country View Lane

Project #SR-14 - Juliette Drive

Project #SR-15 - Louvonne Drive



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APPENDIX D

PROJECT DETAILS &
ESTIMATED COSTS

FRENCH PRAIRIE DRIVE WALKING PATH

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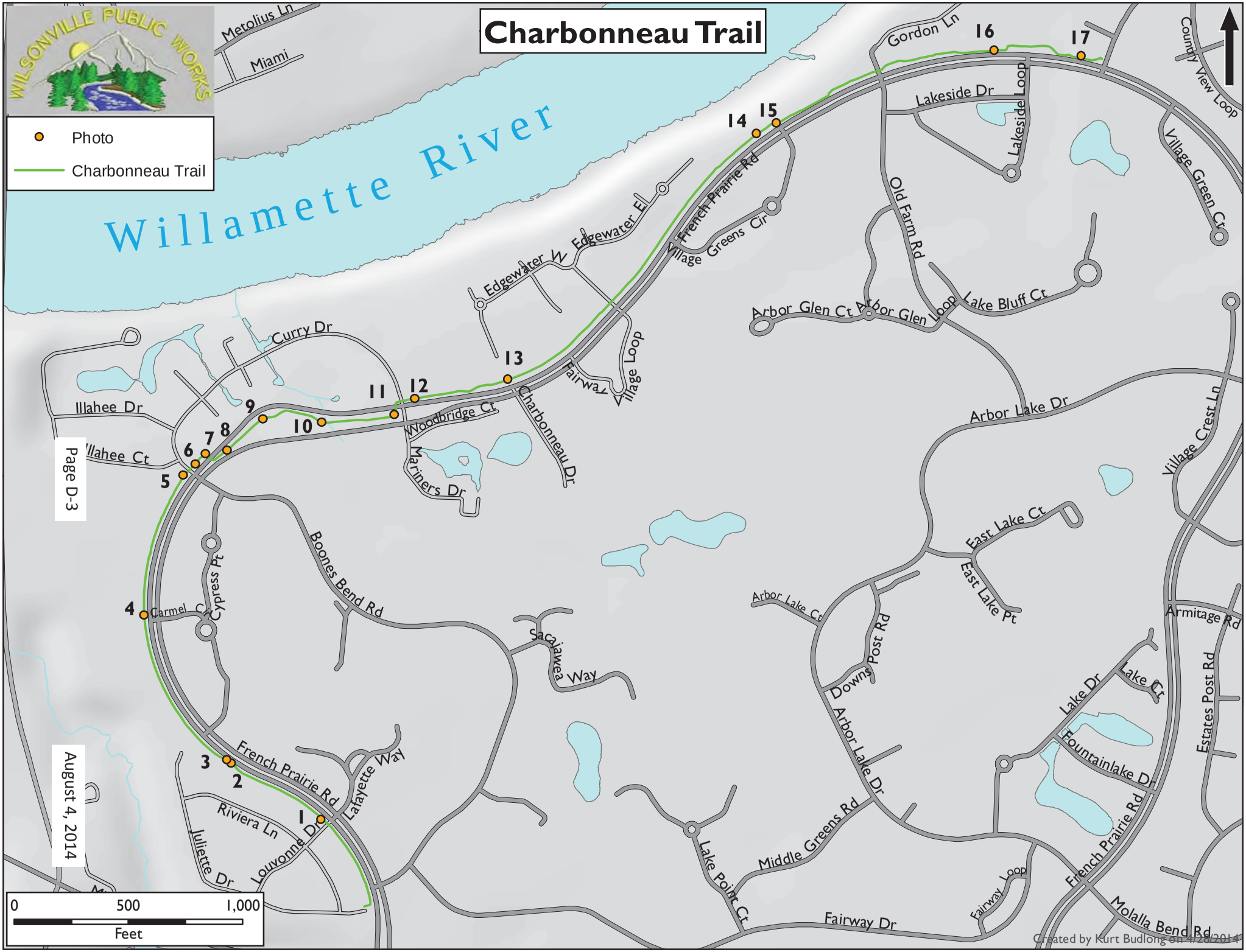
Charbonneau Trail
WILSONVILLE PUBLIC WORKS
Photo
Charbonneau Trail
Willamette River
Metolius Ln
Miami
Gordon Ln
16
17
Country View Loop
Lakeside Dr
Lakeside Loop
14
15
Village Green Ct
French Prairie Rd
Village Greens Cir
Old Farm Rd
Edgewater W
Edgewater El
Arbor Glen Ct
Arbor Glen Loop
Lake Bluff Ct
Curry Dr
13
Fairway Village Loop
11
12
Illahee Dr
9
10
Woodbridge Ct
Charbonneau Dr
Arbor Lake Dr
Village Crest Ln
7
8
6
Illahee Ct
5
Mariners Dr
Page D-3
East Lake Ct
East Lake Pt
Boones Bend Rd
Cypress Pt
4
Carmel Ct
Arbor Lake Ct
Armitage Rd
Sacajawea Way
Downs Post Rd
Lake Dr
Lake Ct
Fountainlake Dr
Estates Post Rd
Arbor Lake Dr
3
2
French Prairie Rd
Lafayette Way
Riviera Ln
1
Louvonne Dr
Juliette Dr
Lake Point Ct
Middle Greens Rd
Fairway Loop
Fairway Dr
Molalla Bend Rd
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Feet
Created by Kurt Budlong on 4/28/2014

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Location #1 – Tree root damage causing tripping hazard. Trim roots where feasible. Install new concrete ADA ramp.

Location #2 – Tree root damage causing tripping hazard & narrow passage. Remove tree, regrade and repave lifted asphalt.

Location #3 – Tree root damage causing tripping hazard. Remove tree, regrade and repave lifted asphalt.

Location #4 – Tree root damage causing tripping hazard. Trim roots where feasible. Regrade and repave lifted asphalt.

Location #5 – Surface consists of loose rock asphalt and is slippery. Install concrete ADA ramp and regrade and transition with asphalt.

Location #6 – Surface consists of loose rock asphalt and is slippery. Install concrete ADA ramp and regrade and transition with asphalt.

Location #7 – Tree root damage causing trip hazard. Trim roots where feasible. Install concrete ADA ramp.

Location #8 – (No Photo) A 90-foot long section of path has a combination of root damage and "alligatored" asphalt from age causing trip hazard. Trim roots where feasible. Regrade and repave damaged asphalt.

Location #9 – (No Photo) Sink hole forming in pathway causing trip hazard. Regrade and repave sink hole area.

Location #10 – No existing hazards. Connection to this area would be maintained under all long term pathway replacement plans.

Location #11 – Alligatored asphalt causing trip hazard. Regrade and repave damaged asphalt.

Location #12 – Vault exposure and tree root damage causing trip hazard. Trim roots. Regrade and repave damaged asphalt.

Location #13 – Valve boxes causing trip hazard. Regrade and repave damaged asphalt.

Location #14 – Poor transition to concrete driveway approach causing trip hazard. Regrade and repave asphalt transition.

Location #15 – Poor transition to manhole lid causing trip hazard. Regrade and repave asphalt transition.

Location #16 – Poor transition to driveway approach causing trip hazard. Regrade and repave asphalt transition.

Location #17 – Tree root damage causing trip hazard at three locations. Trim roots where feasible. Regrade and repave lifted asphalt.

French Prairie Road Sidewalk
Repair Existing Hazards (Short Term)
Cost Estimate
August 4, 2014

Item	Quantity	Unit	Unit Price	Total Price
Mobilization	1	LS	$5,000.00	$5,000.00
Temporary Traffic Control	1	LS	$2,100.00	$2,100.00
Erosion Control	1	LS	$800.00	$800.00
General Excavation	140	CY	$40.00	$5,600.00
3/4"-0 Crushed Aggregate	40	CY	$60.00	$2,400.00
Curb and Gutter	100	LF	$25.00	$2,500.00
ADA Ramp - 6" Depth	320	SF	$20.00	$6,400.00
Asphalt Concrete	32	TON	$150.00	$4,800.00
Retaining Wall < 4' height	560	SF	$20.00	$11,200.00
Tree Removal	2	EA	$1,000.00	$2,000.00
			Subtotal	**$42,800.00**
Design & Construction Management	1	LS	$8,560.00	$8,560.00
Contingency	1	LS	$12,840.00	$12,840.00
City Overhead	1	LS	$8,988.00	$8,988.00
			Total	**$73,188.00**

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Location 2 & 3 Design Considerations

In an effort to repair the existing asphalt walking path at locations 2 & 3, while preserving the existing trees, a number of design options were considered. Unfortunately, all options either proved to be too expensive or necessitate removal of other large trees in the area. A summary of the design options considered are as follows:

Design #1: Remove trip hazards by regrading and replacing existing asphalt walking path in the existing alignment. Both of the existing tree trunks have grown to a size that has reduced the effective clearance of the existing walking path to approximately 2.5 feet. Repair of the walking path requires that the new improvements meet current Americans with Disabilities Act (ADA) guidelines. As a result, the repaired portion of the walking path must be a minimum 4 feet in width and a maximum 2% cross slope. Constructing the repaired portion of the walking path to these design guidelines would encroach into the trunk of the tree at both locations 2 & 3, requiring the trees to be removed.

Design #2: Raise the walking path by installing taller curb, thereby adding path clearance at both tree locations. The existing tree diameter has grown to such an extent that a clearance of 4 feet cannot be obtained along the current alignment of the walking path without encroachment into the tree trunks.

Design #3: Reconstruct walking path around the backside of both tree locations. A large pathway undercrossing French Prairie Drive is adjacent to both of the trees at locations 2 &3, as shown in Photo #1. The slope behind the existing asphalt walking path is very steep due to the grade changes for the undercrossing. Also, existing fir trees are located adjacent to the two encroaching trees at locations 2 & 3, as shown in Photo #2 & #3.

Photo #1: West side of pathway undercrossing French Prairie Drive looking east.

Photo #2: View of terrain behind tree at Location #2 looking north.

Photo #3: View of terrain behind tree at Location #3 looking south.

Due to the steepnesss of the terrain behind the existing walking path, a retaining wall would be necessary to support new installation meeting ADA guidelines . The retaining wall foundation would have a significant impact to the root system of the existing fir trees, requiring the trees to be removed due to concerns with tree stability.

Design #4: Extend French Prairie Drive undercrossing arch support and backfill to provide additional level ground behind existing walking path. Not only would extending the undercrossing costly, the arch extension and backfilling operations would have significant impact to the tree roots of at least two existing fir trees, requiring removal.

Design #5: Reduce travel lanes to 11 feet in width by adding a 2-foot wide curb extension, widening the existing walking path in front of both trees to meet ADA guidelines. Under this design, a new curb line would be constructed between the two tree locations, two feet into the roadway. Additional curb and striping would be installed to transition from 12-foot to 11-foot wide travel lanes on French Prairie Drive. This would provide an additional 2 feet of width for regrading and repaving the asphalt walking path in front of the two trees, meeting the minimum 4-foot width and maximum 2% cross slope required by ADA.

Although, the curb extension design does not require tree removal, there are a number of concerns with such a design. Because the curb extension is adjacent to a travel lane, the likelihood of a vehicle striking the curb increases with the narrowing of the lane. The curb extension and transition can be made more visible through the use of reflectors and striping, but an increase in vehicle curb strikes would still be expected.

Also, the curb extension design is significantly more expensive than Design #1. Integrating the curb extension design into the short term walking path repair would add approximately $15,000 to the cost estimate, bringing the total short term repairs to $88,000.

Another aspect of the curb extension design is that it conflicts with the recommended long term walking path replacement plan. The width of the future multi-use pathway, created by converting one of the two travel lanes, would be reduced by construction of the curb extension. Upon construction of the multi-use path, the curb extension would have to be removed and curb reconstructed back in the current alignment to maintain the minimum width needed for the multi-use pathway.

Recommendation: The curb extension design, Design #5, is a viable solution to prevent removal of the existing trees. However, the potential increase in vehicle curb strikes, additional cost, and conflict with the long term path replacement plan makes this design less than desirable. Even though removal of the existing trees would be necessary, Design #1, repair of the existing walking path within the current alignment, offers the most simplistic, cost effective design to repair the walking path on a short term time frame. For this reason, Design #1 is recommended for implementation.

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French Prairie Road Sidewalk
Replace Existing Path (Long Term Option #1)
Cost Estimate
August 4, 2014

Item	Quantity	Unit	Unit Price	Total Price
Mobilization	1	LS	$36,000.00	$36,000.00
Temporary Traffic Control	1	LS	$18,000.00	$18,000.00
Erosion Control	1	LS	$10,000.00	$10,000.00
General Excavation	1025	CY	$30.00	$30,750.00
3/4"-0 Crushed Aggregate	570	CY	$60.00	$34,200.00
Curb and Gutter	550	LF	$25.00	$13,750.00
ADA Ramp - 6" Depth	1760	SF	$15.00	$26,400.00
Concrete Walk - 4" Depth	34450	SF	$4.50	$155,025.00
Retaining Wall < 4' height	1400	SF	$20.00	$28,000.00
Tree Removal	13	EA	$1,000.00	$13,000.00
			Subtotal	**$365,125.00**
Design & Construction Management	1	LS	$73,025.00	$73,025.00
Contingency	1	LS	$109,537.50	$109,537.50
City Overhead	1	LS	$76,676.25	$76,676.25
			Total	**$624,363.75**

French Prairie Road Sidewalk
Multi-Use Path Curb Separator (Long Term Option #2)
Cost Estimate
August 4, 2014

Item	Quantity	Unit	Unit Price	Total Price
Mobilization	1	LS	$90,000.00	$90,000.00
Temporary Traffic Control	1	LS	$45,000.00	$45,000.00
Erosion Control	1	LS	$10,000.00	$10,000.00
General Excavation	640	CY	$30.00	$19,200.00
Traffic Separator Curb	23600	LF	$16.00	$377,600.00
Asphalt Concrete	3500	TON	$90.00	$315,000.00
Topsoil	640	CY	$32.00	$20,480.00
Striping	47200	LF	$1.50	$70,800.00
Bollards	70	EA	$800.00	$56,000.00
Seeded Lawn	3830	SY	$5.00	$19,150.00
			Subtotal	**$1,023,230.00**
Design & Construction Management	1	LS	$204,646.00	$204,646.00
Contingency	1	LS	$306,969.00	$306,969.00
City Overhead	1	LS	$214,878.30	$214,878.30
			Total	**$1,749,723.30**

French Prairie Road Sidewalk
Multi-Use Path LID Separator (Long Term Option #3)
Cost Estimate
August 4, 2014

Item	Quantity	Unit	Unit Price	Total Price
Mobilization	1	LS	$320,000.00	$320,000.00
Temporary Traffic Control	1	LS	$160,000.00	$160,000.00
Erosion Control	1	LS	$30,000.00	$30,000.00
General Excavation	11000	CY	$20.00	$220,000.00
3/4"-0 Crushed Aggregate	1900	CY	$48.00	$91,200.00
Drain Rock	5250	CY	$55.00	$288,750.00
Ribbon Curb	47000	LF	$12.00	$564,000.00
Asphalt Concrete	6400	TON	$120.00	$768,000.00
Topsoil	640	CY	$32.00	$20,480.00
Water Quality Soil	5250	CY	$36.00	$189,000.00
Striping	23600	LF	$1.50	$35,400.00
Storm Overflow Connections	35	EA	$5,500.00	$192,500.00
Irrigation	94000	SF	$2.50	$235,000.00
Bollards	70	SF	$800.00	$56,000.00
Water Quality Plantings	47000	EA	$3.00	$141,000.00
Seeded Lawn	3830	SY	$5.00	$19,150.00
			Subtotal	**$3,330,480.00**
Design & Construction Management	1	LS	$666,096.00	$666,096.00
Contingency	1	LS	$999,144.00	$999,144.00
City Overhead	1	LS	$699,400.80	$699,400.80
			Total	**$5,695,120.80**

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