PLANNING COMMISSION AGENDA

October 11, 2023 at 6:00 PM

Wilsonville City Hall & Remote Video Conferencing

PARTICIPANTS MAY ATTEND THE MEETING AT:
City Hall, 29799 SW Town Center Loop East, Wilsonville, Oregon
YouTube: https://youtube.com/c/CityofWilsonvilleOR
Zoom: https://us02web.zoom.us/j/87239032604

TO PROVIDE PUBLIC TESTIMONY:
Individuals may submit a testimony card online:
https://www.ci.wilsonville.or.us/PC-SpeakerCard
or via email to Dan Pauly: Pauly@ci.wilsonville.or.us, 503-570-1536
by 2:00 PM on the date of the meeting noting the agenda item
for which testimony is being submitted in the subject line.

CALL TO ORDER - ROLL CALL [6:00 PM]

Ron Heberlein	Kamran Mesbah
Nicole Hendrix	Kathryn Neil
Andrew Karr	Jennifer Willard

PLEDGE OF ALLEGIANCE

CITIZEN INPUT

This is the time that citizens have the opportunity to address the Planning Commission regarding any item that is not already scheduled for a formal Public Hearing tonight. Therefore, if any member of the audience would like to speak about any Work Session item or any other matter of concern, please raise your hand so that we may hear from you now.

ADMINISTRATIVE MATTERS

1. Consideration of the September 13, 2023 Planning Commission minutes

WORK SESSION [6:10 PM]

2. Frog Pond East and South Implementation-Development Code (Pauly)(30 Minutes)
3. Stormwater System Master Plan (Rappold)(45 Minutes)
4. Wastewater Treatment Plant Master Plan (Nacrelli)(15 Minutes)

INFORMATIONAL [7:40 PM]

5. 2023 Transportation Performance Monitoring Report (Pepper)(30 Minutes)

6. City Council Action Minutes (September 18, 2023)(No staff presentation)

7. 2023 PC Work Program (No staff presentation)

ADJOURN [8:15 PM]

Time frames for agenda items are not time certain (i.e. agenda items may be considered earlier than indicated). The City will endeavor to provide the following services, without cost, if requested at least 48 hours prior to the meeting by contacting Mandi Simmons, Administrative Assistant at 503-682-4960: assistive listening devices (ALD), sign language interpreter, and/or bilingual interpreter. Those who need accessibility assistance can contact the City by phone through the Federal Information Relay Service at 1-800-877-8339 for TTY/Voice communication.

Habrá intérpretes disponibles para aquéllas personas que no hablan Inglés, previo acuerdo.
Comuníquese al 503-682-4960.

PLANNING COMMISSION

WEDNESDAY, OCTOBER 11, 2023

ADMINISTRATIVE MATTERS

1. Consideration of the September 13, 2023 PC Meeting Minutes

WILSONVILLE OREGON

PLANNING COMMISSION
MEETING MINUTES
September 13, 2023 at 6:00 PM
City Hall Council Chambers & Remote Video Conferencing

Draft PC Minutes are to be reviewed and approved at the October 11, 2023 PC Meeting.

CALL TO ORDER - ROLL CALL
A regular meeting of the Wilsonville Planning Commission was held at City Hall beginning at 6:00 p.m. on Wednesday, July 12, 2023. Chair Heberlein called the meeting to order at 6:01 p.m., followed by roll call. Those present:

Planning Commission:	Ron Heberlein, Jennifer Willard, Andrew Karr, Kamran Mesbah, and Nicole Hendrix. Kathryn Neil was absent.
City Staff:	Miranda Bateschell, Amanda Guile-Hinman, Daniel Pauly, Kimberly Rybold, Cindy Luxhoj, and Mandi Simmons.

PLEDGE OF ALLEGIANCE
The Pledge of Allegiance was recited.

CITIZEN INPUT
This is an opportunity for visitors to address the Planning Commission on items not on the agenda. There was none.

ADMINISTRATIVE MATTERS

1. Consideration of the July 12, 2023 Planning Commission Minutes

The July 12, 2023 Planning Commission Minutes were accepted as presented.

PUBLIC HEARING

2. Development Code Process Clarifications (Rybold)

Chair Heberlein read the legislative hearing procedure into the record and opened the public hearing at 6:05 pm.

Kimberly Rybold, Senior Planner, presented the Development Code Process Clarifications via PowerPoint, noting the majority of the presentation was discussed at the Planning Commission work session in July, as well as with City Council to make final clarifications as well as a few additions to what was previously discussed. Her presentation was as follows with an emphasis on the key topics addressed in the proposed Code updates:

- The key goals of the project were to update the review processes, clarify application requirements, and correct Development Code inconsistencies and outdated references to provide additional certainty. The proposed changes were generally procedure in nature and made no substantive changes to policy.
- Development Code requirements regarding wireless communications facilities (WCFs) are generally found in Sections 4.800-4.814. The key issues related to certain co-locations of wireless facilities that were subject to some Federal regulations which were generally the 6409(a) application types. Federal regulations govern how much time the City has to review these applications and also required the City to approve an application if it met a certain number of standards. Currently, the Code had these applications processed as a Class 2 Review, but due to the time limits and lack of discretion the City had in reviewing these applications, a Class 2 was not the most appropriate process timewise for such applications.
    - The Code also had a number of application requirements that cover a wide variety of WCFs, but many of the application requirements were not applicable to the requests Staff saw most commonly; notably the 6409(a) applications and others regarding small wireless facilities.
    - To resolve the issues, Staff proposed changing the 6409(a) co-location review process to a Class 1 Review to better align the review limited timelines of the Federal regulations, adding some additional clarity around the types of uses that are permitted versus those that require a conditional use process, and reorganizing the application requirements to make clearer which requirements apply to co-locations that are 6409(a) versus Small Wireless Facilities (SWFs) or new WCFs. While the application requirements for WCFs would remain the same, the proposed changes were intended to clarify that many of those requirements do not apply to colocations and SWFs.
- Extension of DRB and all administrative development approvals. Some Development Code updates made in late 2000's ended up creating some conflicts between processes outlined in Sections 4.023 and 4.140, resulting in a lack of clarity about the review process, as well as some outdated language in Section 4.023 that references things happening in 2009 and 2010. To add clarity and make the process consistent, the proposed changes would clarify that extensions are approved by the Planning Director via a Class 1 Administrative Review.
    - One change made since the July work session regarded application timelines. Staff closely reviewed the 30-day application period suggested at the July work session and did not want to create a situation that could not be rectified if an applicant missed the application period but still had a valid approval. Instead of the 8 days or 30 days currently stated in Code, Staff proposed clarifying that extensions must be applied for one-day prior to the expiration, giving Staff the ~~ability~~ time to process that application without expiration and then once that application was processed, the extension would be valid. The goal was to codify the current process more clearly and not change it.
- Temporary Uses and Signs. Some inconsistencies exist in the current criteria applying to Class 1 versus Class 2, which are the same type of permit except they have different permit durations. Proposed changes involved cleaning up those approval criteria and adding clarity to how the days are calculated, so if someone applies for 30 days, those days do not necessarily have to be consecutive, as long as they were within the same calendar year.
    - Some clarity was also being added to clearly state that temporary signs do still require a permit even though they are temporary.

    - Language was also struck in the Code section with temporary sign permit criteria so the Sign Code would be the only place for such criteria to avoid any potential inconsistencies in the future should those standards change.
- Development Applications and Appeals. In Sections 4.011 and 4.022, Staff proposed adding language to clarify what is required for applications and appeals to be considered filed which was consistent with the City's current practice.
- The proposed Development Code amendments were included within the meeting packet as an attachment to Resolution No. LP23-0002. Staff recommended adoption of the Resolution, which recommended the adoption of the proposed Development Code amendments to City Council.

Commissioner Hendrix stated she supported adding clarity and ensuring Federal regulations were followed. She asked what outdated language was referenced in the slides.

- Ms. Rybold noted on Page 2 of 21 of Attachment 1, Section 4.023(.05) included language for a period beginning June 1, 2009 and ending June 1, 2010 that required Staff to approve extensions and that they did not count against the number of extensions allowed. The language was added in light of the fact that the economic crash at the time had an impact on the ability of development to move forward.

Chair Heberlein: question on permit expiration...

- Asked whether the Temporary Use and Sign permits expired at 12:01 am on the day of the permit or at 11:59 pm, at the end of the day.
    - Ms. Rybold clarified that historically, the expiration has been at 11:59 pm, at the end of the day.
- Confirmed the expectation was that the Applicant would submit the request in writing one day before, as long as it was at any time during that day; but if provided on the day of the expiration, it would not be considered even if submitted first thing in the morning.
    - Ms. Rybold added the intent was to avoid getting in to questions of time, and that one day gave Staff the ability to verify everything related to the application being filed and whether something is missing before processing. If submitted at 5:05 pm, City offices were closed, and Staff was trying to allow one day for review.
- Understood the expectation was when an application is received, Staff would perform an immediate review to make sure the application is complete so it would not fall out of the timeline.
    - Ms. Rybold noted the Code had language stating that if Staff did not issue the decision that day, submitting the request by the deadline would keep the permit from expiring until the decision is processed.

Commissioner Hendrix understood what might be approved could conflict with old Code pieces and asked at what step in the process would Staff go back to review the old Code to avoid the same conflicts.

- Ms. Rybold responded that the subject update was an attempt to avoid such conflicts to a degree; however, more things always come up. Staff noticed conflicts when adopting new Code and had the ability to use the City's processes to make clarifications. Historically, the City has done similar updates and had the ability to do larger Code updates; sometimes it was a matter of determining if a scrivener's error needed addressed versus a Code update.
- Scrivener's errors could be made without a hearing process, but Staff was trying to be mindful and make such changes more often as needed.

Chair Heberlein confirmed there was no public comment and closed the public hearing at 6:19 pm.

Commissioner Willard moved to adopt Resolution NO. LP23-0002. Commissioner Hendrix seconded the motion.

A roll call vote was taken, and the motion passed unanimously.

WORK SESSION

3. Coffee Creek Assessment (Luxhoj)

Miranda Bateschell, Planning Director, explained the crux of the project was to revisit the Form-based Code after five years or after a certain number of applications. She noted the City received grant funding and was currently seeking additional grant funding to do additional work for the Basalt Creek Planning Area which still had a few items to adopt to get to the full master planning level and Zoning Code amendments. Staff would also be considering whether to apply the Form-based Code within the Basalt Creek Planning Area, which both the Planning Commission and City Council wanted to have in the concept plan and for Staff to consider moving forward. This work was critical not only to revisit what was adopted five years ago, but also potentially in a new work program item next year, the Basalt Creek implementation work, which would involve looking at the Coffee Creek Form-based Code to see what should apply to Basalt Creek.

- She confirmed Coffee Creek was the first and currently the only Form-based Code area in the city, and it was the first example of an industrial Form-based Code. Form-based codes were often seen in urban areas where use is less important than form and to drive a pedestrian orientation. ~~so~~ [sentences not connected] Originally, Coffee Creek had an overlay district along Day Rd, but some of that Code was not in line with what the City wanted to do, so a Form-based Code was used to not only reflect that certain design standards were wanted in Coffee Creek, but also for Coffee Creek to support a multimodal system and have the human design element.

Cindy Luxhoj, Assistant Planner, presented the Coffee Creek Code Assessment update via PowerPoint, noting Staff sought input and direction on possible Development Code amendments to the Coffee Creek Industrial Design Overlay District. She briefly reviewed the location and background of the Coffee Creek Master Plan Area and Coffee Creek Form-based Code and explained that the Coffee Creek Assessment enabled the City to determine warranted adjustments to achieve the overall objective of providing a clear and quick development review process that fosters creation of the desired connected, high-quality employment center in Coffee Creek. She highlighted the key metrics used in the assessment and summarized the results to date.

- To make compliance more achievable for applicants, Form-based Code modifications were suggested to the Parcel driveway width on a supporting street; Parking location, design, extent on an addressing street; and required Canopy height at the primary building entrance. (Slides 8-10)
- Most of the applicant feedback in focused discussions was positive, and the assessments showed that the review tracks and process were working overall, so Staff's preliminary recommendations included no modifications to review tracks or processes.
- She concluded by asking if the Commission agreed with the suggested Development Code amendments that would maintain the review process and focus on adjusting the Form-based Code standards to reduce the need for waiver requests.

Commissioner Karr:

- Said he liked that the assessment solicited feedback from the applicants, not only on the process, but on the Code itself and amendment that would make the process smoother.
- Noted the Form-based Code was for an industrial area, but it did not seem to have been designed for an industrial area due to the obvious limitations for trucking, such as the 26-ft driveway, which was impossible to turn an 18-wheeler in.
    - Ms. Luxhoj added she had three focused discussions with various applicants and a follow-up discussion with one particular applicant last week who shared their insights on each of the design standards which she made detailed notes on and was very helpful.
        - Some standards did seem to be designed for different development than what the City was getting; she noted larger speculative industrial buildings were being developed that have full loading bays, so it did become challenging.
- Noted none of the projects were storefront-type developments, so employee parking encroaches on customer parking if there was not enough. Many developments in Coffee Creek appeared to be more industrial distributors without storefronts.
    - Ms. Luxhoj agreed three out of four of the developments did not have storefronts. Precision Countertops, which was a corporate headquarters, would have more customers given the retail showroom and offices at the front.
        - One challenge of the more speculative buildings was that the office endcaps were at the front of the building, but employee parking was required to be at the side or back of the building where trucks are, creating conflicts between employees, the security around the back of the building, etc.
        - Depending on the type of development, there was a desire to allow more employee parking at the front of the building so employees could access their place of work, rather than having to go through a building.

Commissioner Mesbah:

- Commented the design standards were intended to achieve what was envisioned, and changing the design because some other use wanted to modify the design standards in order to make a different design possible was not exactly visionary.
- Asked if the City was starting to see some economic or use information to indicate that what was envisioned for this light industrial commercial area was not being viable, which would support the need to reevaluate the design and use.
    - Ms. Luxhoj understood that the design or desired environment envisioned in Coffee Creek was for smaller buildings or multiple buildings on a site, more like a corporate headquarters or office building. She did not know if it was market dynamics or what was currently in demand, or some other factor, as she was not a market expert. The developments were more of the bigger warehousing and distribution type uses that require extensive flat floors to accommodate racking, etc.
        - The question about how to find the balance between what is being developed and what was envisioned in the Coffee Creek Plan and how it meshes with the current and future market would be addressed through conversations about which Code standards need to be changed, the resulting implications, and whether that was consistent with the vision for Coffee Creek.

- Recalled the Planning Commission had not envisioned big box warehousing, but rather gathering places for employees, walking trails, etc., more like an office campus with industrial mixed in. Though big box commercial was being phased out and there were a lot of empty spaces, this was not about big box commercial.
- Hoped there would be a more thorough reimagining of what the City wanted Coffee Creek development to look like because it was a special opportunity for Wilsonville to develop a 21st Century type of industrial campus and it seemed the City was perhaps, jumping the gun.
    - Daniel Pauly, Planning Manager, responded the process has been going on for a while. The market has shifted in terms of the vision of corporate or high-tech office, which were different markets now, and warehouse was often new commercial where everything is delivered to the consumer's door, so market forces were at play. Additionally, the design standards as written had not disallowed warehousing, but those projects had to go through more process, so it was not really changing the use, but creating more process.
        - Large warehouse buildings seen on Tualatin-Sherwood Road and elsewhere were adaptable. As was the former paper plant/warehouse/church on Boeckman Road which is now DW Fritz. The large, tilt-up concrete building had shown a lot of adaptive reuse over time.
        - Unless tilt-up concrete buildings were outlawed in the Zoning Code, the market was likely revealing that warehousing would continue to develop in Wilsonville. The question was whether to add more processes, which did not really stop it, or allow it through a Class 2 review.
- Noted if the market got skittish about high-density or middle housing, the City would stick with it. Rather than making warehousing difficult as part of the process, perhaps the City should have thought about prohibiting warehousing outright.
    - Mr. Pauly clarified the City did not make it that difficult, but just added another month or two to the process.
- Asked if the City should make it easy or go the other way of not allowing warehousing all over the place and require a higher use. Perhaps Coffee Creek was on the wrong side of the Metro area for what had been envisioned. Being a blank slate, he was not sure why the City would be less insistent.
    - Ms. Bateschell added the Coffee Creek Industrial Area was designated a Regionally Significant Industrial Area (RSIA) by Metro's Title 4, so it was more industrial in nature than other areas where one might see a lot of office in a downtown area or a campus/office environment, which can occur in an RSIA, but by its nature, RSIA would allow manufacturing, warehousing, distribution, so those uses were always allowed and envisioned for the Coffee Creek area. The key issue was how those uses/buildings would look, which was why the City went through a Form-based Code to utilize design standards that create a more inviting, industrial area that may have manufacturing and industrial uses, so it was a question of how those uses would be designed and made to interface with other kinds of RSIA expectations and standards for an industrial area. Obviously, an office or office/manufacturing campus could also locate in Coffee Creek and would likely be able to meet some of the design standards more easily than some warehouse distribution types. However, the Form-based Code would still dictate the size of the buildings and the length of the frontage, which were very important throughout the Form-based Code process.

    - The City acknowledged some warehousing would be built, though maybe not to the extent it has given the stronger market right now, but the goal was to ensure it was not a mile or half-mile long as seen in other places.
    - Perhaps the Commission would want the waivers to remain part of the process. She believed some design standards around trucking may have been written a bit too stringent initially, knowing trucks were likely going to be coming to all those spaces, even if it was a campus environment.
- Added perhaps the sample population was not large enough with only one of three developments going in the direction the Commission preferred and the other two going the other way, so maybe it was an okay mix thus far.
    - Ms. Bateschell confirmed that was possible, noting the area was highly parcelized, so without any aggregation it was hard to know.
    - Ms. Luxhoj added that every development has a wayside and is very pedestrian-oriented, providing a place for people on bikes or walking to sit and relax. While most of the buildings were tilt-up concrete, the architecture and design of the buildings were exceptional.
        - The Black Creek project had an insane number of reveals on all sides of the building, which was beautiful; the ceiling heights within the office areas were consistent with the canopy, and when she toured the building, there were so many skylights that the building was perfectly lit even with no lights on. The building was really well done.
    - Ms. Bateschell encouraged the Commissioner to go down Garden Acres Road to see how some buildings were being built, noting two were either complete or near complete.
        - She commended Ms. Luxhoj for her work with the Applicant to preserve trees on the Black Creek site, noting the building was very large for the area and the City's standards as the applicant had definitely maximized the footprint on the property which resulted in a lot of trees being removed; however, some very significant trees were preserved on the corner of the parcel which was where the wayside was created for residents or pedestrians walking in the area in the future.
        - She noted some standards should be maintained, like not allowing parking to overtake a building's frontage, which could block a beautiful building or the wayside. At the same time, the parking standard could potentially be modified in a way to not trigger the Development Review Board (DRB) review. Staff had worked very hard with applicants who did increase the number of parking spaces to do additional screening to the mid- to high-screen standards; not allowing the increase to be an indefinite increase, but up to a certain percentage which could be written into the Code to allow the flexibility for a project to go through a Class 2 process.
            - The Commission could still have the original standards, but then have an adjustment that the Planning Director could make if other standards were met, which was similar to the DRB where the intent of the Form-based Code still had to be met when additional items were proposed/waivers requested.
            - A process could be written into Code that if the initial standards are not met, x, y, z must be done to get an extra allowance; and if those could not be met, or if they were looking for a considerable versus a modest adjustment. it might trigger the waiver process at DRB.
- Stated he had always favored giving Staff the ability to problem solve with the applicant, so that direction was fine, especially given the current Planning Director, adding there had to be trust in

who was negotiating on the City's behalf. Some standards were positive, but some, like an 18-ft retaining wall against a landscape resource was not in line with the vision, part of which was to meet the existing landscape in a way that embraced it and did not turn its back to it. He was also alarmed by other potential negatives, like an ocean of parking in front of a building, which brought Fry's to mind.

- Commended Ms. Luxhoj for her work, noting that some things applicants were pushing for were not what the Commission had in mind. He wanted to consider ways to problem solve and keep the vision.

Commissioner Willard thanked Ms. Luxhoj for her first Planning Commission presentation and the City for having the diligence to follow up with the pilot as planned. She stated she was directionally aligned with reducing the need for waivers with Form-based Code applications.

Commission Hendrix:

- Appreciated the follow-through with the applicants to get feedback and the update on the pilot.
- Asked whether Staff anticipated more variety in the waiver requests and how was that accounted for in the discussion or was it based on the waivers seen to date.
    - Ms. Luxhoj responded it was difficult to know what future applications would be received but given the configuration of the undeveloped properties in Coffee Creek, which were long and skinny, she did not believe warehouse/distribution buildings could be built, unless properties were combined.
        - The most waivers had been requested by bigger buildings, so corporate headquarters with smaller buildings would likely get really close to getting through the process without big waivers. Precision Countertops was very close except for the driveway width, which required a waiver. The Black Creek site had the most with a total of seven waivers, which could be because it had two addressing streets and a supporting street.
- Stated she was definitely open to having more discussion on what changes could be made or not.
    - Ms. Luxhoj believed having possible adjustments to the standard 24-ft driveway width, which was an issue when there were two driveways off the supporting street. Black Creek and Precision Countertops were able to meet the standard on driveways to the passenger vehicle parking areas, but the second driveway for truck access required a wider width so trucks could make the turn. A suggested change was in instances with a second driveway off a supporting street to a truck loading/unloading area, a wider driveway would be allowed.

Ms. Bateschell confirmed the limited driveway width standard was to ensure the apron was not too wide for pedestrians to cross. She acknowledged that the consultants at the time did more urban and less suburban style development, so there may have been a tendency to present standards that might fit better in an urban environment, including an industrial area in Portland, though she was not certain. While Wilsonville Staff may have understood the reason for reducing the widths to achieve the connectivity and pedestrian-oriented nature more prevalent than in other areas, the numbers might not have been scrutinized to a great degree.

Commissioner Mesbah suggested a solution that the driveway would have 24-ft pavement with two, 8-ft aprons of lattice concrete/pervious pavement with grass, which would look like lawn, yet support a semi-truck driving over it. He wanted to clarify if the intent was to avoid having huge expanses of

paved roads coming into the frontage, or if the driveway width was related to some function, like stormwater runoff, which would be reduced by pervious pavement.

Chair Heberlein:

- Agreed overall with the direction and looked forward to seeing how the modifications progressed and what would be proposed.
- Confirmed with Staff that there was no requirement for applicants to post signs that parking in front of the building was short-term, an hour or less. When visiting a business, he tends to stay more than an hour, so he would not expect visitor parking spaces to have a one-hour or less time limit. He understood the intent of rule was that it was not a long-term parking area to store commercial vehicles for days at a time.
- Noted that given the low traffic volumes for most of the developments, he did not anticipate a 40 ft driveway entrance being unsafe from a pedestrian standpoint, so when considering that standard, he suggested making sure the City was comfortable with the potential traffic loads to make sure it is safe or consider a flexible space, as mentioned by Commissioner Mesbah, to allow for the transit while still retaining a smaller visual appearance.

INFORMATIONAL

4. City Council Action Minutes (July 17 and August 7 & 21, 2023) (No staff presentation)
5. 2023 PC Work Program (No staff presentation)

Miranda Bateschell, Planning Director, reminded the first development application was just approved in the Wilsonville Town Center that would construct a building and part of a local street consistent with the Wilsonville Town Center Vision and Plan. No designation had been made regarding a street naming scheme in Town Center, so Staff inquired with the Diversity, Equity, and Inclusion (DEI) Committee about engaging with the community in brainstorming an inclusive street naming guide, scheme, and list for the Town Center. Staff presented at the DEI Committee last night, asking them for direction on a street naming scheme and would work with them on developing an actual street name list that would accompany that scheme. Staff hoped to have the street naming project completed by the beginning of the calendar year in line with when the developer would need that information.

Commissioner Hendrix:

- Asked if the City or Planning Department used an equity analysis or a set process like a standard set of questions to ensure that all disparities, mapping, and data were considered.
  - Ms. Bateschell replied the City had not established a formal questionnaire or assessment that each department or division would go through for each project. Staff was working with the DEI Committee to look at different projects and processes internal to the City, so that analysis or process might result from that work. She could also pose the question to Staff members who liaison with the DEI Committee to see if they would be interested in discussing it further.
    - The Planning Department tries to think about those issues and be knowledgeable about the history of their profession and the impact of the City's policies and bring in information and data where possible, as well as realizing Staff's limitations. In the street naming project, Staff realized it was not a job Staff needed to do and it was something that could be broadened within the community and involve a more inclusive process. Currently, no process was set, but hopefully there would be in the future.

- Stated if the City or Planning Department was interested in discussing the possibility of establishing a set process, she would love to at least listen in on the conversation.

ADJOURN

Commissioner Willard moved to adjourn the regular meeting of the Wilsonville Planning Commission at 7:15 p.m. Commissioner Karr seconded the motion, which passed unanimously.

Respectfully submitted,

By Paula Pinyerd of ABC Transcription Services, LLC. for
Mandi Simmons, Planning Administrative Assistant

PLANNING COMMISSION

WEDNESDAY, OCTOBER 11, 2023

WORK SESSION

2. Frog Pond East and South Implementation-Development Code (Pauly) (30 minutes)

PLANNING COMMISSION MEETING
STAFF REPORT

Meeting Date: October 11, 2023	**Subject: Frog Pond East and South Development Code** **Staff Member:** Daniel Pauly, Planning Manager **Department:** Community Development
Action Required	**Advisory Board/Commission Recommendation**
☐ Motion ☐ Public Hearing Date: ☐ Ordinance 1st Reading Date: ☐ Ordinance 2nd Reading Date: ☐ Resolution ☒ Information or Direction ☐ Information Only ☐ Council Direction ☐ Consent Agenda	☐ Approval ☐ Denial ☐ None Forwarded ☒ Not Applicable **Comments:**
Staff Recommendation: Provide requested input on draft Development Code amendments for Frog Pond East and South Implementation.	
Recommended Language for Motion: N/A	
Project / Issue Relates To:	
☒Council Goals/Priorities: Expand home ownership	☒Adopted Master Plan(s): Frog Pond East and South Master Plan
☐Not Applicable	

ISSUE BEFORE COMMISSION

An important next step in realizing the vision of the Frog Pond East and South Master Plan is to write implementing Development Code amendments. This effort has been ongoing since early 2023. This work session will provide the Planning Commission an update on housing variety standards and stormwater design standards.

EXECUTIVE SUMMARY:
The Frog Pond East and South Master Plan, adopted by City Council in December 2022, provides clear policy direction and guidance for future development in Frog Pond East and South. However, an important implementation step is to develop a detailed set of Development Code standards consistent with the Master Plan. These standards will be relied on by developers to plan and design development. These standards will also be relied on by City reviewers to ensure development meets City expectations.

This work session will provide updates on two development code topics the Planning Commission has discussed previously: (1) housing variety standards and (2) residential stormwater design standards.

Housing Variety Standards

In review, there are two main related housing variety standards directed by the Master Plan: (1) require a minimum amount of targeted housing types (middle housing, and other/accessible including cottages/ADUs and multi-family) and (2) set a maximum amount of a single housing category that can be built in a given area.

Other standards, particularly minimum number of units and lot standards, also impact variety. The Planning Commission last discussed variety standards in February. Since this time staff has worked to refine and test these novel standards, which is still in process. In particular, the City has hired MIG and Walker Macy to run design scenarios to test the standards to help understand any unintended consequences with how the various standards interact with each other. The first round of these design scenarios was completed at the end of September and the project team is in the process of reviewing them and will share any initial insights from this review in the presentation during the work session.

Specifically, the project team is working to understand better and address any potential issues with implementing the following elements of the variety and lot standards:

1. Different unit types consume land per unit at different rates (i.e. detached homes take up more land per unit than multi-story multi-family). How can the variety standards control for this varying rate of land consumption and how does this varying rate relate to any standards using net development area?

2. Variety, density, and design requirements (i.e. setback, building widths) are interrelated. How do these standards relate and which standards can be removed to simplify development applications, while getting substantially the same results?

3. The minimum and maximum variety requirements, discussed to date, do not add up to 100% of the units or net area, leaving a gap of 15% of units or net area. These “gap units” do not have to fall within a certain category to meet the minimum requirements. However, as they cannot be within a category that would push that category beyond the maximum allowed, they most likely would have to be within one of the required

categories thus inadvertently requiring more units in the required categories than otherwise stated in the standards. The City is trying to understand how big of a concern this might be. It is trying to understand if the "gap units" are inadvertently pushed to be a unit type they otherwise would not be based on market preference, minimum unit count, and site and design standards. Standards may need to be adjusted to "close the gap" if determined it is a significant concern. Standards that may be adjusted to "close the gap' include:

- Whether the minimum unit variety and maximum units in a single category requirements are based on planned unit count or net area, or a combination of both;
- The geographic scale at which minimum target unit requirements and maximum units in one category are measured (see four, below); and
- Percentages of required unit categories and percentage allowed in a single unit category.

4. Confirming at what geographic scale the minimum and maximum requirements should be measured. Should they be measured at the subdistrict level or is there a case to measure on a broader scale (i.e. full planning area or a proposed development area), and should both minimum and maximum requirements be measured on the same scale?

   In determining the scale at which minimum and maximum requirements should be measured, the following Master Plan implementing measures and strategies need to be honored:

   - require a variety of housing and include minimum and maximum amounts of specific housing types at the subdistrict or tax lot level;
   - establish minimum housing variety standards by subdistrict and development area; and
   - encourage variety at the block level.

   Because of these implementing measures and strategies, staff does not support applying both minimum and maximum requirements across multiple subdistricts as this would run counter to the clear Master Plan language about requiring variety at the subdistrict level and encouraging it at the block level.

   Staff also recommends keeping any measure at the ownership level rather than broader subdistrict or Master Plan area covering multiple ownerships. This would prevent a development approval from impacting the development potential of another owner that may or may not actively engage or be aware of a proposed development.

   However, for large developments encompassing multiple subdistricts, it may work to apply one requirement at the subdistrict level and the other at the wider development-wide level. One way this could be structured is if the minimum amount of target unit

categories requirement was measured on the subdistrict scale and deemed sufficient to ensure variety per the Master Plan, the maximum units in a single category requirement could be measured across the larger Stage I area allowing for additional flexibility in unit placement, especially any "gap units" across the development area. This may allow a single category to be higher than 60% in a given subdistrict, but this could be evened out by having fewer of that unit category in another subdistrict within a development.

5. What percent should be used for the variety standard that sets a maximum amount of any one housing unit category? The City is currently testing 60% as it is near half, but adds some flexibility and reduces the percentage of "gap units" while not allowing a single unit category to dominate. In addition, it avoids a "gridlock scenario" that could happen if the maximum is set at 50%. In the "gridlock scenario", two unit categories represent exactly 50% each. This would put any future flexibility in "gridlock" because you could not change any unit type as it would push one or the other over 50%. Even in initial development, the developer would have to artificially ensure the amount of multiple unit types is exactly 50%. As any "gap unit" concern is addressed, this maximum percentage may need to be further increased, but should be kept low enough to not allow a single unit category to dominate a subdistrict, per the Master Plan.

6. The Master Plan also delineates three urban forms for Frog Pond East and South to create diversity in the built form throughout the planning area and to focus denser urban forms in highly active areas of focus (near the commercial main street and neighborhood park). While all areas will allow and require housing variety, certain housing types will be more typical of different urban forms and their accompanying design standards (see Attachment 1).

   The question has been raised whether it is desirable for the variety requirements to differ or adjust based on the urban form rather than applying the same variety requirements evenly regardless of urban form. In assessing this concept, the project team finds it better reflects the notion of the transect discussed in the Master Plan, with more housing typical of more dense forms in Urban Form 1 and 2 than in Urban Form 3. For example, the Commission previously discussed an overall requirement of 20% of units to be middle housing. In conducting the case study, the project team recommends shifting this slightly for different urban forms, where a subdistrict or development with a large amount of Urban Form 1 and some Urban Form 2 would have a requirement of 22.5% and where it is primarily Urban Form 3, it would be 17.5%.

While the project team will bring forward specific recommendations to address these questions in the coming months, the following would be helpful feedback from the Planning Commission at this work session:

- Would the Planning Commission support measuring one of the variety requirements (minimum or maximum units) at a larger scale than subdistrict as long as the other

variety requirement is felt substantial enough to ensure variety of housing choices within each subdistrict?

- Does the Planning Commission support 60% as the maximum limit of a single unit category?

- Does the Planning Commission support the concept of slight variations for the amount of target housing required in a given subdistrict or development based on the amount of area designated for different urban forms (number six, above), with subdistricts with more Urban Form 1 and 2 requiring more target housing than subdistricts with primarily Urban Form 3?

- What other input does the Planning Commission have on the topics still being refined and tested related to housing variety?

Residential Stormwater Design Standards

The draft stormwater standards aim to establish clear and objective standards during review of development applications. The standards additionally aim to establish clarity about an alternative discretionary review path and what factors would be considered for the alternative path. The primary update to stormwater standards since Planning Commission discussed them in July is the project team is recommending moving away from establishing a maximum percentage of a development's stormwater that can be in a single facility in an effort to require decentralized storm facilities. Following developer feedback and internal discussion, the project team recommends instead simply focusing on the draft location prioritization standards. The team feels this is adequate to ensure decentralization of stormwater facilities as the priority locations are located throughout any given development. The team also found it difficult to scale the percentage standards for different sizes of projects, with the requirement being more cumbersome for small projects between 2 and 5 acres. Staff feels the simplified approach will lead to substantially similar results without overlapping standards. Staff is exploring putting a maximum size limit for single-facilities as a double-check against large, centralized facilities, but needs to do more work to determine what would be the appropriate size limit.

As modified, the draft standards (Attachment 3):

- Include a purpose statement for the standards;
- Explain the requirement to follow low-impact development design standards, meaning above-ground facilities that mimic the natural flow and soil percolation of historic pre-development conditions;
- Set a clear prioritization of where stormwater facilities should be located within a development with priority on areas like alley shoulders and curb bump outs that are located throughout development for other design reasons;

- Identifying conflicting design elements and uses, such as light poles, street trees, utilities, bicycle and pedestrian paths, and usable open space, and when those would be prioritized over stormwater facility placement;
- Establishing the review authority as the City Engineer and key factors for considering waivers to stormwater design standards.

The project team seeks the following feedback regarding draft stormwater standards from the Planning Commission:

> Does the Planning Commission have any concerns or comments about removing the previously drafted threshold requirement that no more than a certain percent of a development or basin's stormwater can go to a single facility?
>
> Does the Planning Commission have any additional concerns or questions about the draft stormwater standards?

EXPECTED RESULTS:
Feedback from the meeting will guide completion of a package of Development Code amendments for adoption in the coming months.

TIMELINE:
Following additional work sessions, a public hearing on the Code amendments are expected late in the first quarter of 2024.

CURRENT YEAR BUDGET IMPACTS:
The Development Code implementation work is funded by remaining funds from the $350,000 Metro grant for the Frog Pond East and South Master Plan and matching City funds in the form of staff time.

COMMUNITY INVOLVEMENT PROCESS:
During this implementation phase the primary focus is on honoring past input. However, the project team will engage key stakeholders for input on draft Development Code amendments.

POTENTIAL IMPACTS OR BENEFIT TO THE COMMUNITY:
Realization of the policy objectives set out in the Frog Pond East and South Master Plan to create Wilsonville's next great neighborhoods. This includes furthering of the City's Equitable Housing Strategic Plan and Council's goal of affordable home ownership.

ALTERNATIVES:
The project team prepared draft amendments to help implement the Frog Pond East and South Master Plan. A number of alternative amendments can be considered to meet the same intent.

ATTACHMENTS:
1. Frog Pond East and South Master Plan Excerpt Re: Housing Variety and Urban Forms and

Typical Housing Development Types
2. Housing Categories for Reference
3. Draft Residential Stormwater Standards October 2023

FROG POND EAST & SOUTH MASTER PLAN

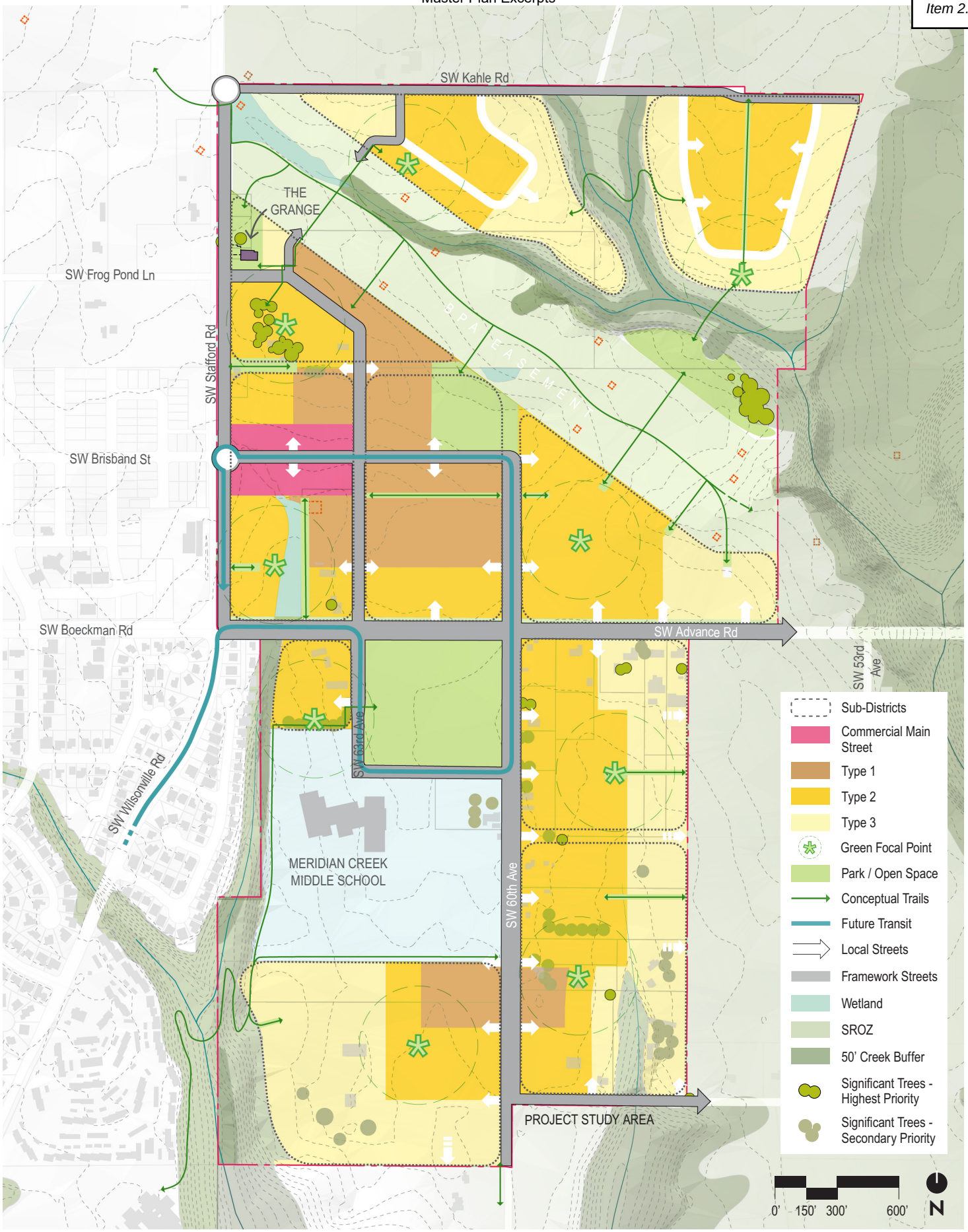
A VISION AND IMPLEMENTATION PLAN FOR TWO NEW NEIGHBORHOODS IN EAST WILSONVILLE

WILSONVILLE
OREGON

ADOPTED BY WILSONVILLE CITY COUNCIL
ORDINANCE NO. 870

DECEMBER 19 2022

Figure 15. Land Use and Urban Form Plan



COMMUNITY DESIGN CONCEPTS

FORM BASED DESIGN AND TRANSECT

- More compact housing is in "Type 1" urban form areas (see Chapter 6 for more description of the urban form types)
- Adjacent areas are less compact and result in a transect or transition to even less compact housing form
- The East Neighborhood has its Type 1 housing in the central area adjacent to the Brisband Main Street, future Frog Pond East Neighborhood Park and BPA Easement
- The South Neighborhood has a small node of Type 1 housing located south of the Meridian Middle School property.
- In both neighborhoods, Type 2 and 3 housing form "feathers out" from the Type 1 areas.

A WIDE VARIETY OF HOUSING CHOICES

- Opportunities for a wide spectrum of housing choices: townhomes, quad-plexes, tri-plexes, duplexes, cottage clusters, cottage developments, small-lot detached homes, medium and larger lot detached homes, accessory dwelling units, apartments/condos, tiny homes and co-housing
- Requirements for a mix of housing choices in each subdistrict
- Housing capacity for an estimated minimum of 1587 dwellings (See Chapter 6 for housing and land use metrics)

RESIDENTIAL LAND USE AND URBAN FORM

KEY OUTCOMES

The Land Use and Urban Form Plan includes residential areas intended to create three key outcomes:

- **A variety of housing choices** throughout the East and South Neighborhoods
- **Opportunities for affordable housing choices** integrated into the neighborhoods
- A planned **"transect"** of housing form in order to create a cohesive neighborhood that maximizes the amenities availble to residents while creating an urban form sensitive to the local context.

VARIETY THROUGHOUT

The Master Plan creates opportunities for a wide variety of housing choices in each neighborhood and subdistrict. This concept focuses on mixing and integrating different housing choices throughout each subdistrict and block rather than having separate areas for separate types of housing units.

The plan defines and maps three types of urban form for housing – Types 1, 2, and 3 – that define the look and feel of the different subdistricts within the neighborhoods. The focus of this typology is urban form: the bulk, height and spacing of buildings. Each urban form type allows for a full array of housing choices.

For example, a detached home may exist in any of the urban form types, but for Type 1 it would have a smaller footprint and, be closer to adjoining homes, and for Type 3 it would have a larger footprint and be farther apart from adjoining homes. Building height will also tend to be taller where Type 1 is designated with height trending down in areas with Type 2 and Type 3 building form. A multi-family building also may exist in any of the urban forms, but for Type 1 the building would be taller and wider with more units per building and closer to adjoining buildings. For Type 3, a multi-family building would be shorter and smaller (similar to the size of a larger single-family home) with fewer units per building, and buildings would be further apart, likely interspersed with single-family homes.

TYPE 1 RESIDENTIAL URBAN FORM

Type 1 residential urban form is the most compact and urban of the three forms:

- Buildings 2-4 stories tall close to the street
- Buildings are closely spaced from each other
- Townhouse, condo/apartment buildings, and similar are not limited in width allowing larger buildings that may even occupy an entire block face
- Lot area per building for detached homes will be small with less yard space than in Type 2 and Type 3
- Townhouses, closely spaced detached homes, and multi-family buildings are expected to be common housing choices provided; cottages or similar small-unit housing is also likely to be built

TYPE 2 RESIDENTIAL URBAN FORM

Type 2 residential urban form is less compact than Type 1 but more compact than Type 3:

- Buildings are intended to be 2 stories, with 3 stories allowed under applicable State law for certain housing categories
- Moderate setbacks from the street
- Building separation is generally 10 feet,
- Building width is moderately limited, to maintain a building bulk consistent among multi-family, middle housing, and single-family detached housing choices
- Detached home lot size is approximately double that of Type 1 allowing for larger home footprints and larger yards than Type 1
- Small to medium sized single-family detached homes and townhouses are expected to be common housing choices, with duplexes, triplexes, quadplexes, cottage clusters, and smaller multi-family buildings also likely to be built.

TYPE 3 RESIDENTIAL URBAN FORM

Type 3 is the least compact residential urban form, characteristics include:

- Buildings primarily 1-2 stories in height, with 3 stories allowed for certain housing categories consistent with applicable State law
- Buildings are set back from the street
- Width of buildings is limited to create smaller buildings, which limits the number of units in multifamily or middle housing structures
- Building separation generally more than 10 feet
- Lot size for detached single-family homes generally 1.5 times that of Type 2 and 3 times that of Type 1, allowing for larger homes and yards
- Medium to large single-family detached homes along with smaller townhouse and duplex buildings are expected to be common housing choices, cottage clusters would be well-suited to this Type, and triplexes, quadplexes, and small multi-family buildings may also be built

IMPLEMENTATION MEASURE 4.1.7.D

Implementation of the Frog Pond East & South Master Plan will include the following:

1. Designation and mapping of subdistricts. Subdistricts are smaller geographic areas within each neighborhood where specific regulations may be applied to implement the Master Plan.
2. Clear and objective Development Code standards that:
   a. Set minimum number of units at the subdistrict or tax lot level.
   b. Establish height, setback and other development standards for the Type 1, Type 2, and Type 3 Urban Forms described and mapped in the Frog Pond East & South Master Plan.
   c. Require a variety of housing and include minimum and maximum amounts of specific housing types at the subdistrict or tax lot level.
   d. Require middle housing.
3. Zoning provisions that provide an alternative path of discretionary review to provide flexibility for development while still achieving the intent of the Master Plan and Development Code.
   a. The alternative path will include criteria to guide flexibility from the clear and objective height, setback, and other similar development standards for buildings in specific urban design contexts.
4. Define categories of housing for use in implementing housing variety standards.
5. Coordination with the owners of the Frog Pond Grange to coordinate and support continued use and development of the Grange as a community destination. Any future public ownership or use of the Grange building is dependent on future funding not yet identified.
6. Coordination with the Bonneville Power Administration (BPA) on land use and development within their easement in the East Neighborhood.
7. A future study of design options for the creek crossings shown on the Park and Open Space plan in this Master Plan. This work will address potential structured crossings.
8. The City may initiate a Main Street study to evaluate specific designs and implementation for the SW Brisband Main Street.
9. Special provisions will be in place for design of both the public realm and private development along the east side of SW Stafford Road and SW Advance Road and surrounding the East Neighborhood Park.

ZONING IMPLEMENTATION

ZONING MAP AMENDMENTS AND IMPLEMENTATION

Table 7 lists the zone districts that will implement each of the Comprehensive Plan designations identified within the planning area.

Table 7. Implementing Zoning Designations

COMPREHENSIVE PLAN DESIGNATION	IMPLEMENTING ZONE
Residential Neighborhood	Residential Neighborhood (RN)
Commercial	Planned Development Commercial (PDC)
Public	Public Facilities (PF)
All, where applicable	Significant Resource Overlay Zone (SROZ)

Zoning will be applied concurrent with the annexation and development review process for individual properties.

CODING FOR VARIETY AND PRIORITY HOUSING TYPES

Providing a variety of housing types, and particular housing types, throughout the East and South neighborhoods are important intended outcomes for the Master Plan. There are many examples of how variety and specific housing is designed and delivered in master planned communities such as Northwest Crossing in Bend and like Villebois here in Wilsonville. In those communities, a master developer defines and maps the planned housing types at a very site-specific level such as individual lots or blocks. Master planned communities can also implement specific and strategic phasing of infrastructure and housing types.

The Frog Pond East & South Master Plan aspires to have the detailed variety of a master planned community like Villebois even though it does not have the oversight of a single master developer. There is an opportunity to require and encourage housing that is a priority for the City. Examples include: home ownership opportunities for households of modest income (80-120% of AMI), middle housing units, dwellings that provide for ground floor living (full kitchen, bath and master bedroom on the main floor), and dwellings that provide for ADA[3] accessibility.

The standards for Frog Pond's housing variety will also recognize and accommodate several development realties:

3 Americans with Disabilities Act (1990).

- The neighborhoods will develop incrementally. There may be several larger projects where a developer prepares a coordinated plan for relatively large areas (e.g. 20+ acres). However, there will also be many smaller developments that will occur by different developers, on varied parcel sizes, and at different points of time. The code's variety standards must work for the likely range of differently scaled projects.
- Flexibility will be needed for evolving market and housing needs over time, including to reflect the City's future Housing Needs Analyses and Housing Production Strategies..
- All standards that address housing must be clear and objective. A discretionary review path can be provided as an alternative to provide additional flexibility.

Below is a list of potential strategies for requiring variety throughout Frog Pond East and South. These show the intent of the implementing standards and are subject to refinement or change as the development code is prepared.

Strategy 1: Permit a wide variety of housing types.

Amend the RN Zone to allow the following types in Frog Pond East and South:

- Single-Family Dwelling Units[4]
- Townhouses
- Duplex, Triplex, and Quadplex
- Cluster Housing
- Multiple-Family Dwelling Units
- Cohousing
- Manufactured Dwellings[5]
- Accessory Dwelling Units

Strategy 2: Define "categories" of housing units to be used for implementing variety standards.

Each category would provide a range of housing units to choose from when meeting the variety standards. The categories will be based on the policy objectives of the Council for equitable housing opportunities. They will also include specific housing types desired by the City (e.g. accessory dwelling units). The categories will be defined as part of the development code.

4 Tiny homes are included in this use type
5 Manufactured dwellings are subject to the definitions and requirements of ORS 443.

Strategy 3: Establish minimum dwelling unit requirements

Establish the minimum number of dwelling units required in each subdistrict (or on each pre-existing tax lot). The minimum number of required dwellings will help ensure the provision of attached housing forms.

Minimum number of dwelling unit requirements helps ensure variety by preventing a lower production of units than anticipated by the Master Plan. The unit count anticipated in the Master Plan assumes a variety of housing and meeting the minimum is not anticipated to be met without provision of a variety of housing.

Note: The housing capacity estimates prepared for the Master Plan could be used as the basis for the minimums.

Strategy 4: Create development standards for lots and structures that regulate built form according to the mapped Type 1, Type 2, and Type 3 urban form typologies.

This strategy uses form-based standards to create the transect of most compact urban form in Type 1 areas to least compact urban form in Type 3 areas. For each of the Urban form types, define standards for:

- Minimum lot size
- Minimum lot width/street frontage
- Maximum height setbacks for front, side, and rear yards, and garages
- Minimum building spacing
- Maximum lot coverage
- Maximum building width

Strategy 5: Establish minimum housing variety standards by subdistrict and development area.

For each subdistrict (or existing tax lots within subdistricts), define:

- The minimum number of categories required. This standard ensures variety at the subdistrict or tax lot level.
- The maximum percent of net development area for a category. This standard ensures no single category dominates a subdistrict.
- The minimum percent of net development area for categories that represent more affordable and/or accessible housing choices not traditionally provided by the private market and meeting City housing objectives..

Strategy 6: Encourage variety at the block level

Attachment 2

Frog Pond East and South DRAFT Housing Categories for Reference[1]			
Category A	Category B	Category C	Category D
Multi-family attached	Middle Housing	Cottages, ADUs, and small units	Standard Detached Units larger than 1500 sf
Attached multi-family units	Townhouses	Cottage clusters	Detached homes 1500 sf or larger on their own lot
	Duplex, triplex, quadplex, and equivalent cluster housing or mix of detached and attached	Detached units 1500 sf or less (not meeting definition of cottage cluster units)	Detached multi-family 5 units or more not meeting definition of cottage cluster
		Accessory Dwelling Units	

[1] These categories modified from current draft code standards for ease of reference for the limited purpose of this staff report

Section 4.113. Standards Applying to Residential Developments in any Zone.

(.01) *Open Space:*

. . .

D. *Required Open Space Characteristics:*

. . .

2. *Types of Open Space and Ownership.* The following types of areas count towards the minimum open space requirement if they are or will be owned by the City, a homeowners' association or similar joint ownership entity, or the property owner for Multi-family Development.

a. Preserved wetlands and their buffers, natural and/or treed areas, including those within the SROZ

b. New natural/wildlife habitat areas

c. Non-fenced vegetated stormwater features outside the public right-of-way

d. Play areas and play structures

e. Open grass area for recreational play

f. Swimming and wading areas

g. Other areas similar to a. through f. that are [publicly] accessible

h. Walking paths besides required sidewalks in the public right-of-way or along a private drive.

. . .

(.02) *Building Setbacks* (for Fence Setbacks, see subsection .08). The following provisions apply unless otherwise provided for by the Code or a legislative master plan.

. . .

(.03) *Height Guidelines.* The Development Review Board may regulate heights as follows:

. . .

(.04) *Residential uses for treatment or training:*

. . .

(.05) *Stormwater Facilities Standards:*

A. *Purpose.* The purpose of these standards is to protect the public health and welfare by appropriate management of stormwater to prevent flooding and property damage, and the pollution of streams, groundwater, wetlands, and other natural water features through the use of low impact development design and decentralized stormwater treatment and flow control as required by the City's NPDES MS4 permit. The purpose of these standards, further, is to thoughtfully integrate the design of stormwater management facilities into the overall design of neighborhoods.

B. Low Impact Development. All stormwater management facilities for treatment and flow control shall follow low impact development design standards.

C. Stormwater management facility sizing requirements shall be determined in accordance with the City's Public Works Standards. Use of impervious area reduction strategies in the Standards, including pervious hard surfaces and green roofs and tree credits, is encouraged.

D. Areas where stormwater management facilities are required to be integrated. Stormwater management facilities shall be located in the following areas of a residential development unless conflicting uses have locational priority as outlined in standard D. The location of stormwater management facilities shall be prioritized in the following order, with 1. (a.-g.) being the highest priority, and 2. (a.-b.) being the lowest priority. Each facility shall include both water quality and flow control unless there is a documented technical need for separate facilities. High priority locations shall be used to the maximum extent practicable, as determined by the City Engineer or their authorized representative, prior to considering lower priority locations.

1. High Priority:
    a. Collector and arterial street medians and planter strips where parallel on-street parking is not permitted;
    b. Curb extensions on local streets and other local street curb areas greater than 6 feet in width;
    c. Unpaved areas within five feet of an alley curb;
    d. Shoulder areas along midblock bike and pedestrian connections, and other off-street trails not otherwise part of larger green spaces and parks;
    e. Edges and buffers around parks and open space; and
    f. Landscape areas between buildings and the right-of-way that's owned by a homeowners association or similar entity (e.g., common areas, courtyards, pocket parks).
2. Lower priority:
    a. Landscaped areas within five feet of building foundations except for detached single-family homes, middle housing and their accessory structures; and
    b. Separate landscape tracts for stormwater facilities, subject to the size limitations in E. below.

E. Conflicting Uses Prioritized Over Stormwater Management Facilities. The placement of one or more of the following uses shall be prioritized over stormwater management facilities required under C. if a feasible alternative location for the conflicting use is not available.

1. Street trees or other required landscape trees meeting the spacing standards in Section 4.176, including area for root growth of at least 40 square feet per tree;
2. Street lights and other required lighting, including a buffer around the base of the light as required by Portland General Electric;
3. Fire hydrants and FDCs;
4. Manholes, clean outs, pedestals and vaults for public and franchise utilities;
5. Pedestrian walkways and bicycle paths;
6. Public Utility Easements for gas, electricity, and communication; and
7. Minimum area of usable open space required under Subsection (.01) above,. While small stormwater management facilities may be integrated into these spaces, they shall not represent more than 10% of the required usable open space and shall have a secondary purpose beyond just stormwater management (e.g. boundary between two different active uses, an intermittent play/storm stream, design element at the entrance or edge of the active open space).

F. Typically Prohibited Design Elements. The following design elements are prohibited as part of stormwater facilities as barrier to integrated design unless their inclusion is approved by the City Engineer, or their authorized representative, as part of a waiver request;

1. Fences

2. Retaining walls over two feet in height

G. Standards for Waivers to the Standards of this Subsection. The City Engineer, or their authorized representative, may waive the requirements in Subsection B., D., or F. above -subject to substantial evidence being available in the record to support the following findings:

1. To the extent practicable, the design continues to provide for decentralized treatment and flow control.
2. If a proprietary stormwater management system is proposed, such use is necessary and the minimal necessary to address technical issues and/or a site constraint (e.g., high groundwater level, contaminated soil, steep slopes).
3. If a fee in lieu is proposed, it is in support of a City stormwater project within the same sub-basin.

PLANNING COMMISSION

WEDNESDAY, OCTOBER 11, 2023

WORK SESSION

3. Stormwater System Master Plan (Rappold) (45 minutes)

PLANNING COMMISSION MEETING
STAFF REPORT

Meeting Date: October 11, 2023	**Subject:** Stormwater Master Plan Update – Executive Summary and CIP **Staff Member:** Kerry Rappold, Natural Resources Manager **Department:** Community Development
Action Required	**Advisory Board/Commission Recommendation**
☐ Motion ☐ Public Hearing Date: ☐ Ordinance 1st Reading Date: ☐ Ordinance 2nd Reading Date: ☐ Resolution ☒ Information or Direction ☐ Information Only ☐ Council Direction ☐ Consent Agenda	☐ Approval ☐ Denial ☐ None Forwarded ☒ Not Applicable **Comments:** N/A
Staff Recommendation: Review and provide comment on the executive summary and Capital Improvement Program (CIP) for the Stormwater Master Plan Update.	
Recommended Language for Motion: N/A	
Project / Issue Relates To:	

☒Council Goals/Priorities: Expand and Maintain High Quality Infrastructure	☒Adopted Master Plan(s): 2012 Stormwater Master Plan	☐Not Applicable

ISSUE BEFORE COMMISSION:
In advance of the draft Stormwater Master Plan Update (SMP), staff and the consultant will present the executive summary and CIP for the SMP.

EXECUTIVE SUMMARY:

In 2012, the City adopted the Stormwater Master Plan, which provided an update to the previous master plan adopted in June 2001. There have been changes in land use (e.g., UGB expansion areas) and new stormwater management requirements (i.e., NPDES MS4 Stormwater Permit) that need to be addressed as part of the update. The City ultimately seeks an integrated approach to stormwater and watershed management that will result in the development of management solutions and policies that maintain, restore and enhance local watersheds and meet engineering, environmental and land use needs.

In 2021, a survey was conducted to gather feedback from the community about the proposed SMP. Ninety respondents provided input on existing conditions (e.g., water quality of streams and flooding issues) related to the stormwater system and how they rate the level of service (e.g., maintenance of system and public education). Overall, the respondents felt the City was doing a good job in regards to managing the public stormwater system.

Since 2021, the consultant team has been working on extensive data collection, problem area identification, assessment and modeling of the stormwater system, retrofit analysis, CIP projects, and developing the policies that will guide the implementation of the SMP. The executive summary provides an overview of the SMP and includes the following new elements that will be incorporated into the draft SMP:

1. An analysis of the City's NPDES MS4 permit (i.e., stormwater permit issued by the Oregon Department of Environmental Quality) and TMDL Implementation Plan (i.e., a plan to address bacteria, mercury and temperature as required by Oregon DEQ) to determine the appropriate management and project objectives in the SMP.
2. Stream surveys (segments of Boeckman Creek, Meridian Creek, Arrowhead Creek, and streams in the Frog Pond Planning Area) to assess the geomorphic condition (e.g., bank erosion, and grade control, such as beaver dams) of stream channels due to hydromodification (i.e., the impact of urban stormwater runoff).
3. A staffing analysis to determine the current and future needs related to operating and maintaining the public stormwater system, including the implementation of future programmatic responsibilities and CIP projects.

The Capital Improvement Program addresses the variety of issues and problems associated with the City's public stormwater system and represents a critical piece in the overall management of the system. Projects have been developed, and will be prioritized, to address the capacity, condition, and maintenance of the system, and improvements associated with water quality and hydromodification. In addition to the identified CIP projects, stormwater programs, such as a porous pavement and green street pilot program, were identified to address regulatory drivers and support proactive system maintenance.

EXPECTED RESULTS:
The SMP will include goals and policies, data gathering, surveying, system condition assessment, hydraulic modeling, area specific studies, retrofit analysis, Capital Improvement Program, fee in lieu of construction program, and draft and final versions of the Plan.

TIMELINE:
The project is scheduled to be completed by the spring of 2024.

CURRENT YEAR BUDGET IMPACTS:
The adopted budget for FY20/21 included $450,000 in Stormwater Operating and Stormwater System Development Charges (SDC) for CIP #7064. In the budget, $396,476 had been allocated for the development of the Master Plan, and $53,525 for overhead. The project funds have been rolled over into the current fiscal year.

COMMUNITY INVOLVEMENT PROCESS:
The consultant team prepared a public engagement plan for outreach to interested members of the community and businesses potentially affected by the updated plan. The Public Engagement Plan incorporated the City's existing public engagement tools, including Let's Talk, Wilsonville! and the Boones Ferry Messenger. A survey was conducted to provide information and solicit feedback from the public related to the project scope and activities.

POTENTIAL IMPACTS or BENEFIT TO THE COMMUNITY:
The project will benefit the community by providing goals and policies and an updated capital improvement plan to serve a growing population and meet environmental regulations.

ALTERNATIVES:
Not proceeding with the project will hinder the City's ability to plan for anticipated growth and development and to address regulatory requirements.

ATTACHMENTS:

1. Stormwater Master Plan Executive Summary (draft October 2023)
2. Stormwater Capital Improvement Program (draft October 2023)

Executive Summary

In 2021, the City of Wilsonville (City) initiated development of a Stormwater Master Plan (SMP or Plan) to guide capital project and program needs over the next 20-year planning period. Drivers for this SMP include completion and reprioritization of capital projects (CPs) identified in Wilsonville's previous SMP (dated March 2012), changing regulatory drivers and programs, new and redevelopment activities, and observed system deficiencies warranting additional study and proposed solutions.

This 2023 SMP identifies projects and programs to increase system capacity, address infrastructure and maintenance needs, add or enhance water quality treatment, address natural system deficiencies, and proactively plan for future growth.

The SMP development process included:

- Incorporation of project need and system improvements information as identified by City staff.
- Identification and validation of storm drainage problems and flooding using hydrologic and hydraulic (H/H) models, which help to assess flooding frequency and severity.
- Assessment of stormwater retrofit opportunities for water quality treatment and/or flow control.
- Assessment of the natural (stream) system to identify risk to infrastructure and stream stability.
- Identification of programmatic opportunities to address recurring maintenance needs and water quality at a citywide scale.
- Development of a comprehensive, prioritized CP list and associated costs.
- Analysis of staffing levels to meet deferred and future maintenance and regulatory requirements.

Master Plan Technical Analyses

The following technical analyses were conducted to evaluate stormwater system deficiencies and define project and program needs in support of SMP development.

Project Needs Identification. This effort included distributing surveys to City staff and the public, conducting a literature-based and Geographic Information System (GIS) data review, and site visits. Information collected helped to create a robust inventory of the stormwater collection system features and problem areas related to capacity, maintenance, system condition, and infrastructure needs. Locations warranting additional analyses via hydraulic modeling and/or stream assessment were defined based on results of the project needs identification effort.

Stormwater Retrofit Analysis. A stormwater retrofit analysis was completed to inform potential locations for water quality improvement, erosion prevention/natural resource enhancement, and/or flow mitigation in the city. Based on the site characteristics, continued applicability of non-constructed water quality projects per the 2012 SMP, and the ability to integrate water quality into other project needs, 10 CP locations and two ongoing programs were identified to expand and enhance stormwater treatment throughout the city.

Stream Assessment. A stream assessment was conducted on select reaches of Boeckman, Meridian, Arrowhead, Newland, and Kruse Creeks to inform locations where stream morphology may be or is currently impacted from changes to upstream land use and in response to changes in flow,

infrastructure, and sediment supply. The assessment included a desktop GIS analysis and stream walk (field observations) to inform capital project and ongoing monitoring needs.

Stormwater System Capacity Evaluation. The stormwater hydrologic and hydraulic (H/H) modeling developed for the 2012 SMP was updated to reflect changes in land use and impervious coverage and additional City-owned (public) storm pipe, culverts, and detention facilities. CPs installed since 2012 were incorporated in the H/H model, and the model was used to simulate rainfall and runoff characteristics and identify capacity limitations under both current and future development conditions.

Maintenance and Staffing Evaluation. Operational activities were assessed to identify staffing levels and constraints. Information on current maintenance activities, regulatory needs, and anticipated engineering activities associated with implementation of this SMP, as well as compensation rates, were incorporated into additional staffing recommendations for both Public Works and Community Development/Engineering.

Project Prioritization. Project needs were prioritized based on various criteria including system operations (capacity, recurring maintenance, safety); system condition; regulatory compliance (water quality, natural system condition, instream erosion); and other needs including project concurrence/scheduling, development drivers, and contributing area. Project scoring and ranking helped designate high, medium, and lower priority projects for use in project scheduling and future stormwater utility rate evaluations.

General Recommendations

Project, program, and policy recommendations in this SMP are proposed to improve and enhance the performance of the storm drainage infrastructure throughout the city, as summarized by the following recommended actions:

- Implement CPs required to address system capacity, system maintenance, repair and replacement, water quality, instream erosion and sediment control, and new infrastructure needed to accommodate pending development. These CPs are intended to manage areas of reported deficiencies and accommodate development and growth.
- Implement stormwater-related programs to address recurring, maintenance-related system improvements in an expedited manner and proactively and opportunistically address water quality.
- Use ongoing inspection results to evaluate and proactively address system condition needs, supporting asset management principles.
- Update policies and procedures to support public and private partnerships with new and redevelopment activities, specifically related to stormwater infrastructure replacement and stormwater fee-in-lieu in conjunction with the Town Center redevelopment.
- Continue implementation of City's Public Works Design Standards to ensure the City's stormwater standards address regulatory drivers, support private development activities, and protect stream health.
- Add staff necessary to ensure compliance with the City's National Pollutant Discharge Elimination System (NPDES) municipal separate storm sewer (MS4) permit needs as well as implementation of recommendations outlined in this SMP.

Capital Project Summary

A total of 16 CPs, representing 21 separately costed (by phase) projects, two (2) citywide planning projects, and five (5) programs have been developed to address the following objectives:

- Increase **system capacity** to address existing and potential future deficiencies (i.e., flood control).
- Install **water quality** treatment and address instream **erosion and sediment control (E&S)** to meet regulatory drivers including the City's NPDES MS4 permit and total maximum daily load (TMDL) obligations.
- Address recurring **maintenance** and **infrastructure needs** (i.e., lack of maintenance access, add infrastructure to address localized drainage issues).
- Address system condition through **repair & replacement (R&R) needs**.

Table ES-1 summarizes the identified capital projects, costs, and respective priority (to be finalized with draft SMP). Figure ES 1-1 shows CP locations by primary objective.

Table ES-1. Capital Project Costs and Schedule

Project Number	Project Name	Objectives	Estimated Cost	Implementation Schedule			
				Near Term (2024-28)	Mid Term (2029-33)	Long Term (2034-43)	Annual
BC-1	Library Pond Retrofit	**Capacity** Water Quality Infrastructure Need	$778,000				
BC-2	Ash Meadows Flow Mitigation	**Capacity** Water Quality	$1,403,000				
BC-3 – Phase 1	Wiedemann Ditch and Canyon Creek Park Retrofit, Phase 1	**Capacity** Water Quality	$3,618,000				
BC-3 – Phase 2	Wiedemann Ditch and Canyon Creek Park Retrofit, Phase 2	**Capacity** Water Quality	$5,148,000				
BC-4	Boeckman Creek Stabilization at Colvin Lane	**Erosion/ Sediment Control** Repair/Replacement Maintenance	$235,000				
BC-5	Memorial Park Swale Retrofit	**Water Quality** Erosion/ Sediment Control Maintenance	$540,000				
BC-6	Gesellschaft Water Well Channel Restoration	**Erosion/ Sediment Control** Maintenance	$309,000				
BC-7	Town Center Conveyance Pipe Installation	**Infrastructure Need**	$10,805,000				
CLC-1 – Phase 1	Day Road Stormwater Improvements, Phase 1	**Repair/ Replacement** Capacity	$4,645,000				

Table ES-1. Capital Project Costs and Schedule

Project Number	Project Name	Objectives	Estimated Cost	Implementation Schedule			
				Near Term (2024-28)	Mid Term (2029-33)	Long Term (2034-43)	Annual
CLC-1 – Phase 2	Day Road Stormwater Improvements, Phase 2	**Capacity**	$2,964,000				
CLC-2	Arrowhead Creek Culvert Replacement at Arrowhead Creek Trail	**Repair/ Replacement** Maintenance	$227,000				
CLC-3	Garden Acres Pond Retrofit	**Capacity** Water Quality	$1,058,000				
NC-1	Frog Pond East and South Conveyance Pipe Installation	**Infrastructure Need**	$19,731,000				
WR-1 – Phase 1	SW Willamette Way/ Morey's Landing Stormwater Improvements, Phase 1	**Capacity** Water Quality	$1,476,000				
WR-1 – Phase 2	SW Willamette Way/ Morey's Landing Stormwater Improvements, Phase 2	**Capacity**	$811,000				
WR-2 – Phase 1	Miley Road Stormwater Improvements, Phase 1	**Repair/ Replacement** Erosion/Sediment Control Maintenance	$661,000				
WR-2 – Phase 2	Miley Road Stormwater Improvements, Phase 2	**Repair/Replacement** Maintenance	$7,425,000				
WR-3	Rose Lane Culvert Replacement	**Capacity** Maintenance	$94,000				
WR-4 – Phase 1	Charbonneau East Stormwater Improvements, Phase 1	**Capacity** Repair/ Replacement	$231,000				
WR-4 – Phase 2	Charbonneau East Stormwater Improvements, Phase 2	**Repair/Replacement** Maintenance	$2,551,000				
WR-5	Charbonneau West Stormwater Improvements	**Repair/Replacement** Maintenance	$8,049,000				
City-1	Flow Monitoring and Rain Gauge Installation	**Capacity**	$100,000				
City-2	Hydromodification Assessment and Stream Survey	**Erosion/Sediment Control**	TBD				
P-1	Local Drainage Improvements Program	**Infrastructure Need** Capacity	$100,000/yr				X
P-2	Porous Pavement/Green Street Retrofit Program	**Water Quality**	$50,000/yr				X
P-3	Repair/Replacement Program	**Repair/Replacement** Maintenance	TBD				X
P-4	Inlet Replacement Program	**Infrastructure Need**	$50,000/yr				X

Table ES-1. Capital Project Costs and Schedule							
Project Number	Project Name	Objectives	Estimated Cost	Implementation Schedule			
				Near Term (2024-28)	Mid Term (2029-33)	Long Term (2034-43)	Annual
P-5	Vegetative Facility Maintenance Program	**Water Quality**	$10,000/yr				X
			TOTAL $	$	$	$	$

*Note: Primary objectives are identified in **BOLD**.*

Programmatic Summary

In addition to the identified CPs, the following stormwater program needs were identified to address regulatory drivers and support proactive system maintenance:

Local Drainage Improvements Program (P-1). Allocate funds to install small-scale, localized drainage improvements (i.e., new pipe, catch basins and laterals, grading to support curb-and-gutter flow).

Porous Pavement/Green Street Pilot Program (P-2). Establishes an annual funding mechanism to integrate porous pavement overlays, low impact development (LID) or green infrastructure (GI) in conjunction with street improvement and other utility projects.

Repair/Replacement Program (P-3). Allocates funds to conduct prescriptive replacement of public pipe and outfalls in conjunction with inspection and asset management efforts.

Inlet Replacement Program (P-4). Allocates funds to relocate/install curb inlets instead of catch basins in high traffic roads to address local drainage issues.

Vegetation Maintenance Program (P-5). Allocates funds to 1) conduct riparian and/or in channel vegetation maintenance including removal of invasive species and/or 2) conduct restorative maintenance on select private stormwater facilities in the City where maintenance agreements are not in place or have not been executed.

Implementation

Capital projects, program needs, and policy recommendations collectively inform the City's updated Stormwater Capital Improvement Program (CIP).

To ensure effective implementation of the Wilsonville 2023 CIP over the 20-year planning period, City staffing levels were analyzed against project and programs developed as part of this SMP to inform recommendations for additional Public Works Operations and Engineering staff. Additional staff in Public Works Operations and Community Development/ Engineering are recommended to accommodate new projects and programs defined in this SMP as well as deferred maintenance activities and new regulatory requirements.

CPs are prioritized to inform the schedule and respective funding needs of capital investments. A financial plan is required to ensure funding of the scheduled capital costs, program costs, and staffing needs. Future financial planning, including level of service goals, a stormwater utility rate evaluation, and a system development charge (SDC) update, will reflect rates necessary to implement the Stormwater CIP while meeting other financial obligations.

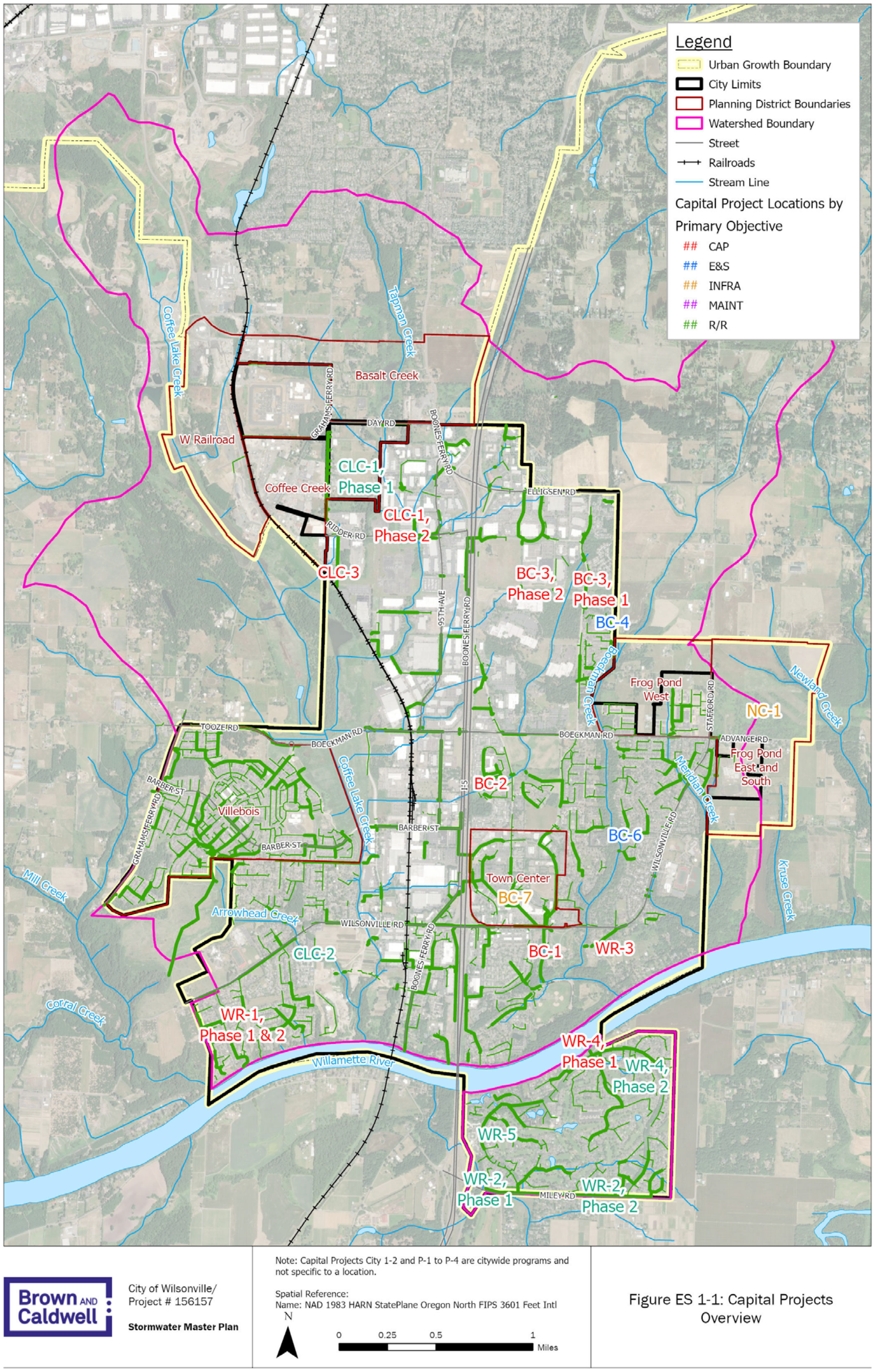
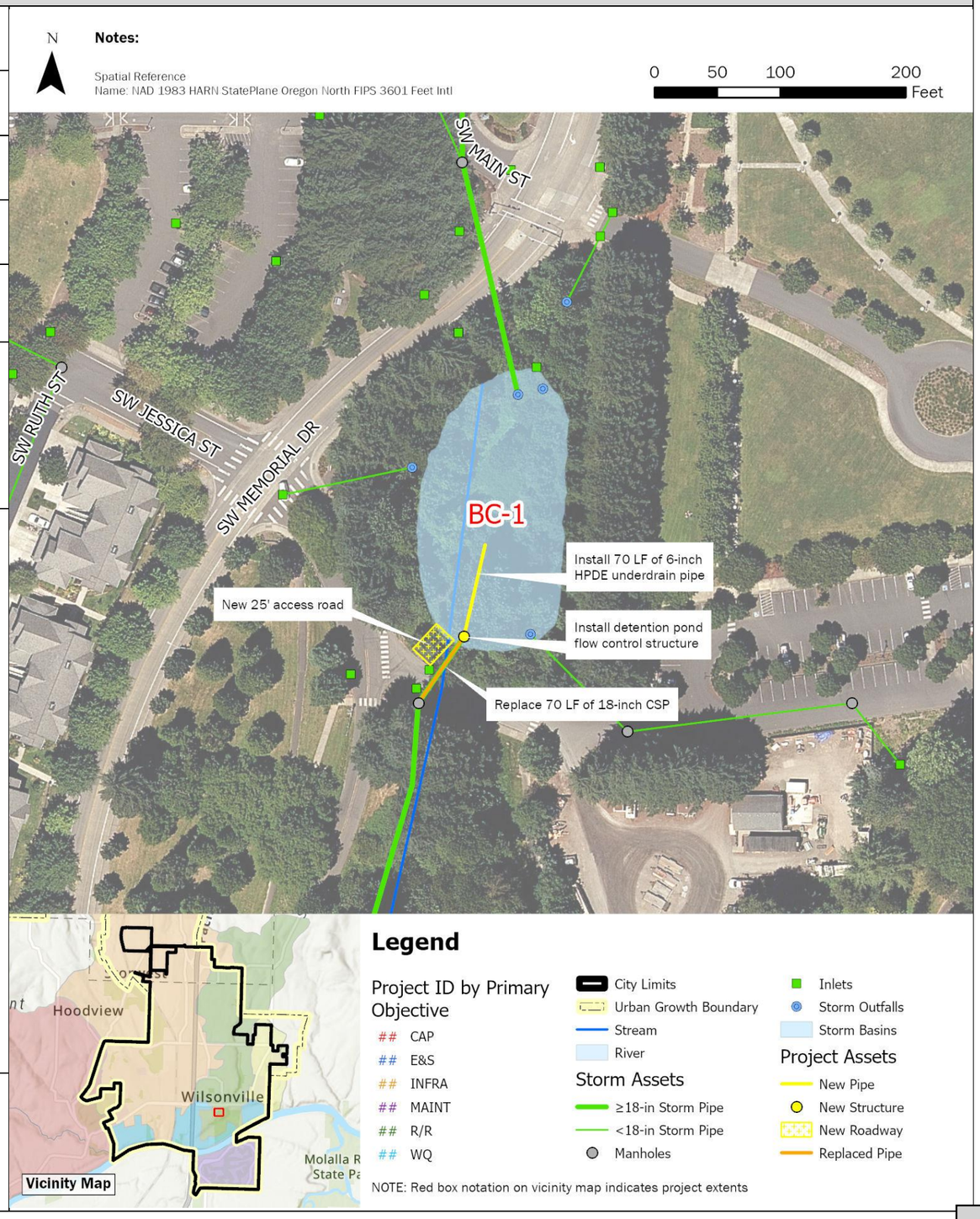


Figure ES-1. Capital Projects by Primary Objective

Attachment 2

Stormwater Capital Improvement Program (draft October 2023)

BC-1	Library Pond Retrofit		
Project Objective(s)	Capacity (Mitigation) Water Quality		
Project Opportunity ID	4		
Contributing Drainage Area	132 acres		
Estimated Existing Impervious Area (%)	47%	**Estimated Future Impervious Area (%)**	53%
Project Location	The project site is located adjacent to Memorial Park, north of the Wilsonville Public Library parking lot and east of SW Memorial Drive.		
Statement of Need	The current configuration of Library Pond does not support routine maintenance activities (ongoing challenges are reported related to debris removal at the existing outlet structure), nor does it have a flow control/orifice structure or emergency overflow to provide downstream flow mitigation. Retrofit of the Library Pond is proposed to provide regional water quality treatment and flow control for the Town Center redevelopment, as part of the fee-in-lieu program.		
Project Description	This project retrofits the existing Library Pond to meet current City Standards and accommodate future condition flows associated with the Town Center Development Plan, which anticipates full build out in the next 20+ years. Project details are as follows: • Install a pond outlet structure in compliance with current design standards. • Install 70 LF of 6-inch HDPE underdrain pipe. • Clear, regrade, and replant the 0.7-acre detention pond, including amending the pond bottom to include the 3 feet of required rocks and media. • Install 15-ft wide, 25-feet long access road for maintenance access. • Replace 70 LF of 18" CSP pipe (SD5213) at new design depth, approx. 15 feet deep.		



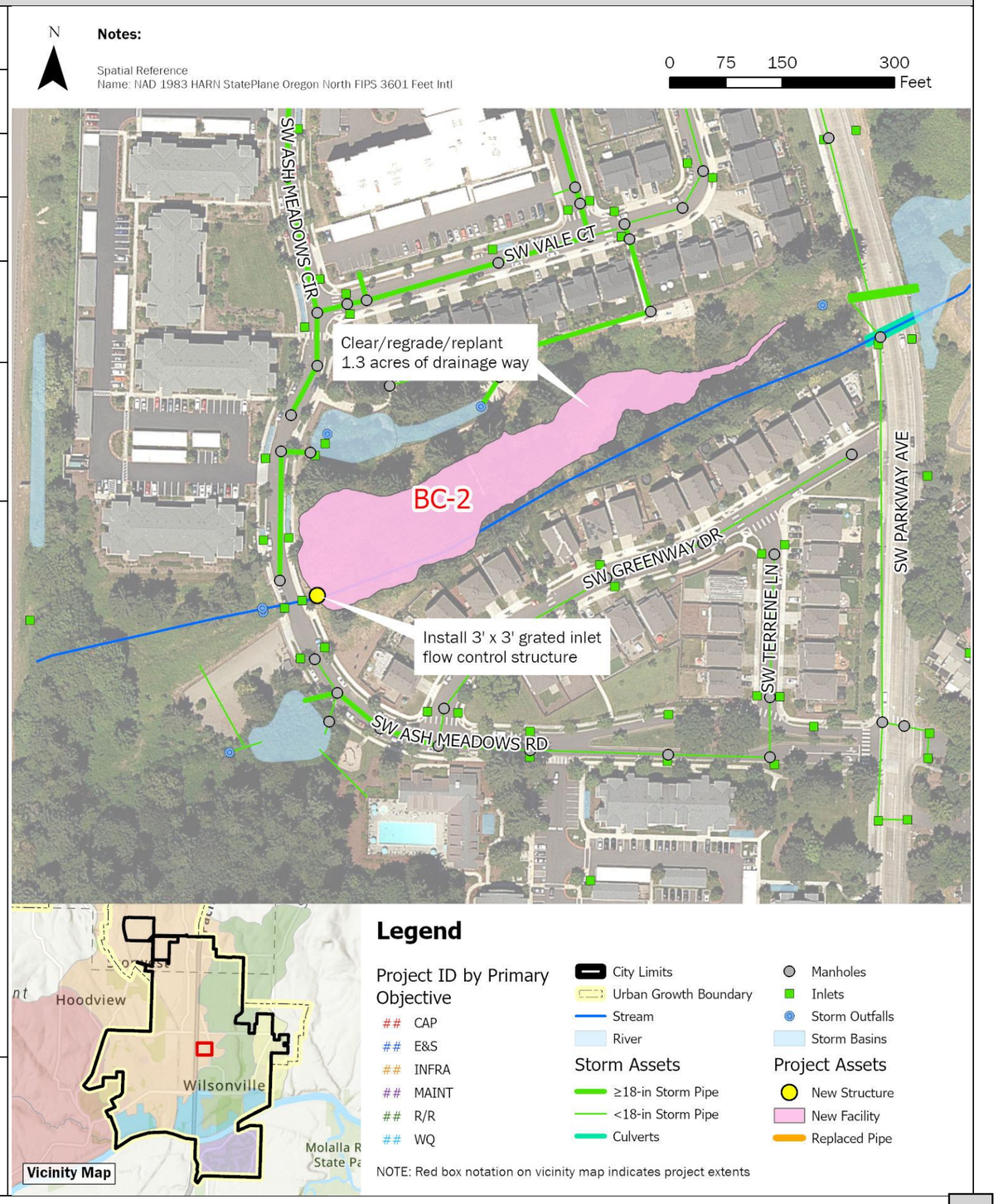
BC-1	Library Pond Retrofit	
Design Considerations / Assumptions	• The existing pond footprint remains unchanged due to roadway and development constraints. Interior side slopes are assumed to be 3H:1V. • Facility sizing is based on adherence to the City's 2015 PWS Section 3 requiring flow matching to pre-development conditions (classified as Oak Savanna). Sizing utilizes the BMP Sizing Tool. • To size the pond in accordance with PWS design standards, approximately 48 acres (50% of total new and redeveloped impervious area associated with the Town Center redevelopment) require onsite treatment and flow control prior to discharge into Library Pond detention facility. • Total pond depth includes drain rock (15-inches), separation layer (3-inches), and growing media (18-inches), in accordance with the PWS Section 3, Appendix A landscape and soil media requirements. • Upstream (SD5053) and downstream (SD5213) pipe sizes are anticipated to remain unchanged. • Inlet structure into the pond (CARTE ID: 27) to remain unchanged. • Outlet structure (standard drawing ST-6110) assumes an additional field inlet for the 100-year overflow event. • Assuming bottom of the pond shape is roughly 70' x 100' - placing underdrain through 2/3 of the of the pond (based on ST-6060), approx. 70 LF.	
Estimated Project Cost	Capital Expense Total	$594,000
	Design / Construction Admin. (11%)	$65,000
	Engineering & Permitting (20%)	$119,000
	Total Cost	**$778,000**
Project Cost Notes	• Cost is for the Library Pond retrofit only. It does not include any additional LID BMPs that are needed to offset some of the contributing drainage area. • Assumes upstream inlet pipe (SD5053) and inlet structure to Library Pond (no ENG ID available) can remain unaltered. • Limited traffic control/utility relocation and surveying will be required, as the site is already developed and has access and staging areas.	

Additional Figures

Overview of the detention pond from maintenance entrance to Memorial Park near the intersection of SW Memorial Drive and SW Jessica Street (Jan 2023)

Outlet of pond that functions as the ditch inlet (Sep 2021)

BC-2	Ash Meadows Flow Mitigation		
Project Objective(s)	Capacity (Mitigation) Water Quality		
Project Opportunity ID	25 and 26		
Contributing Drainage Area	295 acres		
Estimated Existing Impervious Area (%)	37.6%	**Estimated Future Impervious Area (%)**	51.6%
Project Location	This project is in a residential area near the Ash Meadows apartment complex. The area is bounded to the west by Interstate-5, SW Vale Court to the north, SW Parkway Avenue to the east, and SW Greenway Drive to the south.		
Statement of Need	The Boeckman Road Corridor Project requires mitigation of increased flow in Boeckman Creek due to the planned removal of the flow control structure at Boeckman Road. This project reestablishes historic flow patterns to Coffee Lake Creek by rerouting high flows from the Siemens Pond B (Opp. ID 25) and Boeckman Creek back to the Coffee Lake Creek basin.		
Project Description	This project mitigates flow to Boeckman Creek by plugging the diversion structure that currently routes high flows from the Siemens Pond B (Opp. ID 25) east to Boeckman Creek. Rerouted flows will be conveyed through the culvert under Boeckman Road and down the natural drainage path toward Coffee Lake Creek. To mitigate the rerouted high flows, in-line storage will be enhanced between Ash Meadows Lane and Parkway Ave (Opp. ID 26). Project details are as follows: • Plug the flow diversion structure at Siemens Pond B. • Upsize 95 LF of 30-inch culvert at Boeckman Road to 48-inch diameter PVC. • Install a 3-foot x 3-foot grated inlet to serve as a flow control structure at SW Ash Meadows Circle. • Clear, regrade, and replant 1.3-acres of drainage way and embankment to ensure a low-flow drainage path and healthy vegetation.		

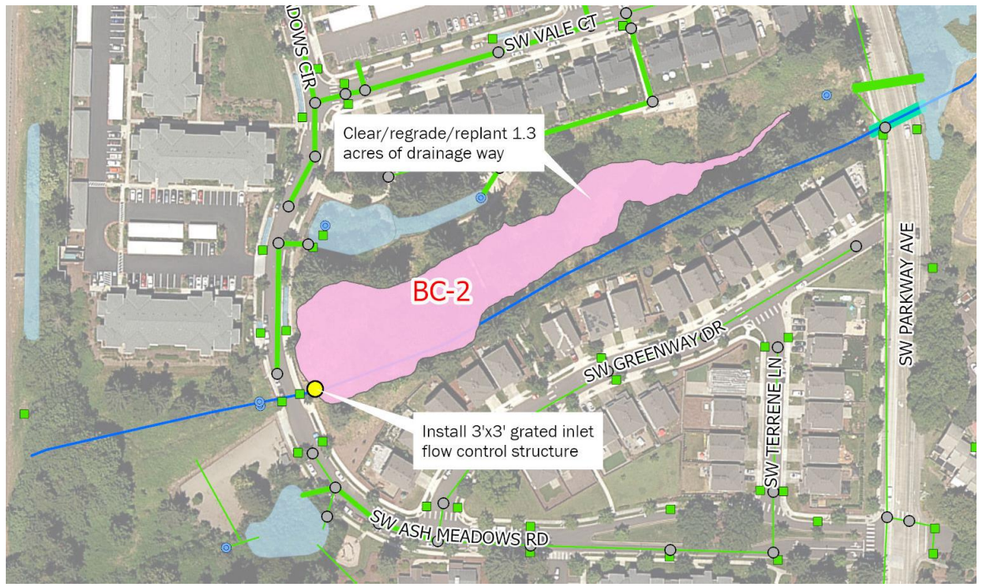


BC-2	Ash Meadows Flow Mitigation	
Design Considerations / Assumptions	• This project is predicted to mitigate 75% of the increased peak flow to Boeckman Creek resulting from the removal of the Boeckman Creek flow control structure during the 25-year storm, under existing hydrological conditions. • This project and cost estimate do not include any modification of the area east of SW Parkway Avenue and south of Boeckman Road. • Existing topography at the Ash Meadows site ranges between 182 -190 feet in elevation, with an estimated storage potential of 181,000 cubic feet. • This project is intended to mitigate additional flow to the culvert under I-5, approximately 300 feet downstream of the Ash Meadows site, and mimic existing flow conditions. • The flow control structure will store 25-year peak flows at a maximum water surface elevation (WSE) of 190 feet. This max WSE will maintain 2 feet of freeboard to neighboring residential properties. Final design will include confirmation of flow control structure sizing.	
Estimated Project Cost	Capital Expense Total	$995,000
	Design / Construction Admin. (11%)	$109,000
	Engineering & Permitting (30%)	$299,000
	Total Cost	**$1,403,000**
Project Cost Notes	• The Ash Meadows site is approximately 55,000 square feet. Earthwork estimates assume 1.5-feet of excavation and 6-inches of amended soils over the site area. • Clearing and plant restoration is necessary for entire area to 190 ft elevation. • A 30% engineering and permitting multiplier was applied due to in-water work. • Project concept and cost estimates developed in conjunction with the Boeckman Road Corridor Project.	

Additional Figures

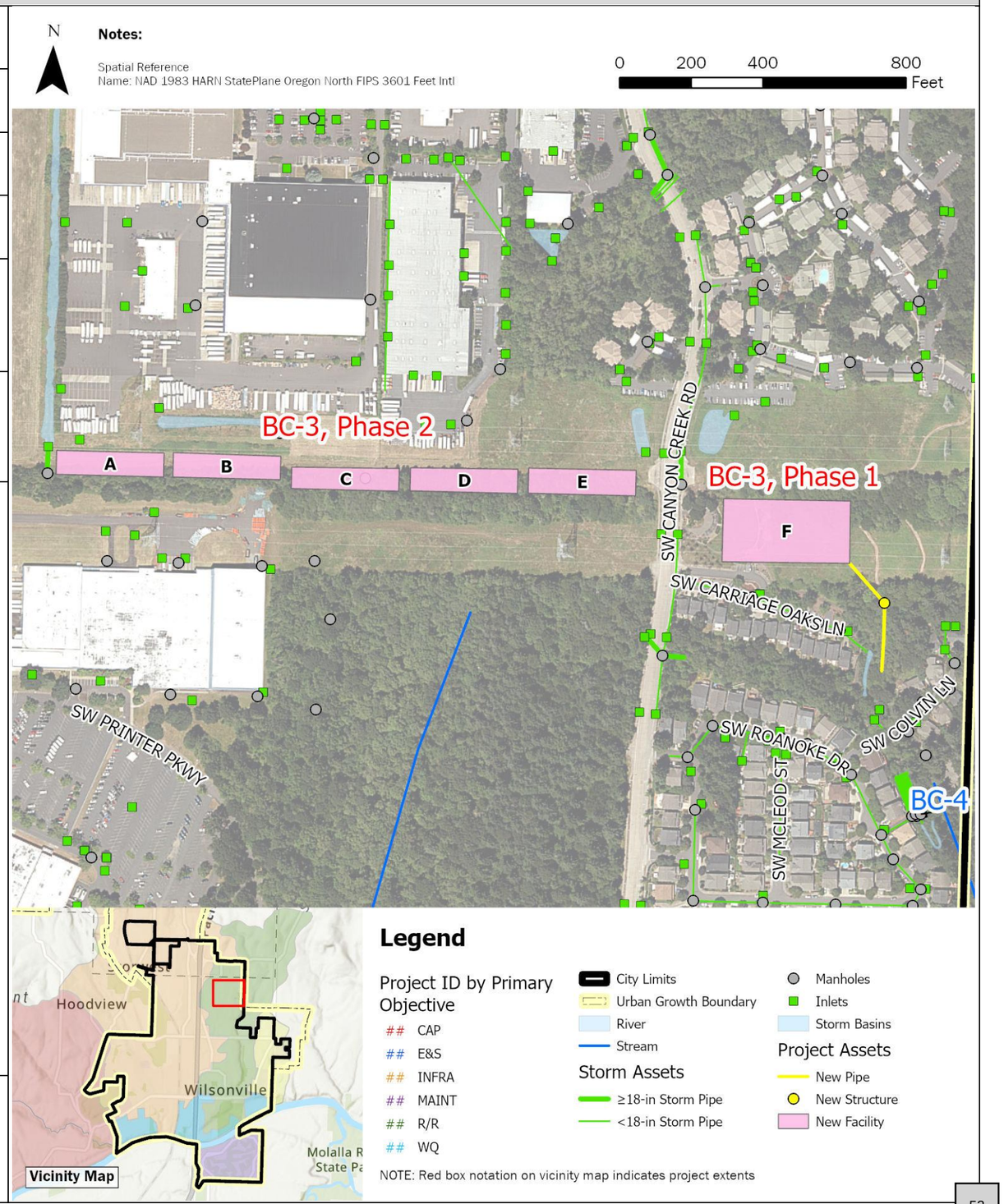
Ash Meadows Drainage Way (Jan 2023)

Siemens Pond Diversion (Nov 2021)



Area map showing zoomed in view of Ash Meadows drainage way.

BC-3	Wiedemann Ditch and Canyon Creek Park Retrofit		
Project Objective(s)	Capacity (Mitigation) Water Quality		
Project Opportunity ID	24		
Contributing Drainage Area	295 acres		
Estimated Existing Impervious Area (%)	38.1%	**Estimated Future Impervious Area (%)**	47.0%
Project Location	This project is located east and west of SW Canyon Creek Road along the existing BPA easement. Phase 1 is located at Canyon Creek Park, north of SW Carriage Oaks Lane. Phase 2 extends west to east along the existing Wiedemann Ditch alignment, south of the Sysco property.		
Statement of Need	The Boeckman Road Corridor Project requires mitigation of increased flow in Boeckman Creek due to the planned removal of the flow control structure at Boeckman Road. This project provides additional floodplain storage through enhancement of the existing Wiedemann Ditch alignment and installation of a storage facility at Canyon Creek Park.		
Project Description	This project mitigates flow to Boeckman Creek through the creation of a series of linear wetland complexes along the existing Wiedemann Ditch within the BPA easement (Facilities A-E). Discharge from the linear wetland complexes will be routed through the existing 48-inch culvert underneath Canyon Creek Rd. prior to entering the proposed vegetated storage facility (Facility F) within available, undeveloped space at Canyon Creek Park. Due to project complexity and size, this project is costed as two phases and numbered based on recommended sequencing. Project details by phase are as follows: Phase 1 (Canyon Creek Park) • Clear, regrade, and replant approximately the 1.6-acre proposed vegetated storage facility. • Install a flow control/outlet structure with emergency overflow at the storage facility. • Install 350 LF of 36-inch diameter PVC to discharge from the southeast corner of the site towards Boeckman Creek. • Install one new manhole at bend in new 36-inch pipe. Phase 2 (Wiedemann Ditch) • Clear, regrade, and replant approximately 2.1-acres along the existing ditch alignment to install five, tiered wetland complexes. • Install a 12-foot wide, 1,500-foot-long access road west of Canyon Creek Road.		



BC-3	Wiedemann Ditch and Canyon Creek Park Retrofit

Design Considerations / Assumptions

- This project is predicted to mitigate 98% of the increased peak flow to Boeckman Creek resulting from the removal of the Boeckman Creek flow control structure during the 25-year storm, under existing hydrological conditions.
- Coordination with both Sysco and BPA is necessary prior to design and construction.
- The Canyon Creek Park facility (Phase 1) is to be designed per the City's surface water requirements with an assumed active storage depth of four feet and 3:1 side slope. Sizing is based on the desire to maximize the flow mitigation potential of the site. If less flow mitigation is needed, the pond footprint and/or depth may be reduced.
- The Wiedemann Ditch alignment (Phase 2) receives drainage from the existing north-south Sysco ditch on Sysco property. Sysco has identified this location as a potential mitigation site for their planned facility expansion.
- The linear wetlands (Phase 2) will be hydraulically connected, using weirs to provide a storage depth of two feet within each cell.

Estimated Project Cost

	Phase 1	*Phase 2*
Capital Expense Total	$2,809,000	$4,187,000
Design / Construction Admin. (11%)	$309,000	$461,000
Engineering & Permitting (Capped)	$500,000	$500,000
Total Cost	**$3,618,000**	**$5,148,000**

Project Cost Notes

- The Canyon Creek Park site (Phase 1) is approximately 69,000 sf. Earthwork estimates assume 1.5-feet of excavation over the site area and the 6-inches of amended soil, per City Standards.
- Final design will include confirmation of weir sizing and layout.
- Final design will include confirmation of vegetated facility plantings and structure sizing.
- Project concept and cost estimates were initially developed in conjunction with the Boeckman Road Corridor Project. A cap on engineering and permitting was applied.

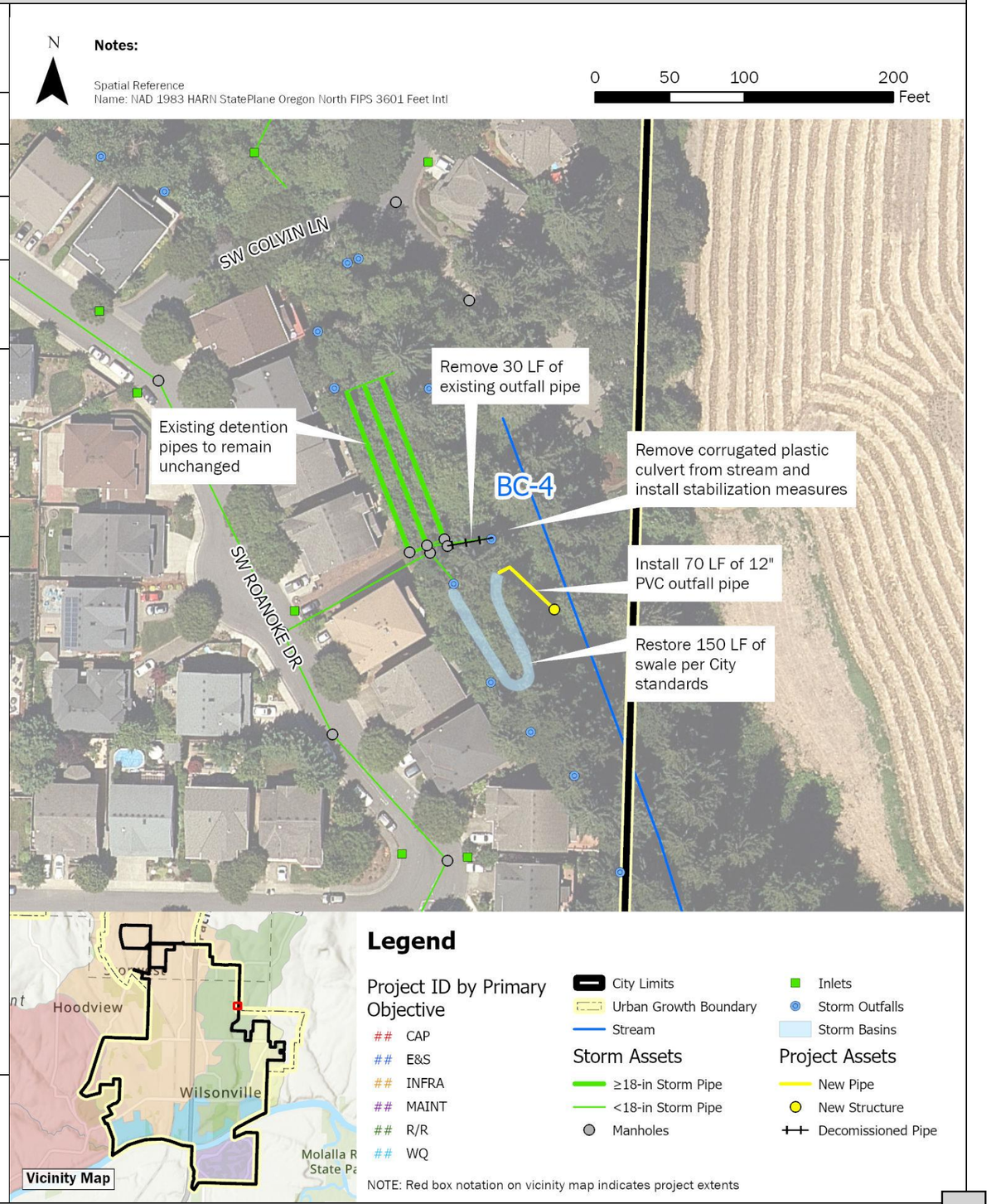
Additional Figures

Canyon Creek channel (Jan 2023)

Canyon Creek channel (Jan 2023)

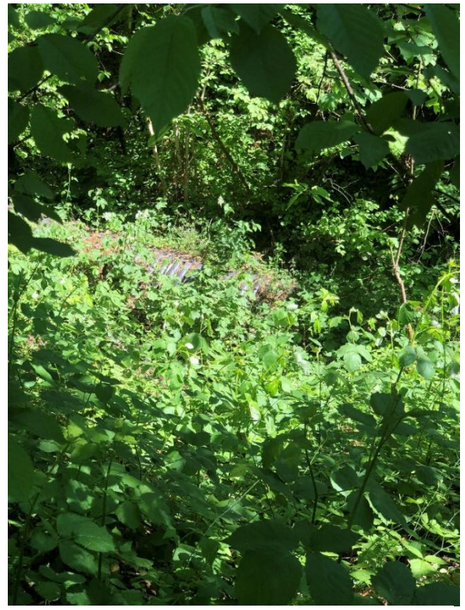
Wiedemann Ditch alignment (Sep 2021)

BC-4	Boeckman Creek Stabilization at Colvin Lane		
Project Objective(s)	Erosion/Sediment Control Repair/Replace Maintenance		
Project Opportunity ID	15		
Contributing Drainage Area	358 acres		
Estimated Existing Impervious Area (%)	36.7%	**Estimated Future Impervious Area (%)**	45.3%
Project Location	This project is located along the Boeckman Creek corridor, adjacent to a residential neighborhood (Canyon Creek Estates) and bounded to the west by SW Roanoke Drive. SW Colvin Lane is directly north of the project location.		
Statement of Need	Streambank erosion and channel migration have been observed in the Boeckman Creek tributary segment, which discharges to Boeckman Creek downstream of SW Colvin Lane. The 2012 Master Plan identified this location as a project need (BC-8), and subsequent site visits and conversations with City staff confirmed the need. Corrugated plastic piping installed by a resident with the intention of mitigating erosion was not approved by the City. Trees have fallen and additional tree loss may occur due to streambank loss.		
Project Description	This project includes riparian and in-channel bank stabilization measures to address resident concerns and stabilize the section of the tributary channel bank. This project also includes restoration of the existing water quality swale. Project details are as follows: • Removal of approx. 30 LF of existing outfall pipe. • Installation of approx.70 LF of 12-inch PVC to serve as a new outfall. • Install planting and bioengineered restoration/stabilization measures along approx. 600 LF of stream corridor. • Reconstruction of approx. 150 LF of vegetated swale in accordance with the City's Public Works Standards (PWS).		



BC-4	Boeckman Creek Stabilization at Colvin Lane	
Design Considerations / Assumptions	• The pipe system upstream of the outfall, including detention pipes in the City easement adjacent to 7590 Roanoke Drive N. will be preserved. Issues have not been reported and these pipes are assumed to be functioning as intended. • Assumes that access to the outfall stabilization area can be attained via the City easement between 7590 and 7598 Roanoke Drive N. • Exact stabilization measures to be determined during project design. Stabilization measures may include targeted planting, bio-engineered solutions such as live stakes or fascines, and gabion walls if necessary. • Swale reconstruction to be confirmed with final design.	
Estimated Project Cost	Capital Expense Total	$167,000
	Design / Construction Admin. (11%)	$18,000
	Engineering & Permitting (30%)	$50,000
	Total Cost	**$235,000**
Project Cost Notes	• Assumes clearing/grubbing including stump removal and removal of existing corrugated pipe. • No costs included for access. Assumes access can be attained through an existing temporary City easement.	

Additional Figures

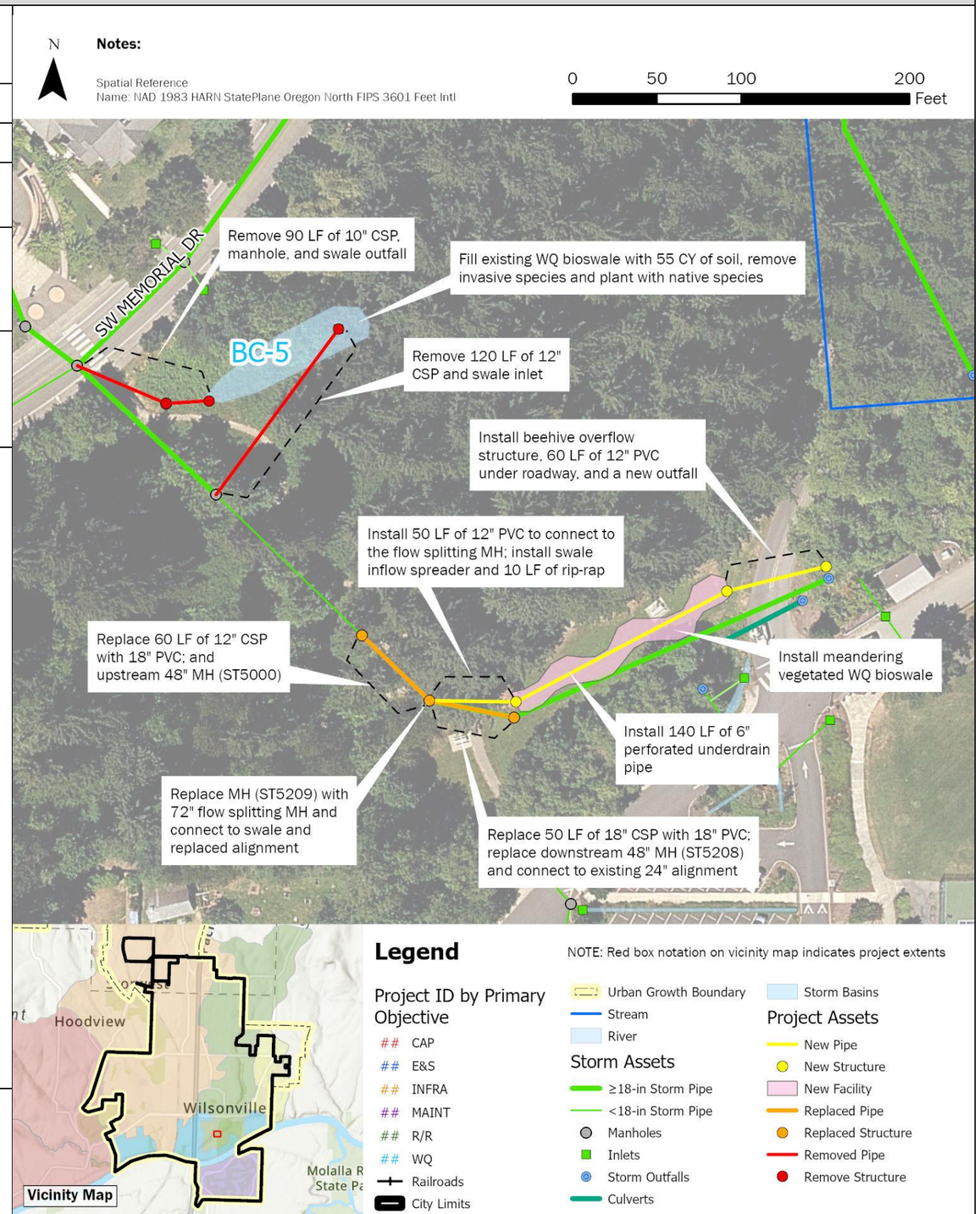


Streambank with resident-installed corrugated plastic pipe (May 2023)

City-owned outfall pipe (May 2023)

Upstream detention pipes location (May 2023)

BC-5	Memorial Park Swale Retrofit		
Project Objective(s)	Water Quality Erosion/ Sediment Control Maintenance		
Project Opportunity ID	21		
Contributing Drainage Area	33 acres		
Estimated Existing Impervious Area (%)	56.3%	**Estimated Future Impervious Area (%)**	57.7%
Project Location	This project site is located in the southeast portion of the City within the Boeckman Creek watershed. The project is bounded by SW Memorial Drive to the north, the Memorial Park parking lot/baseball fields to the south, and forested area within Memorial Park to the east and west.		
Statement of Need	The water quality bioswale at SW Memorial Drive is eroded, not draining properly, and not providing a water quality benefit. Modeling evaluation indicates that the pipe system after the convergence point at SW Memorial Drive has a constriction resulting in backwater and upstream system flooding.		
Project Description	This project includes removal and relocation of an existing water quality bioswale off SW Memorial Drive and installation of a new water quality bioswale and associated infrastructure at the downslope near the Memorial Park parking lot. Project details are as follows: • Remove existing water quality swale (ENG IDs provided in parentheses when applicable, CARTE ID provided when ENG ID is not available): ○ Remove 90 LF of 10-inch CSP (SD5041 and SD5042). ○ Remove 120 LF of 12-inch CSP (SD5044). ○ Remove manhole (ST5098). ○ Remove swale inlet structure (CARTE ID 568). ○ Remove swale outfall structure (CARTE ID 19). ○ Fill existing swale and revegetate area. • Replace two 48-inch manholes (ST5000 and ST5208). • Replace 60 LF of 12-inch CSP with 18-inch PVC pipe (SD5046). • Replace 50 LF of 18-inch CSP with 18-inch PVC pipe (SD5206). • Install a new meandering water quality swale near the Memorial Park parking lot: ○ Replace manhole ST5209 with a 72-inch flow splitting/WQ manhole. ○ Install 50 LF of 12-inch PVC pipe. ○ Install 140 LF of 6-inch perforated HDPE underdrain pipe. ○ Install swale inflow spreader. ○ Install 10 ft x 4 ft rip-rap pad in front of inflow spreader. ○ Install beehive overflow structure. ○ Install new outfall into the creek. ○ Install vegetated swale with required 1 foot of drain rock and 1.5 feet of amended soil.		



Brown AND Caldwell

City of Wilsonville
Project No: 156157

Wilsonville Stormwater Master Plan

Capital Project Summary

BC-5 - Memorial Park Swale Retrofit

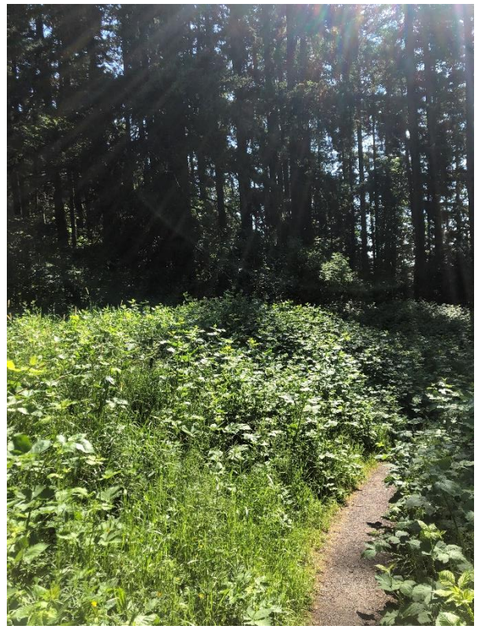
BC-5	Memorial Park Swale Retrofit	

Design Considerations / Assumptions	• Installation of the water quality bioswale is a water quality retrofit project, as the site is space constrained limiting the use of the BMP Sizing Tool for required facility sizing. Approx. size of the facility is 200 ft x 12 ft = 2,400 SF.
	  ○ Existing swale (to be removed) is estimated to be approx. 1,500 SF.
	• Soil infiltration rates are anticipated to be very low (0.02-0.07 in/hr based on USDA NRCS survey).
	• The maximum width of the swale is 12 feet.
	• Maximum side slopes of the swale are 3H:1V with a 2-foot minimum width flat bottom.
	• The maximum depth from growing media to overflow elevation is 1 foot.
	• Three feet of required media (12-inches of drain rock, 3-inches of open graded aggregate, and 18-inches of growing media minimum).
	  ○ Table 3.11 of the PWS notes that by increasing the growing media by 12 inches or more the facility surface area can be reduced by 25 percent.
	• A small portion of the facility resides within the FEMA 100-year floodplain. As this is not an infiltration site it does not require additional seasonal high groundwater testing.
	• Upsizing the 12-inch CSP (SD5046) with 18-inch PVC reduces the duration of modeled flooding at ST5000. Given the significant amount of vegetation and steep slopes in the area, full replacement of the alignment is not proposed.
	• Installation of a diversion manhole upstream of the swale may result in periodic surcharge of the swale that will overflow into the nearby creek.
	Standard Detail references:
	• Vegetated swale – filtration reference ST-6045.
	• Swale inflow spreader reference S-2225.
	• Planter, Rain Garden, Swale Flow Control Structure reference ST-6105.	

Estimated Project Cost	Capital Expense Total	$383,000
	Design / Construction Admin. (11%)	$42,000
	Engineering & Permitting (30%)	$115,000
	Total Cost	**$540,000**
Project Cost Notes	• Onsite fill from excavation of new swale to be stockpiled and used to fill existing swale footprint. • All existing conveyance piping and manholes to remain in place except for those identified for removal from the existing swale and replacement from manholes ST5000 to ST5208. • Project cost estimate assumes a single meandering, vegetated swale. Parallel vegetated swales may also be considered to increase capacity of the facility at this site. • Engineering and permitting estimate reflect in water work required for outfall installation.	

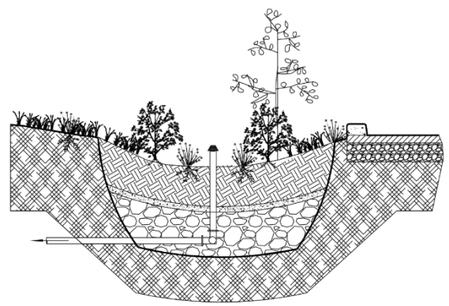
Additional Figures

Current water quality swale near SW Memorial Drive (Jan 2023)



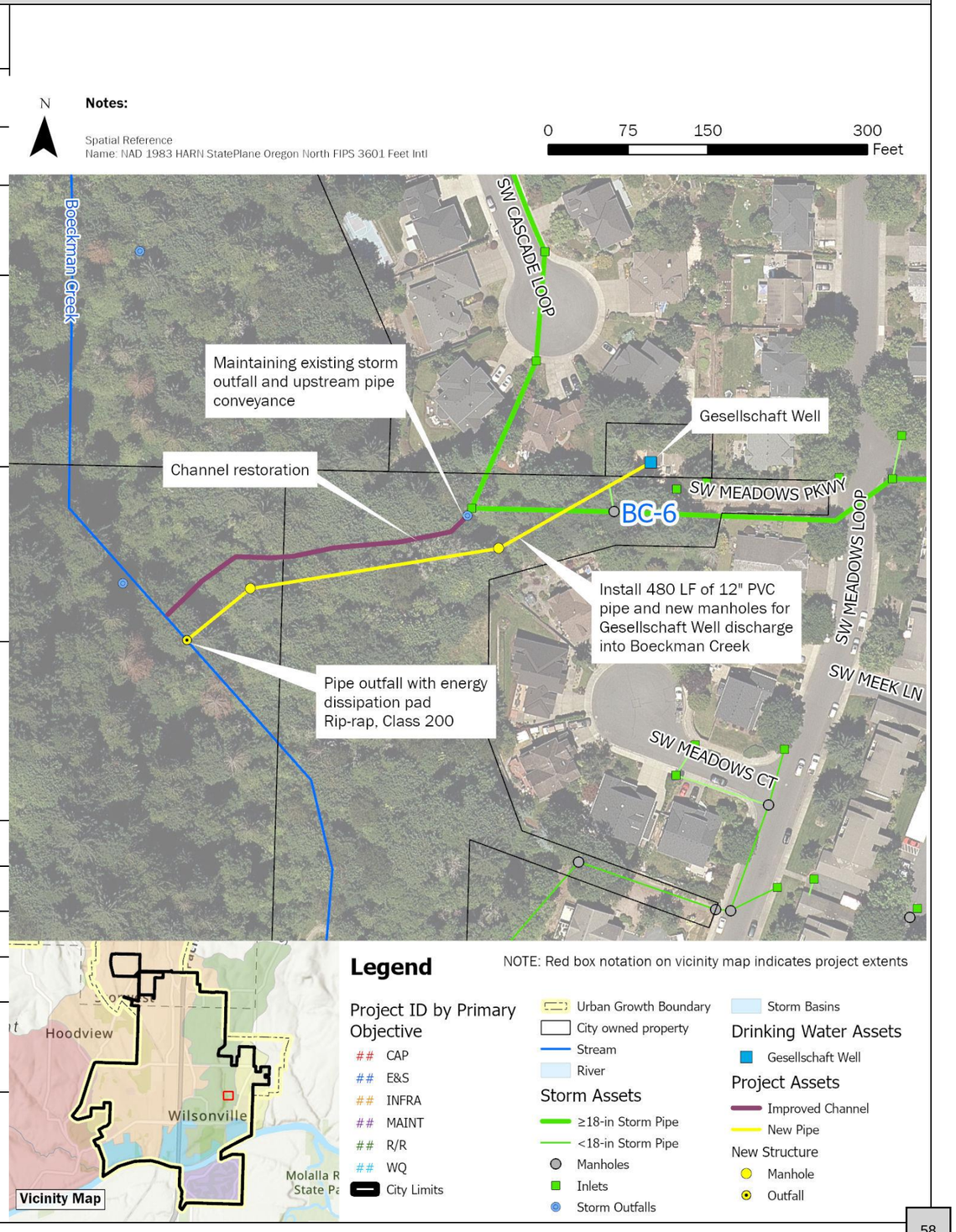
Water quality swale in the spring overgrown with invasive species (May 2023)

Open area along the creek to relocate the Memorial Park Swale (May 2023)



Vegetated Swale – Filtration (ST-6045)

BC-6	Gesellschaft Water Well Channel Restoration		
Project Objective(s)	Erosion/Sediment Control Maintenance		
Project Opportunity ID	41	**Contributing Drainage Area (acres)**	25 acres
Estimated Existing Impervious Area (%)	39.7%	**Estimated Future Impervious Area (%)**	39.9%
Project Location	This project is in the Boeckman Creek riparian area, near Wilsonville High School, at the Gesellschaft Well site (29001 SW Meadows Parkway). The area is directly west of SW Meadows Loop and bounded to the west by Boeckman Creek and SW Meadows Parkway to the north.		
Statement of Need	Weekly potable discharge from the Gesellschaft drinking water well and contributing stormwater runoff have caused severe erosion of the existing drainage channel to Boeckman Creek. The Gesellschaft well provides backup water supply and the City exercises the water well weekly to maintain quality and regulatory compliance. Under Capital Project #7054 (Fiscal Year 2015-2017) the City installed an asphalt apron and gabion boxes in three locations, but they have been undermined and are no longer effective at dissipating energy. The area is currently overgrown with blackberry brambles and inaccessible to conduct routine maintenance.		
Project Description	Project details are as follows: • Install approximately 480 LF of 12" PVC with 2 new MHs top pipe the weekly discharge from the well to the bottom of the slope into Boeckman Creek and bypass the existing drainage channel. • Install outfall and energy dissipation pad with Class 200 riprap. • Restore the eroded discharge channel (approximately 310 LF) through the installation of coir log check dams, coir matting, and re-vegetating with native trees and shrubs.		
Design Considerations / Assumptions	• Project need was identified in the 2012 SMP (BC-4). • Existing outfall (STD3008) and upstream stormwater pipes can remain as is for the contributing 25-acre drainage area. • The weekly discharge rate from the drinking water well is unknown. The pipe is sized based on the City's PWS and the smallest acceptable diameter for the public system. ODWR well logs were reviewed to verify pipe sizing. • Water discharge conveyance designed to comply with stormwater conveyance standards.		
Estimated Project Cost	Capital Expense Total	$219,000	
	Design / Construction Admin. (11%)	$24,000	
	Engineering & Permitting (30%)	$66,000	
	Total Cost	**$309,000**	
Project Cost Notes	• Connection to the well discharge point unknown and not included in cost estimate. • Channel restoration estimates are based on 2012 SMP and City staff feedback; the site was inaccessible during site visits.		



Brown AND Caldwell

City of Wilsonville
Project No: 156157

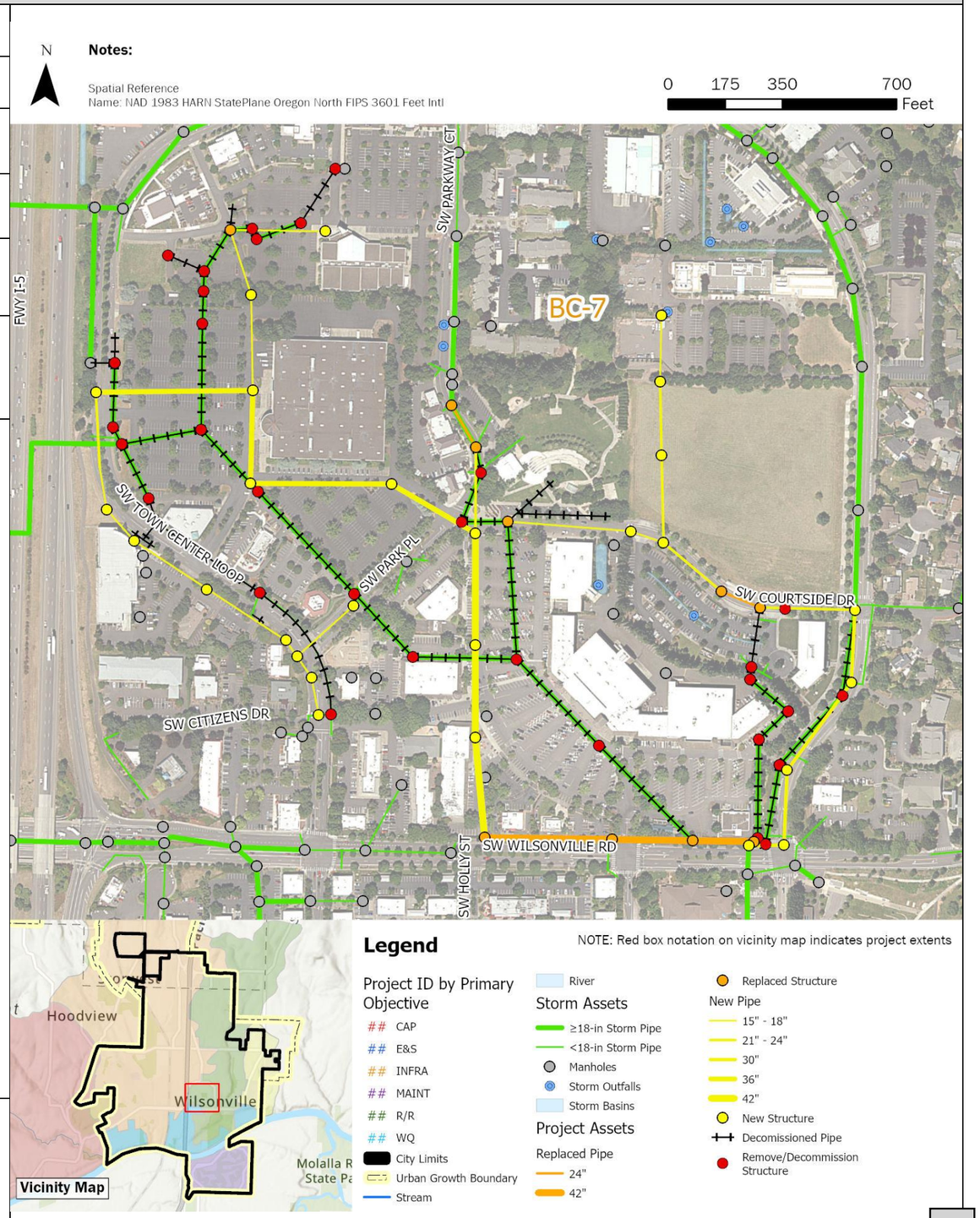
Wilsonville Stormwater Master Plan

Page 1 of 1

Capital Project Summary

BC-6 - Gesellschaft Water Well Channel Restoration

BC-7	Town Center Conveyance Pipe Installation		
Project Objective(s)	Infrastructure Need (New development)		
Project Opportunity ID	43		
Contributing Drainage Area	141 acres		
Estimated Existing Impervious Area (%)	43.6%	**Estimated Future Impervious Area (%)**	51.2%
Project Location	The project site is located in the Town Center Planning District of the City, bounded by Interstate-5 to the west, SW Town Center Loop to the north and east, and SW Wilsonville Road to the south.		
Statement of Need	The City adopted the City of Wilsonville Town Center Plan in 2019, which includes a conceptual public stormwater collection system layout. This project includes proposed stormwater pipe (trunk lines >15" diameter), manholes, and existing stormwater pipe and manhole decommissioning associated with this development plan.		
Project Description	This project reflects pipe and manhole installation and decommissioning/abandonment provided by the City from the 2019 Town Center Development Plan. Project details are as follows: • Decommission approx. 7,670 LF (1.45 miles) of existing pipe between 12-42 inches: ○ 150 LF of 12-inch; 690 LF of 15-inch; 20 LF of 18-inch; 670 LF of 21-inch; 1,020 LF of 24-inch; 2,060 LF of 30-inch; 2,600 LF of 36-inch; and 460 LF of 42-inch. ○ Decommission 33 manholes associated with decommissioned pipe. • Replace approx. 1,130 LF (0.21 miles) of existing pipe (ENG IDs provided in parenthesis when applicable): ○ Replace 150 LF of 24-inch DI with PVC (ST3410 to ST3409). ○ Upsize 130 LF of 15-inch PVC with 24-inch PVC (ST3485 to ST3484). ○ Upsize 390 LF of 18-inch RCP with 42-inch PVC (PST3407 to ST3493). ○ Upsize 250 LF of 24-inch RPC with 42-inch PVC (ST3493 to ST3402). ○ Replace 210 LF of 42-inch RCP with PVC. (ST3402 to ST3400). ○ Replace 10 manholes with: two 48" MHs (ST3453 and ST3406), four 60" MHs (ST3410, ST3409, ST3485, and ST3484), and four 72" MHs (ST3401, PST3407, ST3493, and ST3402). • Install approx. 7,625 LF (1.45 miles) of new 15- to 42-inch PVC pipe: ○ Install 1,150 LF of 15-inch PVC. ○ Install 1,640 LF of 18-inch PVC. ○ Install 230 LF of 21-inch PVC. ○ Install 1,280 LF of 24-inch PVC. ○ Install 890 LF of 30-inch PVC. ○ Install 1,500 LF of 36-inch PVC. ○ Install 935 LF of 42-inch PVC. ○ Install 27 manholes with twelve 48" MHs, eight 60" MHs, and seven 72" MHs.		

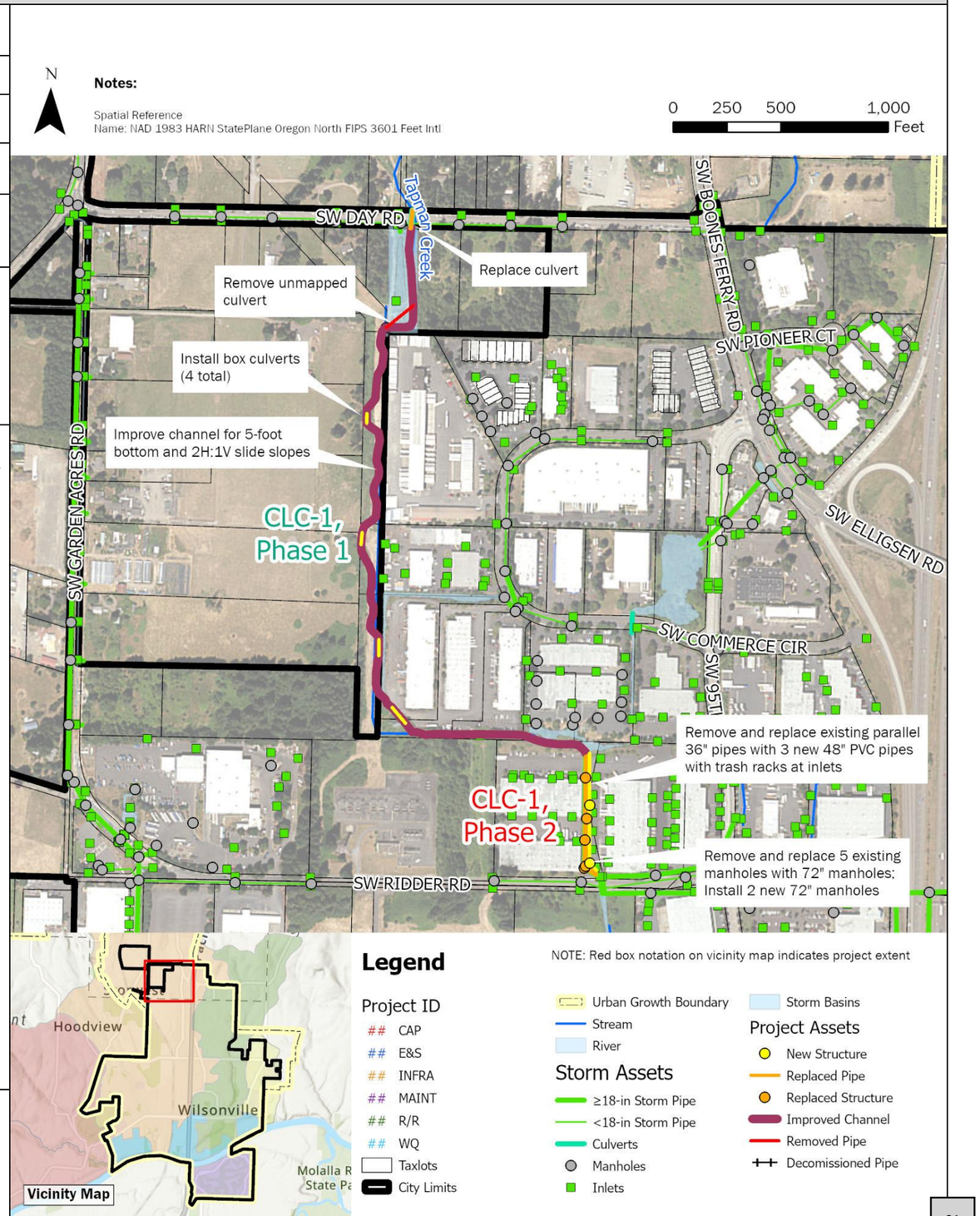


BC-7	Town Center Conveyance Pipe Installation	
Design Considerations / Assumptions	• Installation is assumed to be phased in conjunction with development activities. • Decommissioned pipe and structures will be abandoned in place to continue use as the phased development is built-out. • When feasible, pipes and manholes were designated for replacement instead of removal and new installation. • Pipe estimates only include pipe 15-inches and greater in diameter. • Conveyance system sizing was provided by the City and was not modeled in InfoSWMM. • If GIS attribute information was missing per the Town Center Development Plan, the pipe diameter from the nearest connected pipe was used to estimate pipe diameters and lengths.	
Estimated Project Cost	Capital Expense Total	$9,284,000
	Design / Construction Admin. (11%)	$1,021,000
	Engineering & Permitting (Cap)	$500,000
	Total Cost	**$10,805,000**
Project Cost Notes	• Cost estimates assume use of PVC for all new and replacement pipe materials. • Project cost assume pipe installations will all occur in roadways, and pavement restoration and trenching are assumed in the pipe unit costs. • All decommissioned/abandoned assets are to remain in place and be filled with grout. • No earthwork beyond trenchwork is included. • A cap on engineering and permitting and surveying was applied.	

Additional Figures

Town Center Plan – Phase 3, Full Buildout (2019)

CLC-1	Day Road Stormwater Improvements		
Project Objective(s)	Repair and Replacement Capacity		
Project Opportunity ID	9		
Contributing Drainage Area	944 acres		
Estimated Existing Impervious Area (%)	30.4%	**Estimated Future Impervious Area (%)**	49.1%
Project Location	This project is in an industrial area south of Day Road and north of Ridder Road. The project extents run along the Bonneville Power Authority (BPA) easement before crossing the parking lot of industrial Tax Lot 500.		
Statement of Need	Stormwater conveyance between Day Road and Ridder Road includes a series of culverts and open channels and is limited in capacity and storage potential. Portions of the channel have a negative slope. Flooding is routinely observed at adjacent properties. Development in the Tapman Creek basin may increase the frequency and severity of flooding. In 2019, AKS prepared a facility siting alternatives report, which included design concepts to alleviate existing flooding, but future development conditions were not evaluated.		
Project Description	This project includes a phased approach to mitigate flooding of adjacent industrial properties. Phase 1 includes construction of the channel improvements and culvert installation consistent with AKS' Alt A-3 per the 2019 report. Phase 2 includes upsizing the two existing 36-inch parallel pipes to 48-inch beneath the parking lot of Tax Lot 500 and installing a third, parallel 48-inch pipe to reduce modeled flooding expected in the future development condition. Project details are as follows: Phase 1 - refer to Alt A-3 of the AKS report for full details. • Regrade and reconstruct approx. 4,500 feet of open channel to eliminate negative slope. The resulting channel shall be approximately 5-foot wide (bottom width) ranging from 1-foot to 6-feet deep. The channel widens at elevation 223.0 to create a floodplain. Side slopes are designed at 2H:1V. • Construct a structural earth wall at bends in the channel and along the east-west portion of the alignment, as specified in the AKS report. • Install 200 LF of open-bottom or box culverts (4 culverts total) to provide access to the existing BPA utility poles while also maximizing conveyance. • Remove the unmapped, 50-foot existing culvert at the northwest corner of the northernmost industrial property south of Day Road. • Install approx. 190 LF of two barrel, 36-inch diameter PVC culverts at Day Road. Phase 2 • Remove and replace the two existing approx. 600 LF, 36-inch parallel storm pipes located beneath the parking lot of Tax Lot 500 with approx. 600 LF of 48-inch PVC storm pipe. • Remove and replace five existing manholes along existing pipes with 72-inch manholes. • Install a third 600 LF of 48-inch PVC storm pipe parallel to the upsized pipes. • Construct two new 72-inch manholes on the new 48" pipe alignment. • Construct trash racks at the inlet at each of the three new pipes.		



CLC-1 Day Road Stormwater Improvements

Design Considerations / Assumptions

- The AKS project concept was modeled and incorporated into the updated InfoSWMM model for this SMP, which reflects updated hydrology.
- Model results indicate that the proposed concept alleviates flooding in the existing land use condition. Future land use conditions assume unmitigated flow from new/ redevelopment. Modeled flooding is still predicted in the future land use condition, but adherence to PWS requiring onsite retention should reduce future flows to this area.
- Assessment of flooding during the 100-year storm was based on maximum WSE in relation to the elevation of adjacent structures.
- PWS design criteria for culverts (using the 100-year storm) is met at both Day Road and Ridder Road. The criteria are not met under future (unmitigated) land use condition.
- The catchment area draining to this project includes areas outside of City limits within the City of Tualatin. Application of local design standards in Tualatin may impact future flow conditions to this location.
- Access to BPA alignment, towers, and overhead power lines must be maintained.
- The small pond at inlet of culverts across Ridder Road is assumed landscape features, not detention and were not modeled - it is assumed that there is adequate space for outlets of the three proposed 48" pipes to this pond.

Estimated Project Cost

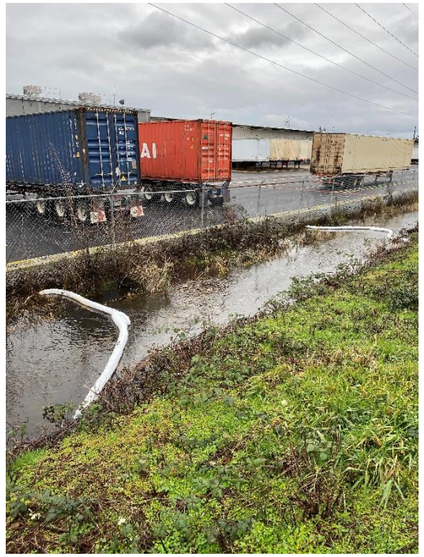
	Phase 1	*Phase 2*
Capital Expense Total	$3,734,000	$2,220,000
Design / Construction Admin. (11%)	$411,000	$244,000
Engineering & Permitting (Cap)	$500,000	$500,000
Total Cost	**$4,645,000**	**$2,964,000**

Project Cost Notes

- Where possible, quantities for project components listed in the 2019 AKS report were verified and maintained. Costs are calculated based on the unit costs developed for this SMP. Unit costs for items derived directly from the 2019 AKS report were escalated to 2023 based on ENR CCI.
- Multipliers were applied as consistent with other capital projects. Lump sum costs used in the AKS estimate were not carried over.
- The AKS cost estimate did not include costs for Design/Construction Admin or Engineering/Permitting. These multipliers have been included for consistency with other capital project estimates.
- Project concept and cost estimates were initially developed by AKS (30% design drawings are complete). A cap on engineering and permitting was applied.

Additional Figures

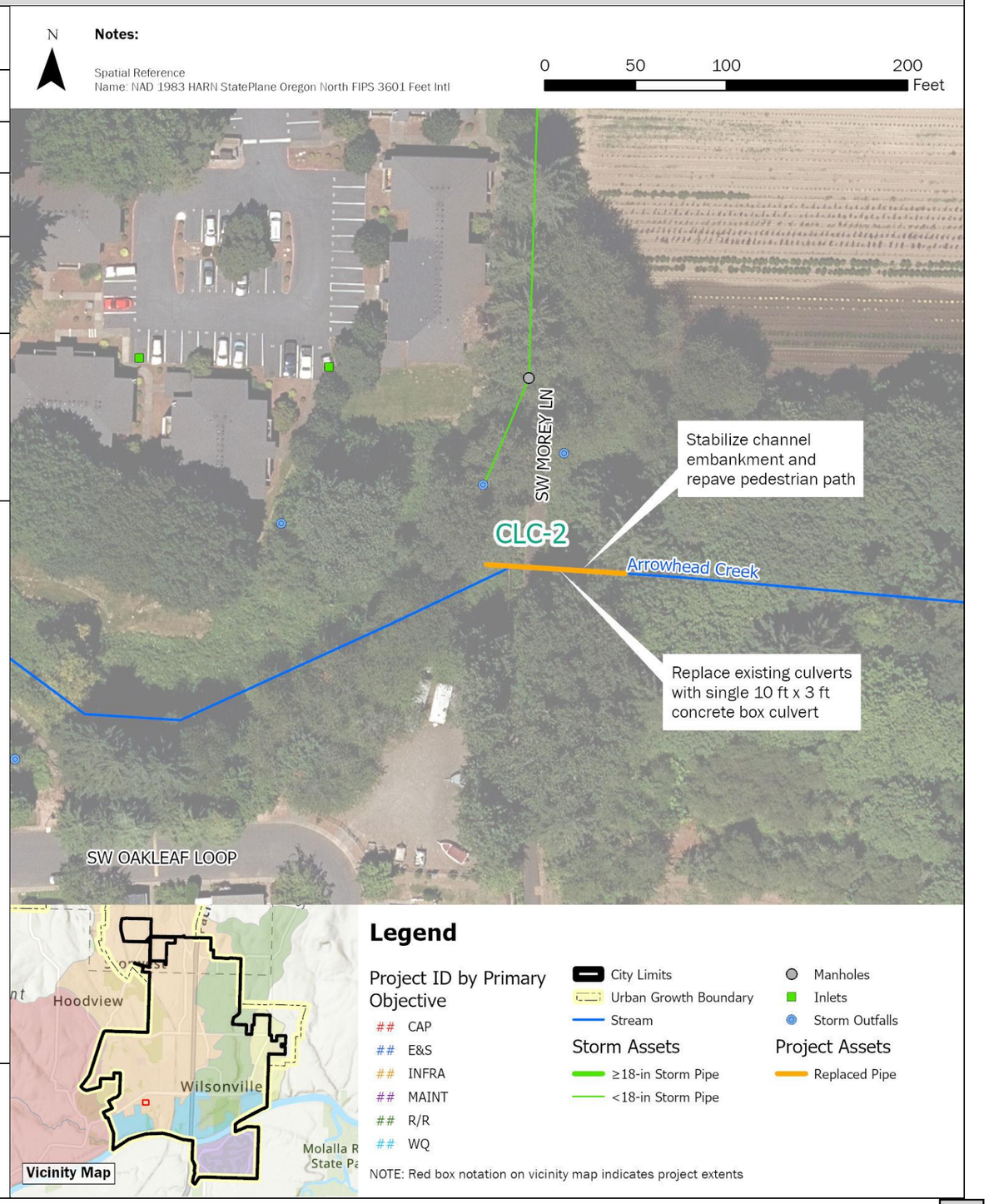
Ponding north of Day Road (Jan 2022)



Conveyance channel south of Day Road (Jan 2022)

Conveyance channel and impoundment south of Day Road after storm (Jan 2022)

CLC-2	Arrowhead Creek Culvert Replacement at Arrowhead Creek Trail		
Project Objective(s)	Repair/Replacement Maintenance		
Project Opportunity ID	14		
Contributing Drainage Area	421 acres		
Estimated Existing Impervious Area (%)	35.25	**Estimated Future Impervious Area (%)**	37.29
Project Location	This project is located at the Arrowhead Creek culvert crossings under the Arrowhead Creek Trail. SW Oakleaf Loop is directly to the south of the project location.		
Statement of Need	The two existing, parallel 5-foot x 5-foot concrete box culverts that convey Arrowhead Creek under the pedestrian path are failing and in need of replacement. The 2012 Stormwater Master Plan identified this location as a project need (CLC-9), and subsequent site visits, results and findings of the 2022 stream assessment conducted for this SMP, and conversations with City staff confirmed the need.		
Project Description	This project includes replacement of the existing parallel 5-foot x 5-foot concrete box culverts with new 10-foot by 3-foot concrete box culverts to address the failing culverts and stabilize the Arrowhead Creek channel and pedestrian trail's creek crossing. Project details are as follows: • Remove and replace approx. 70 LF existing double 5 ft x 5 ft concrete box culverts with a 10 ft x 3 ft concrete box culvert. • Install planting and bioengineered restoration/stabilization measures after replacement of the culvert to stabilize an area approximately 20 feet along the pedestrian path length and approximately 50 feet upstream and downstream of the crossing. • Repave approx. 30 LF of the approx. 20-foot-wide pedestrian path after culvert replacement.		



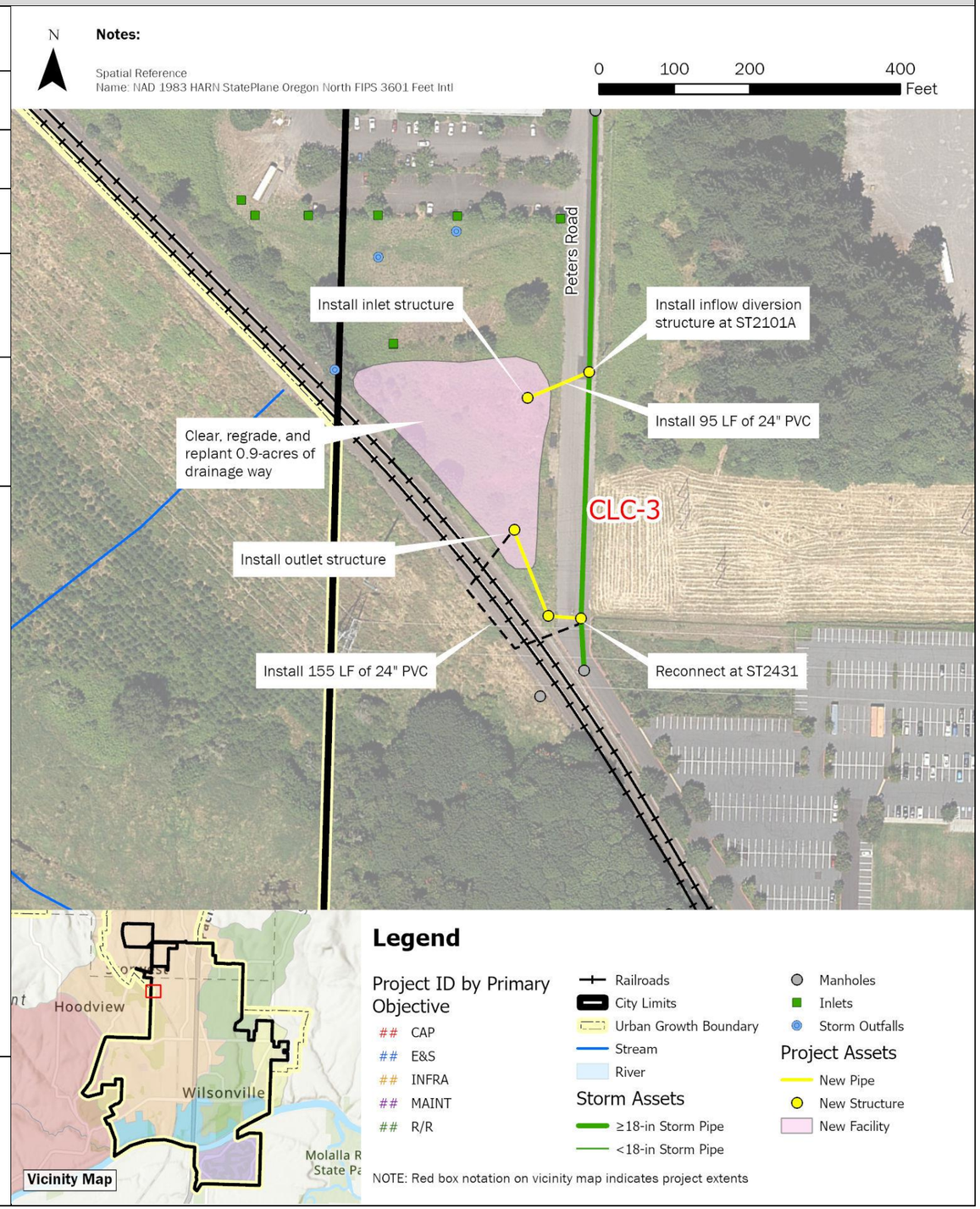
CLC-2	Arrowhead Creek Culvert Replacement at Arrowhead Creek Trail	
Design Considerations / Assumptions	• Model results indicate that a 10-foot x 3-foot concrete box culvert has sufficient capacity to convey the 100-year design storm flow in Arrowhead Creek without decreasing freeboard when compared to the current twin 5-foot x 5-foot culverts. • Culvert sizing to be confirmed with final design. • Assumes that access to the site for construction equipment can be obtained via the pedestrian path at Arrowhead Creek Lane. • Exact stabilization measures to be determined during project design. Stabilization measures may include targeted planting, bio-engineered solutions such as live stakes or fascines, and gabion walls if necessary. • Note that the City's GIS includes a 48" diameter culvert at this location, which is inconsistent with field observations from Stream Assessment conducted May 2022.	
Estimated Project Cost	Capital Expense Total	$161,000
	Design / Construction Admin. (11%)	$18,000
	Engineering & Permitting (30%)	$48,000
	Total Cost	**$227,000**
Project Cost Notes	• Assumes clearing/grubbing with stump removal in immediate areas as necessary for construction. • No costs included for access - assumed access can be attained through pedestrian path.	

Additional Figures

Failing twin 5 ft x 5 ft culverts under pedestrian crossing looking upstream

(Source: Geomorphic Stream Assessment, Waterways Consulting, May 2022)

CLC-3	Garden Acres Pond Retrofit		
Project Objective(s)	Capacity (Mitigation) Water Quality		
Project Opportunity ID	32		
Contributing Drainage Area	231 acres		
Estimated Existing Impervious Area (%)	34.1%	**Estimated Future Impervious Area (%)**	52.8%
Project Location	This project is located at an existing public pond in an industrial area along Peters Road. The area is bounded to the west by SW Graham's Ferry Rd, SW Day Road to the north, SW 95th Ave to the east, and the Coffee Lake Wetlands to the south.		
Statement of Need	The stormwater collection system along Peters Road is undersized with several pipe constrictions limiting flow upstream of the railroad crossing. Future development is anticipated to increase runoff to the system. Options to upsize the collection system at the railroad crossing are limited due to required coordination with the railroad and METRO.		
Project Description	This project entails the retrofit of an existing public pond, located in a greenfield east of Peters Road, to provide additional storage of stormwater during high flow events. Retrofit of the pond includes increasing its current storage capacity from 13,200 to 39,000 cubic feet. Stormwater will be diverted towards the pond to reduce flow through undersized storm piping along Peters Road. Rerouted flow from the pond will reconnect to the main network prior to discharge in Coffee Lake Wetlands. Project details are as follows: • Install a flow diversion structure at Peters Road (ST2101A). • Install 95 LF of 24-inch PVC pipe from Peters Road to the inlet of the detention pond. • Increase existing detention pond capacity by 25,600 cubic feet and lower pond bottom invert to an elevation of 196-ft. • Clear, regrade, and replant 0.9-acres of pond footprint area. • Install an outlet control structure within the detention pond. • Install 155 LF of 24-inch diameter PVC pipe from the detention pond to the stormwater conveyance system on Peters Road (ST2431).		



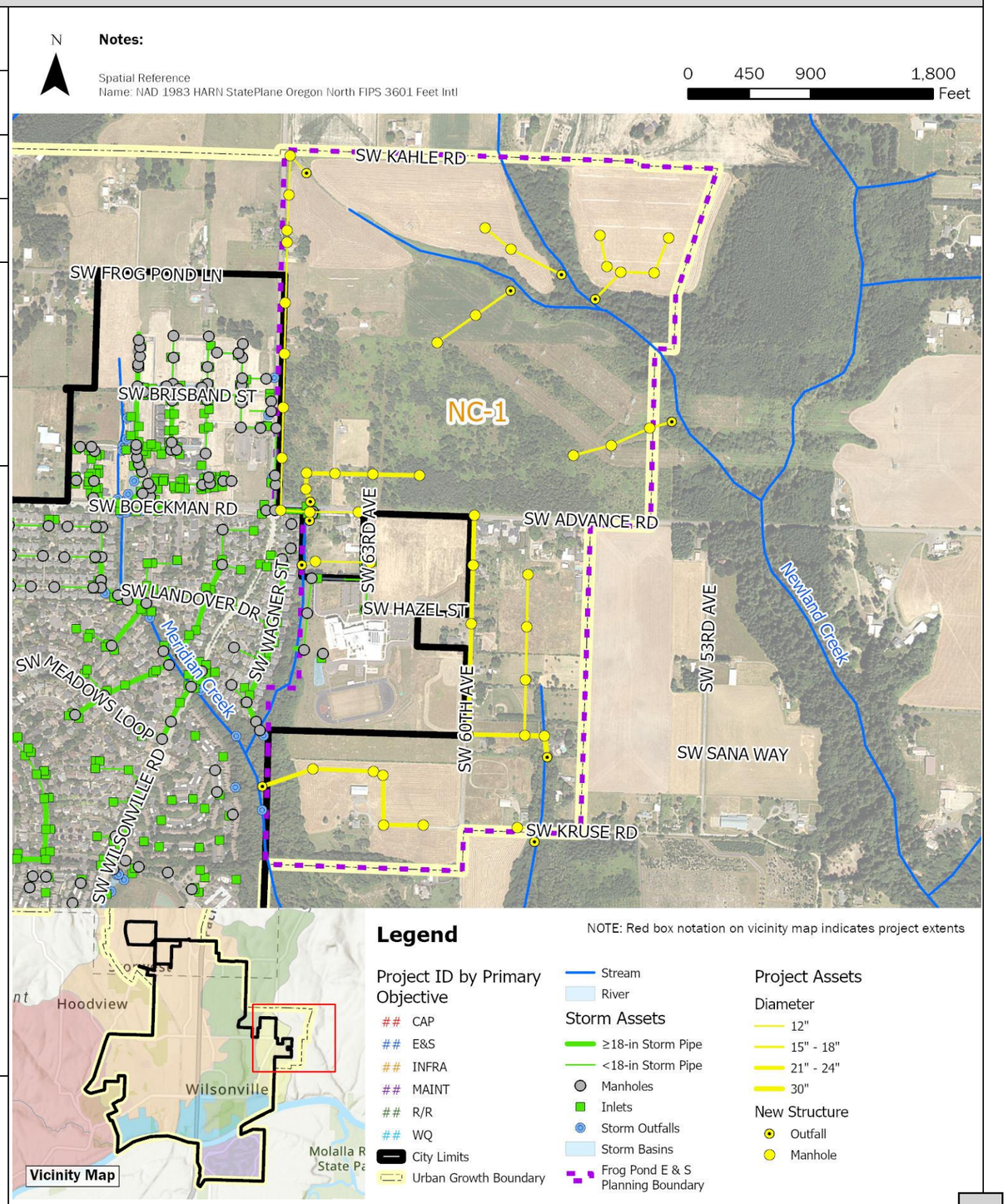
CLC-3	Garden Acres Pond Retrofit	
Design Considerations / Assumptions	• As-builts were received for the existing public pond and existing storage volume estimated from the as-builts. • All proposed improvements are within the public pond boundaries. Property lines to be verified by survey. • This project is intended to alleviate modeled flooding of the Peters Road system under current land use conditions; however, future development conditions may still result in flooding along Peters Road and SW Garden Acres Road. Future development will be required to adhere to current stormwater design standards and retain/mitigate flow to pre-development conditions. • H/H modeling was used to confirm the flow diversion structure configuration and pond operation up to the 25-year storm event. The proposed design incorporates an emergency spillway to the railroad ditch for higher storm events.	
Estimated Project Cost	Capital Expense Total	$808,000
	Design / Construction Admin. (11%)	$89,000
	Engineering & Permitting (20%)	$161,000
	Total Cost	**$1,058,000**
Project Cost Notes	• The proposed detention facility footprint is approximately 39,200 square feet. Earthwork estimates assume additional excavation of 25,600 cubic feet to provide the required storage. • Final design will include confirmation of vegetation enhancement and structure sizing.	

Additional Figures

Garden Acres Pond Existing Inflow Pipe (May 2023)

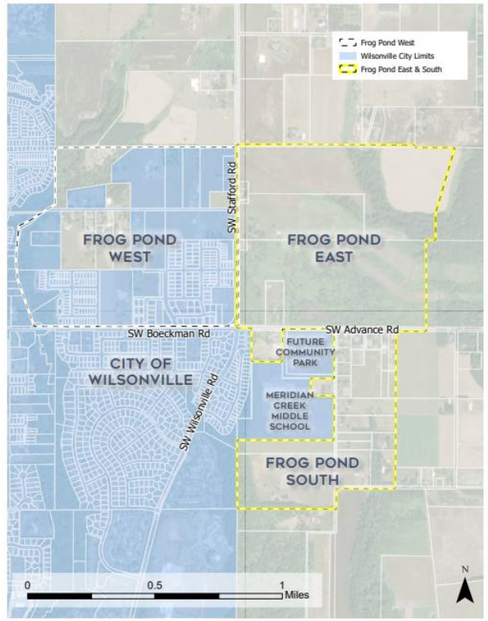
Garden Acres Detention Pond (May 2023)

NC-1	Frog Pond East and South Conveyance Piping		
Project Objective(s)	Infrastructure Need (New Development)		
Project Opportunity ID	44		
Contributing Drainage Area (acres)	305 acres		
Estimated Existing Impervious Area (%)	12.1%	**Estimated Future Impervious Area (%)**	57.0%
Project Location	This project is located east of Stafford Road and the Frog Pond West development area in Wilsonville, outside of the current city limits and UGB. This future planning area is bounded to the west by SW Stafford Road and bisected into east and south by SW Advance Road.		
Statement of Need	The Frog Pond East and South Master Plan (2022) identified stormwater improvements required for development of the Frog Pond East and South neighborhoods.		
Project Description	This project reflects pipe and manhole installation associated with main lines identified in the Frog Pond East and South Master Plan (2022). Project details are as follows: • Install 3,980 LF of 12-inch PVC pipe. • Install 11,360 LF of 18-inch PVC pipe. • Install 4,260 LF of 24-inch PVC pipe. • Install 310 LF of 30-inch PVC pipe. • Install 11 outfalls. • Install 29 48-inch manholes. • Install 10 60-inch manholes.		

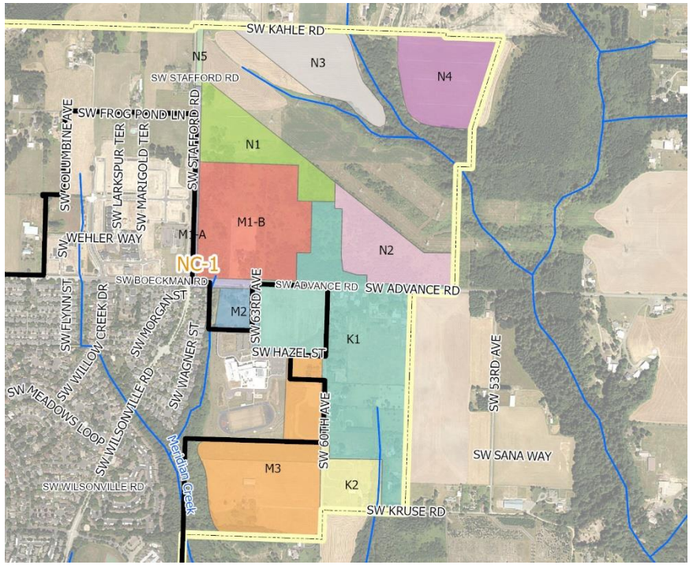


NC-1	Frog Pond E and S Conveyance Piping	
Design Considerations / Assumptions	• Infrastructure sizing is based on recommendations in the Frog Pond East and South Master Plan (Dec 2022). No additional modeling was performed using InfoSWMM per this SMP for this area. • The Frog Pond East and South Master Plan divides the planning area into 11 basins. The breakdown of proposed infrastructure to install by basin is detailed below: ○ **K1**: 1,200 LF of 18-inch PVC pipe, 2,050 LF of 24-inch PVC pipe, and 310 LF of 30-inch PVC pipe; two 48-inch manholes, and 1 outfall. ○ **K2**: 220 LF of 12-inch PVC pipe, two 48-inch manholes, and 1 outfall. ○ **M1-A**: 2,630 LF of 12-inch PVC pipe, eight 48-inch manholes, and 1 outfall. ○ **M1-B**: 1,050 LF of 24-inch PVC pipe, five 60-inch manholes, and 1 outfall. ○ **M2**: 400 LF of 12-inch PVC pipe, two 48-inch manholes, and 1 outfall. ○ **M3**: 1,160 LF of 24-inch PVC pipe, five 60-inch manholes, and 1 outfall. ○ **N1**: 670 LF of 18-inch PVC pipe, two 48-inch manholes, and 1 outfall. ○ **N2**: 7,670 LF of 18-inch PVC pipe, three 48-inch manholes, and 1 outfall. ○ **N3**: 670 LF of 18-inch PVC pipe, two 48-inch manholes, and 1 outfall. ○ **N4**: 1,150 LF of 18-inch PVC pipe, five 48-inch manholes, and 1 outfall. ○ **N5**: 730 LF of 12-inch PVC pipe, three 48-inch manholes, and 1 outfall. • Proposed public LID and water quality treatment facilities have not been costed as part of this project, given development-driven installation needs. • Future stream assessments in conjunction with planning-related capital projects will be conducted in the area to evaluate natural system prior to and during development activities.	
Estimated Project Cost	Capital Expense Total	$17,325,000
	Design / Construction Admin. (11%)	$1,906,000
	Engineering & Permitting (Cap)	$500,000
	Total Cost	**$19,731,000**
Project Cost Notes	• Cost estimates assume use of PVC for all new pipe materials. • Project cost assumes pipe installation will occur in roadways. Pavement restoration and trenching are assumed in the pipe unit costs. • No earthwork beyond trenchwork is included. • Only stormwater pipes greater than 12-in in diameter are included in the project estimate. • Regional stormwater storage facilities and low impact development (LID) facilities are not included in this project estimate. • A cap on engineering and permitting and survey was applied.	

Additional Figures

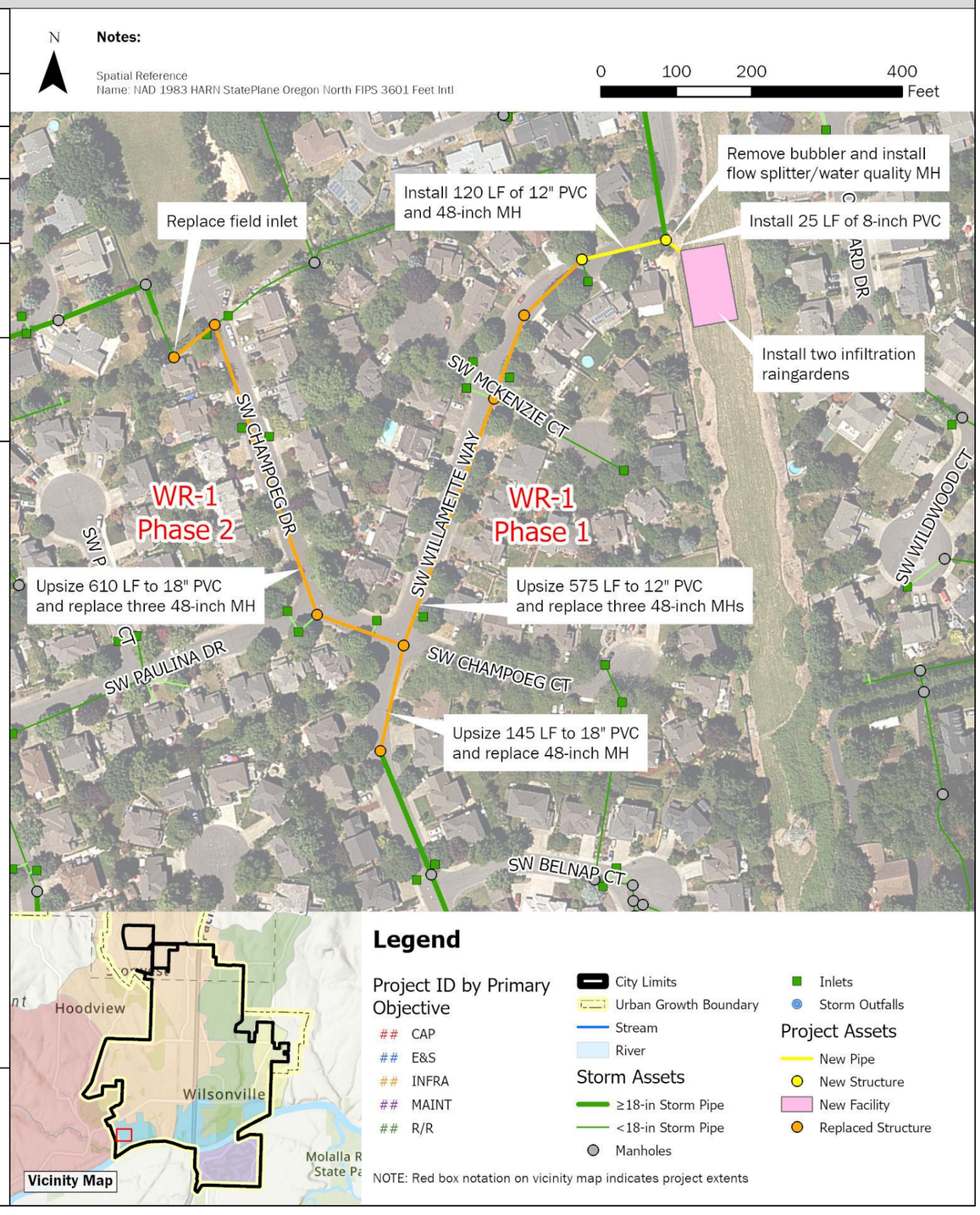


Frog Pond East & South Master Plan Areas from Master Plan (Dec 2022)



Frog Pond East & South Basins from Master Plan (Dec 2022)

WR-1	SW Willamette Way / Morey's Landing Stormwater Improvements		
Project Objective(s)	Capacity (Mitigation) Water Quality		
Project Opportunity ID	1		
Contributing Drainage Area	46 acres		
Estimated Existing Impervious Area (%)	45.4%	**Estimated Future Impervious Area (%)**	46.3%
Project Location	This project is in a residential area near the Willamette River. The project area is located along SW Willamette Way and SW Champoeg Dr, approximately 1,200 feet north of the Belknap Outfall to the Willamette River.		
Statement of Need	The Morey's Landing Bubbler at SW Willamette Way results in local flooding and impacts to neighboring residential property during large rainfall events. Downstream capacity deficiencies were identified by H/H modeling, and current public storm drainage pipe sizes do not adhere to the City's PWS.		
Project Description	This project mitigates flooding by removing the existing bubbler structure (STD6604) and reroutes the water quality (1-inch/24 hr storm) flows to a nearby Bonneville Power Administration (BPA) easement, utilizing the Belknap Court Outfall to bypass high flow events. Water quality events will drain to two proposed infiltration raingardens constructed within the adjacent BPA easement. High flows will bypass to new 12-inch and 18-inch PVC pipes along SW Willamette Way, upstream of the Belknap Court Outfall. Additional capacity deficiencies will be addressed by upsizing pipes along SW Willamette Way and SW Champoeg Ct. Due to project complexity and size, this project is costed as two phases and numbered based on recommended sequencing. Project details by phase are as follows: Phase 1 (Morey's Landing Bubbler): • Remove existing Morey's Landing Bubbler (STD6604). • Clear, grade, and replant 0.12-acres to create two infiltration raingardens within the BPA easement. • Install a flow control diversion structure and 25 LF of 8-inch PVC to route water quality events (low flow) to new raingardens and high flow events to the Belknap Court outfall. • Install 120 LF of 12-inch PVC for flow exceeding the water quality event. • Upsize 575 LF of 10-inch CPS to 12-inch PVC (SD6629, SD6630, SD6632). • Upsize 145 LF of 10-inch CSP to 18-inch PVC (SD6638). • Install one 48-inch manhole and replace four 48-inch manholes (ST6618, ST6619, ST6606, and ST6605). Phase 2 (SW Champoeg Ct): • Upsize 610 LF of 12-inch CSP to 18-inch PVC on SW Champoeg Dr E (SD6634 – SD6637). • Replace three 48-inch manholes (ST6607, ST6608, and ST6609) and field inlet (6647).		



WR-1	SW Willamette Way / Morey's Landing Stormwater Improvements

Design Considerations / Assumptions

- This project is intended to mitigate stormwater overflow from an existing bubbler and increase capacity of downstream piped infrastructure to the Belknap Court outfall.
- The raingarden facilities (Phase 1) were sized as a water quality, filtration raingarden using the BMP Sizing Tool. Due to design constraints and lack of feasible outlet, this BMP may be constructed as an infiltration facility, pending infiltration testing.
- Pipe replacement/upsizing along SW Willamette Way is proposed to adhere to the minimize pipe size required for public infrastructure.
- The conveyance along SW Champoeg Ct (Phase 2) is identified as under capacity and will be upsized from existing 12-inch to 18-inch.
- H/H modeling was used to confirm the flow diversion structure configuration, which uses an 8-inch low flow pipe and weir to divert the water quality event to the raingarden and bypass high flows to the piped collection system.
- Coordination with BPA will be required to obtain easement for the raingarden facilities.

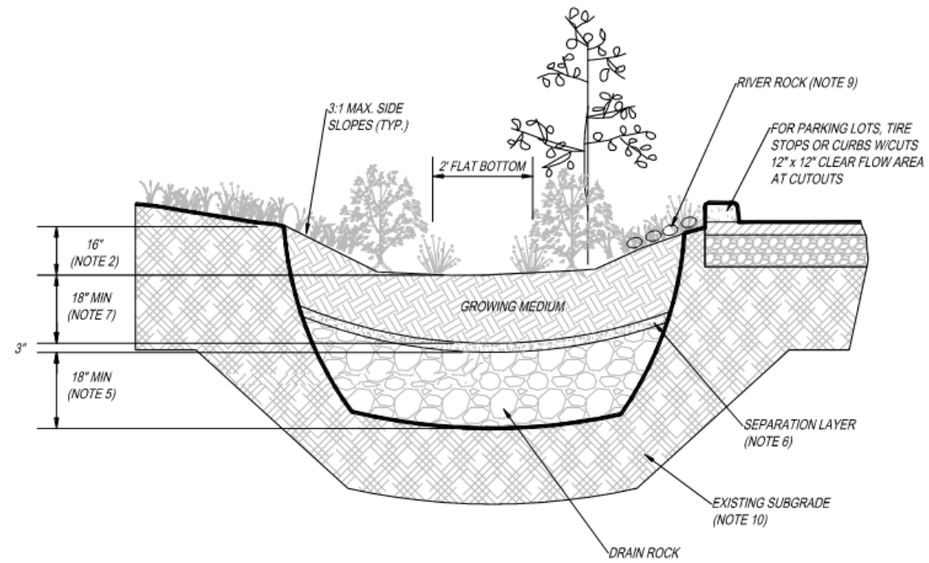
Estimated Project Cost

	Phase 1	*Phase 2*
Capital Expense Total	$ 1,127,000	$619,000
Design / Construction Admin. (11%)	$124,000	$68,000
Engineering & Permitting (20%)	$ 225,000	$124,000
Total Cost	**$1,476,000**	**$811,000**

Project Cost Notes

- The required raingarden facility footprint is approximately 5,800 square feet. Earthwork estimates assume 5 feet of over excavation to an elevation of 163-ft to accommodate the low flow pipe grade.
- Final design will include confirmation of vegetated facility plantings and structure sizing.

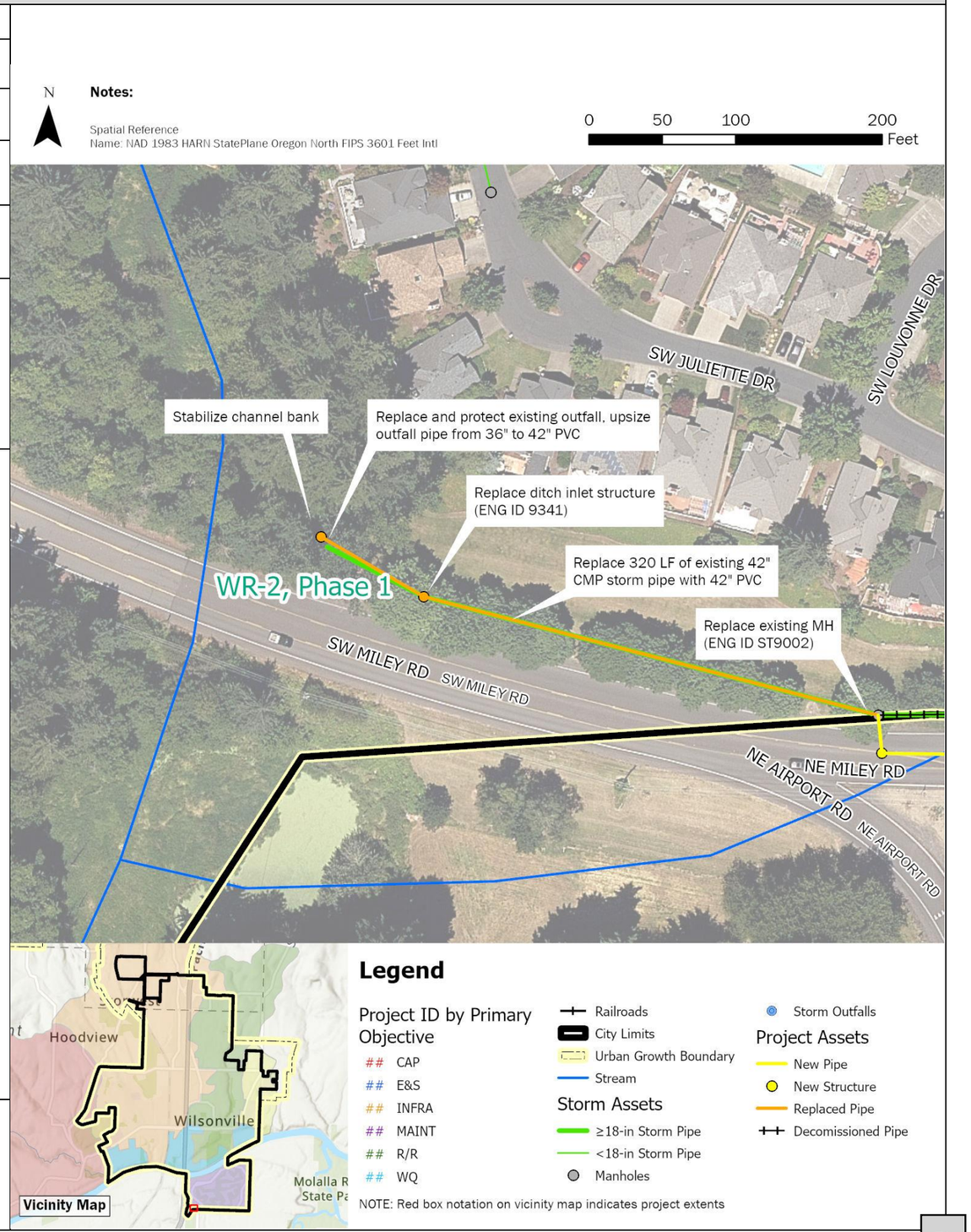
Additional Figures



BMP Sizing Tool Standard Detail – Infiltration Raingarden

Existing Bubbler Structure (May 2023)

WR-2	Miley Road Stormwater Improvements		
Project Objective(s)	Repair/Replace, Erosion/Sediment Control, Maintenance		
Project Opportunity ID	5		
Contributing Drainage Area	138.0 acres		
Estimated Existing Impervious Area (%)	46.1%	**Estimated Future Impervious Area (%)**	46.1%
Project Location	This project is located along Miley Road, from the outfall just north of SW Miley Road east approximately 1,200 feet from the corner of NE Miley Road and NE Eilers Road. Phase 1 of the project is located outside of the ROW. Phase 2 is located within the NE Miley Road ROW.		
Statement of Need	The Miley Road outfall is in poor condition with overgrown vegetation and difficult access. The outfall is causing scouring into the adjacent jurisdictional wetland. Further upstream, the existing storm main that runs parallel with Miley Road has collapsed due to age, pipe corrosion, and potential settling of a private brick wall installed along a portion of the alignment. The pipe failure has caused a sinkhole at the upstream (eastern) edge of the pipe alignment. Upstream capacity deficiencies were identified by H/H modeling. This location was identified in the 2012 SMP as CIP SD9000 to SD9069.		
Project Description	This project includes a phased approach to improve the stormwater system along Miley Road, which serves a significant portion of the Charbonneau development. Phase 1 includes replacement of the outfall and approximately 400 LF of pipe outside of the ROW. Phase 2 includes construction of a new pipe alignment in the Miley Road ROW to replace the failing storm pipe, and extension of the existing main connections to the new alignment. This new alignment includes upsizing of 650 LF of pipe from 24-inches to 36-inches to address capacity deficiencies in this area. Project details are as follows: Phase 1 • Upsize 80 LF of 36-inch CMP to 42inch PCV from area drain (ENG ID 9341) to outfall. • Restore approx. 30 ft of channel bank on either side of new outfall. • Replace area drain (ENG ID 9341). • Replace 320 LF of existing storm pipe with same diameter 42-inch PVC between area drain (ENG ID 9341) and manhole (ST9002). • Replace and lower invert of manhole (ST9002) to ensure 3 ft cover requirement is met for incoming pipe. Maintain 0.2 ft drop within MH. Phase 2 • Install 530 LF of 42-inch PVC from replaced manhole (ST9002) to new manhole at the near intersection with SW French Prairie Road. • Install three 72-inch manholes for the above 42-inch line, the most upstream of which is at the SW French Prairie Road. • Install ten 60-inch manholes and 3,015 LF of 36-inch PVC along NE Miley Road from SW French Prairie Road to new manhole adjacent to manhole ST9011. • Install two 48-inch manholes and 650 LF of 24-inch PVC from the new manhole adjacent to manhole ST9011 to the new manhole at upstream most lateral. • Extend six total existing main connections to the new pipe alignment (approx. 40 LF each, varying diameters). Note that these points of connection run under the existing brick wall. • Reconnect all existing curb inlets (approx. 13) along new NE Miley Road alignment.		



WR-2	Miley Road Stormwater Improvements

Design Considerations / Assumptions

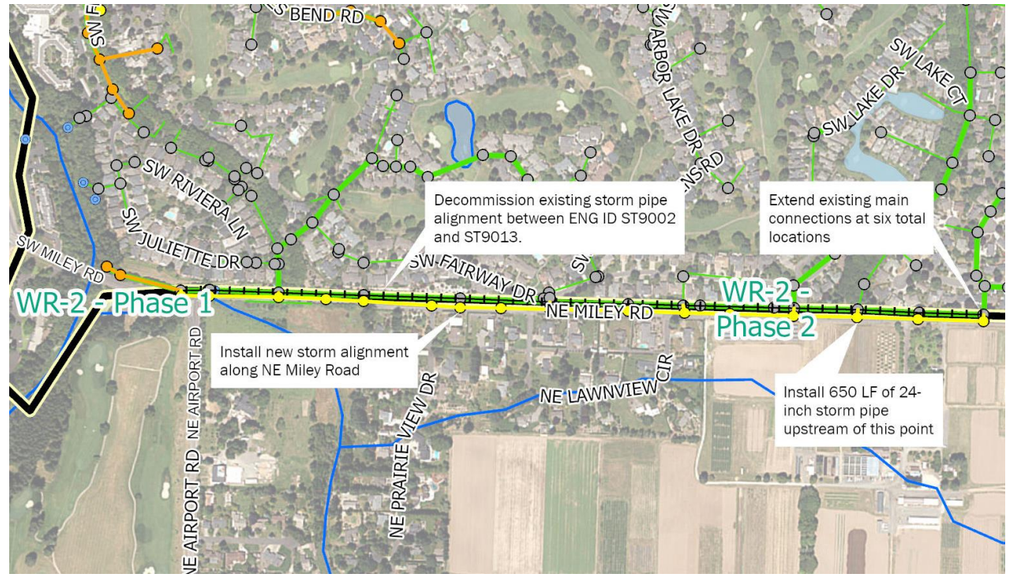
- Access to the outfall is assumed to be feasible without significant permitting requirements.
- Pipe sizing for the new alignment was conducted using changes to the existing pipe alignment, including the existing inverts, to confirm capacity. As such, capacity using inverts for the new pipe alignment should be confirmed during project design.
- Extending the connections to the existing alignment may require work underneath the private brick wall that stands on top of much of the existing alignment. Constructability considerations and trenchless methods should be investigated during design.
- Miley Road lies outside of Wilsonville City limits. Clackamas County requirements and permitting should be reviewed during project design.

Estimated Project Cost

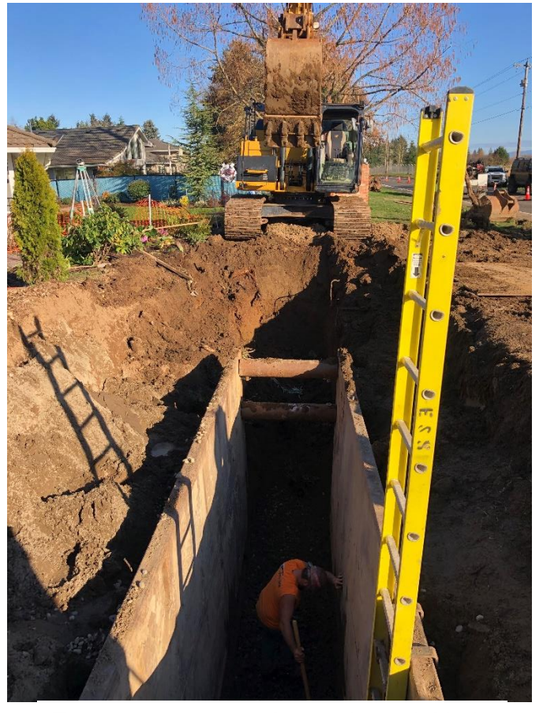
	Phase 1	*Phase 2*
Capital Expense Total	$469,000	$6,239,000
Design / Construction Admin. (11%)	$51,000	$686,000
Engineering & Permitting (30% or Cap.)	$141,000	$500,000
Total Cost	**$661,000**	**$7,425,000**

Project Cost Notes

- Costs have not been included for access requirements.
- Costs for connections to existing system under brick wall have been assumed based on the existing number of connections and associated pipe length only.
- Costs assume that existing pipe alignment (where not replaced, where moved to ROW) will be abandoned and filled with grout at key connection points.
- Replacement of inlets and laterals along Miley Road is not accounted for.
- Miley Road lies outside of Wilsonville City limits. An 8.83% multiplier has been applied to the project cost to account for Clackamas County permitting costs.
- Engineering and Permitting costs for Phase 2 have been capped at $500,000.

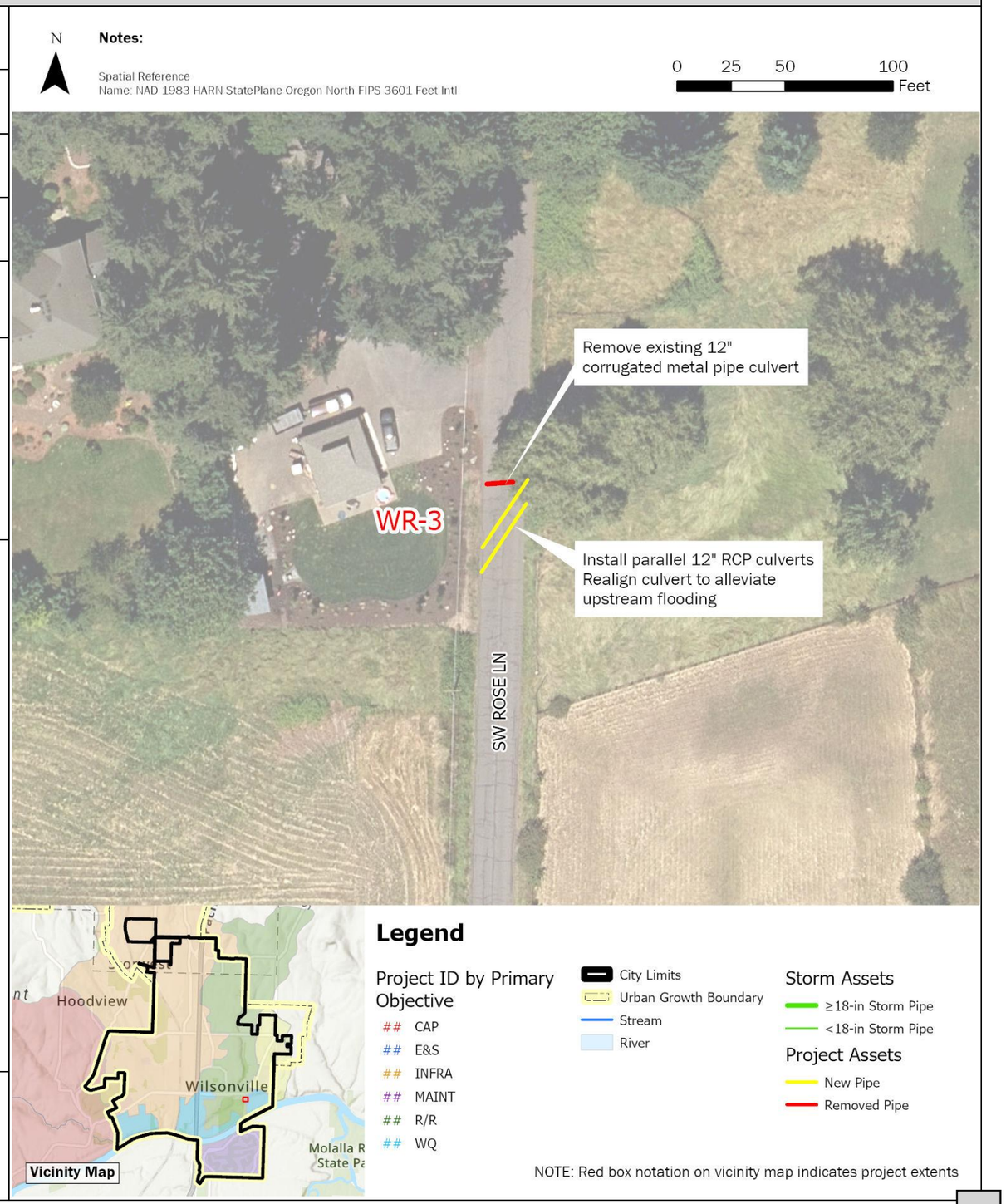


Sinkhole observed at upstream end of Miley Road alignment



Temporary construction work on sinkhole

WR-3	Rose Lane Culvert Replacement		
Project Objective(s)	Capacity Maintenance		
Project Opportunity ID	7		
Contributing Drainage Area	Approx. 14 acres (estimated as a portion of subbasin 5200)		
Estimated Existing Impervious Area (%)	21.6%	**Estimated Future Impervious Area (%)**	23.9%
Project Location	This project is located in the Boeckman Creek watershed, along SW Rose Lane between SW Wilsonville Road and SW Montgomery Way near tax lot 31W24A 03900.		
Statement of Need	The culvert under SW Rose Lane appears to be undersized, causing flooding on the road and neighboring private property on upstream side. This area is very flat with undefined drainage patterns. The existing culvert alignment is perpendicular to the upstream open channel alignment, which limits the ability to route/divert flow east. In addition, the roadway and associated culvert are located at a lower elevation than surrounding upstream or downstream property, causing water to collect and flood over the roadway. This project was originally identified as WD-2 in the 2012 SMP.		
Project Description	This project replaces an existing 12-inch corrugated metal pipe culvert under Rose Lane with realigned dual 12-inch RCP culverts to adequately convey flows. Project details are as follows: • Remove the existing 25 LF of 12-inch culvert (CARTE ID: 24370, ENG ID not available). • Install approximately 40 LF of parallel 12-inch RCP culverts. • Realign the existing culvert at a diagonal across the road so that the culvert outlet location remains the same, but the culvert inlet is at least 30 feet to the south (away from the residential structure). This will also help soften the hard bends in the system. • Reinforce stormwater conveyance around property near culvert to move water into ditch and avoid overland sheet flow and potential flooding.		

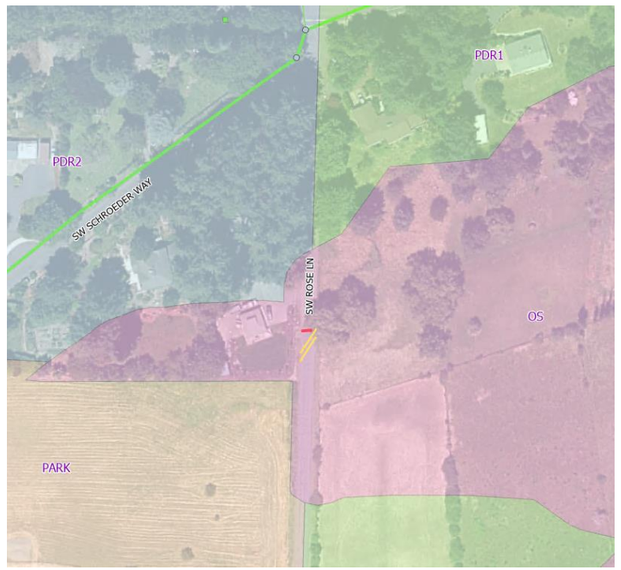


WR-3	Rose Lane Culvert Replacement	
Design Considerations / Assumptions	• Project was identified in the 2012 SMP (WD-2) with a proposed culvert sizing of 36-inches and roadway modifications. To avoid raising the roadway this project utilizes parallel 12-inch RCP culverts to convey flows under Rose Lane with the required amount of pipe cover. • Minimum 12-inch cover on top of culvert. • Surveying is required for this project as available topography displayed minor changes in elevation that may require additional grading of both the ditch and roadway. • Maximum allowable depth for roadside ditches is 2-feet. • Minimum separation distance between parallel storm sewers and other utilities is 5-feet measured from the edge of each pipe. • Waterbody is a seasonal stream with open marsh/wetlands on upstream and downstream sides. This channel and the culvert were not surveyed or reflected in the H/H modeling associated with this SMP. • Most future land use for the contributing area to this project location is designated as Parks and Open Space/Natural Area. However, some surrounding areas are anticipated to develop as Planned Development Residential (PDR1 and PDR2) that may influence stormwater runoff patterns to this project location in the future.	
Estimated Project Cost	Capital Expense Total	$72,000
	Design / Construction Admin. (11%)	$8,000
	Engineering & Permitting (20%)	$14,000
	Total Cost	**$94,000**
Project Cost Notes	• Modifications to the roadway beyond trenching were not developed as part of the cost estimate. • Surveying is required. • Clearing and grubbing 1,000 SF of vegetation on both sides of the road is included.	

Additional Figures

Upstream ditch along west side of Rose Lane (May 2023)

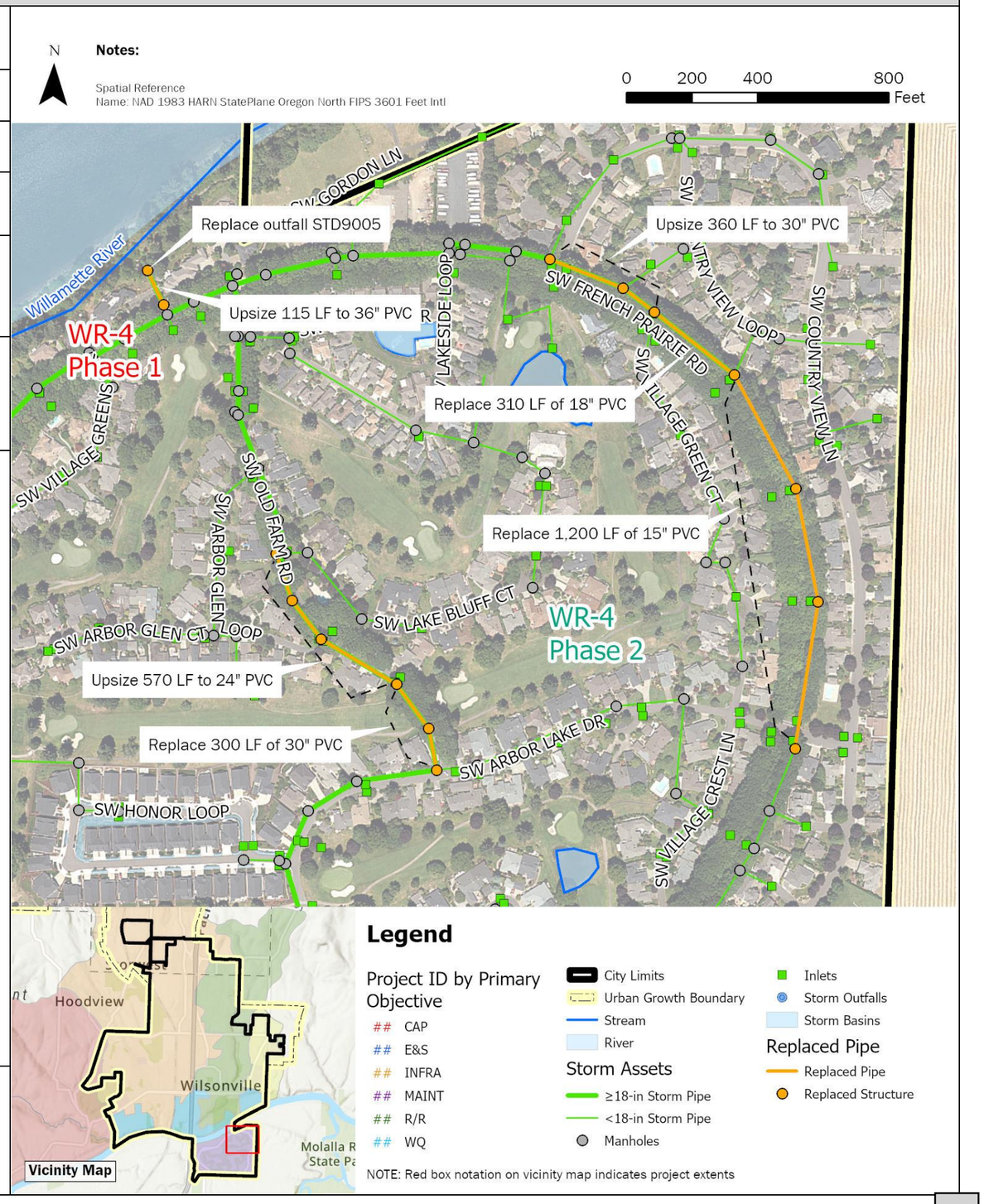
Culvert inlet under Rose Lane (May 2023)



Future Land Use Zoning around project area

Downstream of culvert, east side of Rose Lane (May 2023)

WR-4	Charbonneau East Stormwater Improvements		
Project Objective(s)	Capacity Repair and Replacement		
Project Opportunity ID	30		
Contributing Drainage Area	159 acres		
Estimated Existing Impervious Area (%)	43.1%	**Estimated Future Impervious Area (%)**	43.1%
Project Location	This project is located in the Charbonneau residential area near the Willamette River. The area is bounded to the west by Village Green Circle, the Willamette River to the north, SW Country View Lane to the east, and the SW Lake Drive to the south.		
Statement of Need	Charbonneau East reflects replacement and select upsizing of stormwater pipe and associated structures along SW French Prairie Rd and SW Old Farm Road. System upsizing and replacement was reflected in the 2012 SMP as well as the Charbonneau Consolidated Improvement Plan (2014).		
Project Description	This project mitigates modeled flooding along SW French Prairie Rd and/or SW Old Farm Rd by increasing the diameter of the outfall pipe discharging to the Willamette River (Phase 1). Select pipe upsizing (per modeled capacity limitations) and replacement (due to reported system condition issues) along SW French Prairie Rd and SW Old Farm Rd are reflected as Phase 2 of the project, subject to flow monitoring results. Due to project complexity and size, this project is costed as two phases and numbered based on recommended sequencing. Project details by phase are as follows: Phase 1 (Charbonneau East Outfall): • Remove and replace existing Charbonneau East Outfall (STD9005). • Upsize 115 LF of 30-inch pipe to 36-inch diameter PVC discharging to Willamette River (STD9005 to ST9014). Phase 2 (Storm Sewer Replacement): • Replace 1,200 LF of 15-inch pipe with 15-inch PVC on SW French Prairie Rd (ST9023 to ST9020). • Replace 310 LF of 18-inch pipe with 18-inch PVC on SW French Prairie Rd (ST9020 to ST9019). • Upsize 360 LF of 21-inch pipe to 30-inch PVC on SW French Prairie Rd (ST9019 to ST9017). • Replace 570 LF of 24-inch pipe with 24-inch PVC on Old Farm Rd (ST9030 to ST9027). • Replace 300 LF of 30-inch pipe with 30-inch PVC on Old Farm Rd (ST9031 to ST9030).		



WR-4	Charbonneau East Stormwater Improvements

Design Considerations / Assumptions

- This project mitigates projected flooding along SW French Prairie Rd and/or SW Old Farm Rd by increasing the diameter of the outfall pipe discharging to the Willamette River (Phase 1). Due to space limitations, above ground detention cannot be used to provide flow control. Additional configurations, including various inline detention along SW French Prairie Rd and/or SW Old Farm Rd, were explored as part of CIP development. Flow monitoring and model calibration in this area are recommended to confirm simulated flooding results and pipe upsizing needs.
- Portions of the stormwater conveyance along Old Farm Road and SW Prairie Road have been replaced in conjunction with the Charbonneau Consolidated Improvement Plan. These pipe segments include ST003 to ST9017 along SW French Prairie Road and ST9369 to ST9027 along Old Farm Road.
- Pipes indicated as upsizing needs (Phase 2) do not include replacement of recently replaced piping per modeled capacity needs. Pipes indicated as replacement are identified due to condition.
- Design and construction of CIP SD9030-9037 (Edgewater Drive E and French Prairie Road) per the 2012 SMP is in progress and not reflected in this project.
- Phase 2 sizing and overall need may be influenced by system conditions following implementation of Phase 1 of each project. Ongoing monitoring of site conditions should be considered prior to initiating work on Phase 2.

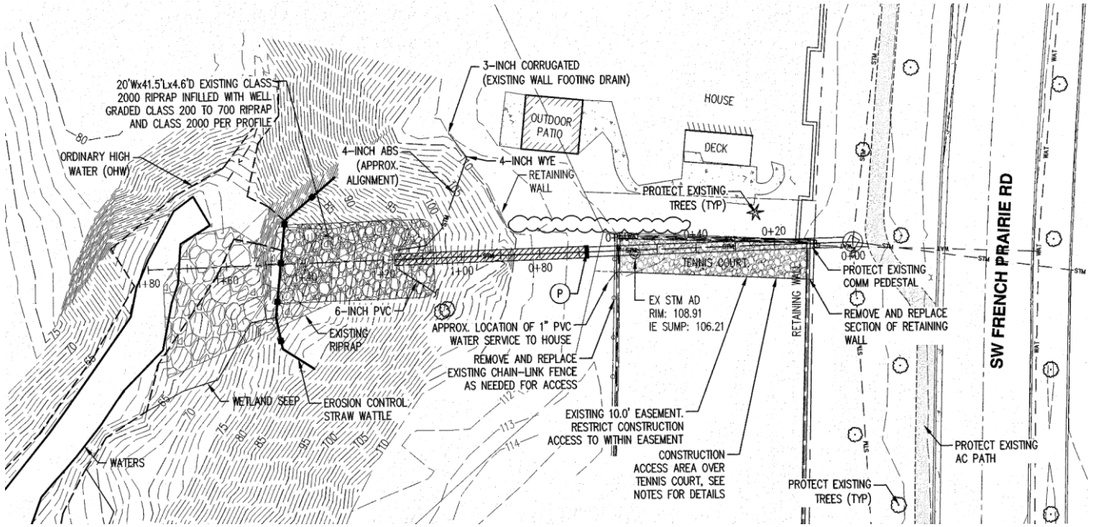
Estimated Project Cost

	Phase 1	*Phase 2*
Capital Expense Total	$ 164,000	$ 1,947,000
Design / Construction Admin. (11%)	$ 18,000	$ 214,000
Engineering & Permitting (30% for Phase 1; 20% for Phase 2)	$ 49,000	$ 390,000
Total Cost	**$ 231,000**	**$2,551,000**

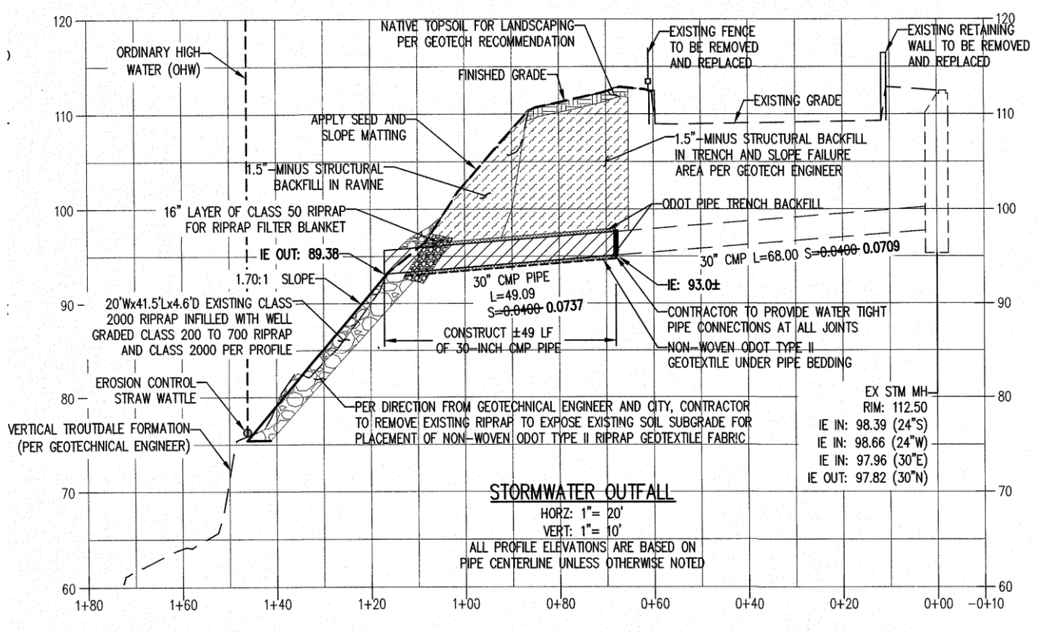
Project Cost Notes

- Due to in-water work, Phase 1 engineering and permitting multiplier was set to 30% versus 20%.
- Cost estimates use PVC for all new and replacement pipe materials.
- Project contingency increased to 50% for Phase 1 due to private property constraints.

Additional Figures



Outfall to Willamette River Emergency Replacement As-builts (Plan View, 2019)



Outfall to Willamette River Emergency Replacement As-builts (Profile View, 2019)

WR-5	Charbonneau West Stormwater Improvements		
Project Objective(s)	Repair and Replacement, Maintenance		
Project Opportunity ID	28	**Contributing Drainage Area (acres)**	54 acres
Estimated Existing Impervious Area (%)	46.5%	**Estimated Future Impervious Area (%)**	46.5%
Project Location	This project is located in the Charbonneau residential area near the Willamette River. The area is bounded to the west by Interstate 5, the Willamette River to the north, Charbonneau Golf Club to the east, and NE Miley Road to the south.		
Statement of Need	Charbonneau West reflects replacement of stormwater pipe and associated structures along SW French Prairie Rd. SW Curry Dr., and SW Boones Bend Rd. System replacement needs were reflected in the 2012 SMP as well as the Charbonneau Consolidated Improvement Plan (2014).		

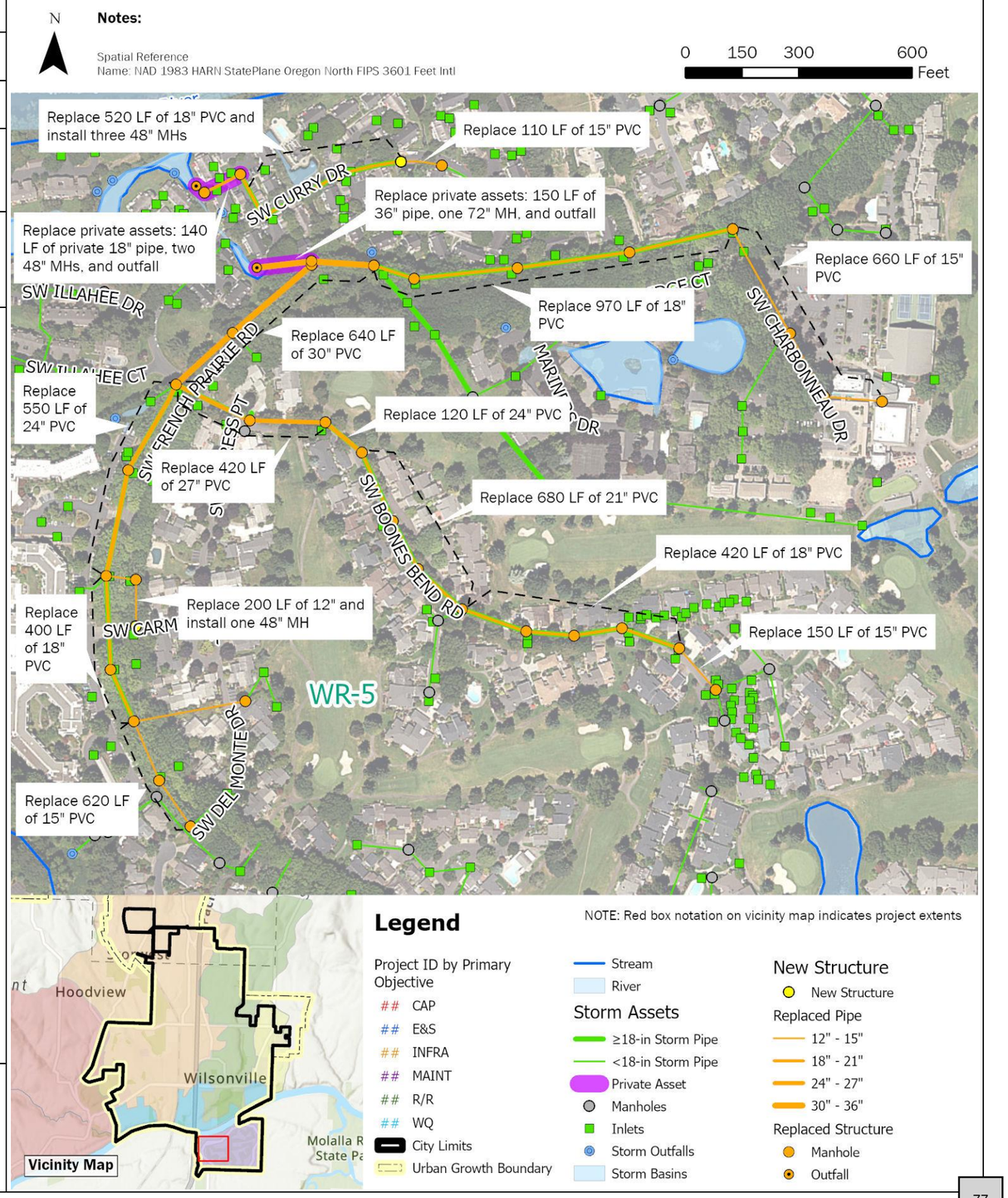
Project Description

This project replaces select public and private stormwater infrastructure throughout the Charbonneau West area, as identified in the Charbonneau Consolidated Improvement Plan. Private system improvements are specifically referenced on the figures and project details as identified per the City's GIS mapping.

Project details are as follows (ENG IDs provided in parentheses when applicable, CARTE ID provided when ENG ID is not available):

- Pipe replacement along SW Curry Drive:
  - Replace 110 LF of 15-in pipe with PVC (PST9012 to new manhole).
  - Replace 520 LF of 18-in pipe with PVC (new manhole to private manhole CARTE ID: 1892).
  - Replace 140 LF of 18-in private pipe with PVC (private manhole CARTE ID: 1892 to private outfall CARTE ID: 15).
  - Replace private outfall (CARTE ID: 15).
  - Replace two private 48-in manholes (CARTE ID 1892 and 1383).
  - Install three 48-inch manholes.
- Pipe replacement along SW French Prairie Road:
  - Replace 200 LF of 12-in pipe with PVC (ST9331 to ST9044)
  - Replace 1,280 LF of 15-in pipe with PVC (ST9048 to ST9046; ST9269 to ST9046; and ST9281 to ST9043).
  - Replace 1,370 LF of 18-in pipe with PVC (ST9046 to ST9044 and ST9043 to CARTE ID: 1859 – ENG ID unknown)
  - Replace 550 LF of 24-in pipe with PVC (ST9044 to ST9040).
  - Replace 640 LF of 30-in pipe with PVC (ST9040 to ST9067, ST9041 to ST9067, and unknown to ST9041).
  - Replace 20 LF of 36-in pipe with PVC (unknown to ST9067).
  - Replace 150 LF of private 36-in PVC pipe (ST9041 to private outfall – ID unknown).
  - Replace private outfall; install one 48-in manholes and replace 14 48-in manholes; replace four 60-in manholes; and replace two 72-in manholes.

Continued on page 2.



WR-5	Charbonneau West Stormwater Improvements	

Project Description (*continued*)	• Pipe replacement along SW Boone's Bend Road:
	  ○ Replace 150 LF of 15-in pipe with PVC (ST9059 to ST9058).
	  ○ Replace 420 LF of 18-in pipe with PVC (ST9058 to ST9055).
	  ○ Replace 680 LF of 21-in pipe with PVC (ST9055 to ST9051).
	  ○ Replace 120 LF of 24-in pipe with PVC (ST9051 to ST9050).
	  ○ Replace 420 LF of 27-in pipe with PVC (ST9050 to ST9040).
	  ○ Replace eight 48-in manholes; and replace three 60-in manholes.	

Design Considerations / Assumptions	• This project is summarized in conjunction with the Charbonneau Consolidated Improvement Plan 2014. Pipe segments greater than 12 inches in diameter and identified as Priority 1 or 2 in the Charbonneau Consolidated Improvement Plan were incorporated.
	• Pipes with unknown diameters were assumed to have the same diameter as the adjoined downstream pipe.
	• Manholes with unknown diameters were sized based on incoming and outgoing pipe diameters.
	• The following manholes (ENG IDs) are anticipated to be replaced in conjunction with pipe replacement:
	  ○ Twenty-five 48-in: ST9281 to ST9066, unknown (CARTE ID 1859), ST9059 to ST9052, ST9278 to ST9045, ST9269, ST9165, PST9012, two private manholes (CARTE ID 1383 and 1892).
	  ○ Seven 60-in: ST9051, ST9050, ST9049, ST9044, ST9042, ST9040, and ST9041.
	  ○ Two 72-in: ST9067 and ST9041	

Estimated Project Cost	Capital Expense Total	$ 6,801,000
	Design / Construction Admin. (11%)	$ 748,000
	Engineering & Permitting (Cap)	$ 500,000
	Total Cost	**$ 8,049,000**
Project Cost Notes	• A cap on engineering and permitting was applied. • All assumed as PVC replacement. • Private pipe and outfall replacement are included in cost estimate to maintain consistency with the Charbonneau Consolidated Improvement Plan 2014. • Connections to existing public stormwater mains greater than 12-inches in diameter are included in the cost estimate. • Connections to laterals not included in cost estimate.	

Additional Figures

Stormwater replacement prioritization from Charbonneau Consolidated Improvement Plan (2014)

PLANNING COMMISSION

WEDNESDAY, OCTOBER 11, 2023

WORK SESSION

4. Wastewater Treatment Plant Master Plan (Nacrelli) (15 minutes)

PLANNING COMMISSION WORK SESSION
STAFF REPORT

Meeting Date: October 11, 2023	**Subject:** Wastewater Treatment Plant Master Plan **Staff Member:** Mike Nacrelli, Senior Civil Engineer **Department:** Community Development
Action Required	**Advisory Board/Commission Recommendation**
☐ Motion ☐ Public Hearing Date: ☐ Ordinance 1st Reading Date: ☐ Ordinance 2nd Reading Date: ☐ Resolution ☒ Information or Direction ☐ Information Only ☐ Council Direction ☐ Consent Agenda	☐ Approval ☐ Denial ☐ None Forwarded ☒ Not Applicable **Comments:** N/A
Staff Recommendation: Provide requested input regarding recommended capital improvement plan.	
Recommended Language for Motion: N/A	
Project / Issue Relates To:	
☒Council Goals/Priorities: Align Infrastructure Plans with Sustainable Financing Sources	☐Adopted Master Plan(s):
☐Not Applicable	

ISSUE BEFORE PLANNING COMMISSION:
Provide feedback and input on components of the Wastewater Treatment Plant (WWTP) Master Plan.

EXECUTIVE SUMMARY:
This new City of Wilsonville (City) Wastewater Treatment Plant (WWTP) Master Plan (the Plan) has been developed to satisfy requirements associated with the State of Oregon Department of Environmental Quality (DEQ) guidance document entitled "Preparing Wastewater Planning Documents and Environmental Reports for Public Utilities." To accommodate future flows and loads, projections were developed based on population projections and referencing WWTP historical data and DEQ wet weather project methodologies. Similarly, to accommodate future water quality regulations, the Plan is adaptive and considers potential future regulatory changes.

The City prepared the Plan with the goal of developing a capital plan that identifies improvements required through the planning period (today through 2045) to comply with requirements of the WWTP National Pollutant Discharge Elimination System (NPDES) permit and potential future regulatory requirements, while accommodating growth identified in the City of Wilsonville Comprehensive Plan (October 2018, updated June 2020 - the 2018 Comprehensive Plan). These improvements are designed to provide the best value to the City's ratepayers by maximizing the use of existing infrastructure and improving system operation while continuing to protect water quality and human health and supporting economic development, consistent with goals and policies contained in the 2018 Comprehensive Plan and 2021-2023 City Council Goals.

The City's WWTP was originally built in 1971 and discharges treated effluent to the Willamette River. The WWTP underwent major upgrades in 2014 to expand the average dry weather capacity to four million gallons per day (mgd) to accommodate the City's continued growth. The WWTP processes include headworks screening and grit removal facilities, aeration basins, stabilization basins, secondary clarifiers, biosolids processing, cloth filtration, and disinfection processes. Additionally, the City contracts with Jacobs for operation of the wastewater treatment plant, located at 9275 Southwest Tauchman Road.

This Plan identifies improvements taking into consideration:
- The age and condition of existing process equipment and structures,
- Growth in demand for sewer service due to increased population and economic development over the planning period,
- Potential changes to water quality regulations impacting process needs in order to meet effluent limitations and discharge prohibitions imposed by the Oregon Department of Environmental Quality (DEQ), and
- Consistency with the 2018 Comprehensive Plan and City Council 2021-2023 Goals 5, 6, & 7.

Updated Growth Projection and Capital Improvement Plan
At the previous work session (9/14/2022), the team presented the capital improvement plan based on an assumed 2.9% annual population increase, consistent with recent planning documents adopted by the City, including the Wastewater Collection System Master Plan (CSMP, November 2014) and the Willamette River Water Treatment Plan Master Plan Update

(March 2018). The flow and load projections have been further updated to account for increases in industrial discharges, as allowed under existing permits. This change results in a higher level of capital investment over the planning period, mainly due to hydraulic upgrades, as reflected in the table below.

Project Description	Timeframe	Cost*
Dewatering Performance Optimization	2025	$150,000
Fiber Optic Conduit Addition	2025	$60,000
UV System Improvement	2026	$1,705,000
Seismic Improvements	2026	$1,082,000
New Aeration Basin and Blower	2025 – 2027	$10,179,000
Replace Secondary Clarifier Mechanisms	2026 - 2027	$1,775,000
Membrane Bioreactor (MBR) Phase 1 (includes new blower, fine screens, electrical and hydraulic upgrades)	2028 – 2030	$69,637,000
New Solids Dryer	2031 – 2033	$17,130,000
Thickening and Dewatering Improvements	2031 – 2033	$3,701,000
New Cooling Tower	2037 – 2038	$642,000
MBR Phase 2 (includes new blower)	2037 – 2038	$2,242,000
UV Equipment Replacement and Outfall Upsizing	2039 – 2040	$2,571,000
UV Equipment Replacement and Outfall Upsizing	2039 – 2040	$1,244,000
MBR Phase 3 (includes 2 new blowers)	2042 – 2043	$8,030,000
Total		**$120,148,000**
*Costs are shown in 2023 dollars and include 25% for engineering, legal, and administration.		

As shown in the table above, the most significant impact to the required level of capital investment is the need for membrane bioreactor (MBR) facilities. These are state-of-the-art, compact facilities that provide a high level of treatment. The adjusted growth projection results in an approximate doubling of the City population over the planning period. Due to the limited amount of space available at the existing WWTP site, MBR facilities are the only feasible means of providing the necessary treatment to accommodate such a substantial rate of growth.

Question for the Planning Commission:

What input does the Planning Commission have on the updated capital improvements list for the Wastewater Treatment Plant Master Plan?

EXPECTED RESULTS:
The Plan includes a list of recommended capital improvements, along with an anticipated schedule for completion and preliminary cost estimates. These improvements will provide the basis for an analysis of sewer rates and system development charges (SDCs) that will be necessary to provide adequate funding to implement to required upgrades.

TIMELINE:
This is the third in a series of presentations to the Planning Commission and City Council. Completed and planned meetings are as follows:

- Planning Commission Work Session 7/13/22 (completed)

- City Council Work Session 8/1/22 (completed)
- Planning Commission Work Session 9/14/22 (completed)
- Planning Commission Work Session 10/11/23 (current)
- City Council Work Session 11/6/23
- Planning Commission Public Hearing 12/13/23
- City Council Public Hearing 1st Reading 1/4/24
- City Council 2nd Reading 1/18/24

CURRENT YEAR BUDGET IMPACTS:
The remaining contract balance for finalizing the Plan will be expended this fiscal year. An additional $92,450 has been budgeted in FY 23/24 for the Sewer System Rate Study and SDC Update, using a combination of Sewer Operating funds and SDCs.

COMMUNITY INVOLVEMENT PROCESS:
The public hearings listed above will provide opportunity for public input. In addition, the Sewer System Rate Study and SDC Update will include a robust public engagement process.

POTENTIAL IMPACTS or BENEFIT TO THE COMMUNITY:
A technically and financially sound plan for providing reliable wastewater treatment, capacity to accommodate future development, and compliance with environmental regulations.

ALTERNATIVES:
The Plan is based on a projected population growth rate that is somewhat aggressive but is consistent with other recently adopted planning documents and with historical growth data. The capital project schedule can be adjusted as appropriate if actual growth rates differ significantly from the projected growth included in the Plan. In addition, some of the recommended hydraulic upgrades might avoided, depending on the results of more detailed analysis of storage and attenuation in the wastewater collection system, when the next CSMP update is completed.

ATTACHMENTS:
N/A

PLANNING COMMISSION

WEDNESDAY, OCTOBER 11, 2023

INFORMATIONAL

5. 2023 Transportation Performance Monitoring Report (Pepper) (30 minutes)

PLANNING COMMISSION MEETING
STAFF REPORT

Meeting Date: October 11, 2023	**Subject:** 2023 Transportation Performance Monitoring Report **Staff Member:** Amy Pepper, PE, Development Engineering Manger **Department:** Community Development
Action Required	**Advisory Board/Commission Recommendation**
☐ Motion ☐ Public Hearing Date: ☐ Ordinance 1st Reading Date: ☐ Ordinance 2nd Reading Date: ☐ Resolution ☐ Information or Direction ☒ Information Only ☐ Council Direction ☐ Consent Agenda	☐ Approval ☐ Denial ☐ None Forwarded ☒ Not Applicable **Comments:** Not applicable
Staff Recommendation: Not applicable	
Recommended Language for Motion: Not applicable	
Project / Issue Relates To:	

☒Council Goals/Priorities: 1. Increase mobility of all in Wilsonville	☒Adopted Master Plan(s): Transportation System Plan	☐Not Applicable

ISSUE BEFORE COMMISSION:
2023 Transportation Performance Monitoring Report information for Planning Commission.

EXECUTIVE SUMMARY:
Wilsonville's Transportation System Plan (TSP) provides policies, standards, projects and programs that are intended to improve the City's transportation system when implemented. The City monitors and reports on key performance measures that were included in the TSP every three years. The City contracted with the City's Traffic Consultant, DKS Associates, to provide an update to the 2020 Transportation Performance Report, using data from 2019 to 2023.

There are seven adopted goals for the transportation system: safety; connectivity and accessibility; functionality and reliability, cost effectiveness; compatibility; robust; and promotes livability. The 2023 Performance Report provides a progress report for each measure except cost effectiveness and compatibility.

EXPECTED RESULTS:
Tracking the performance measures on a regular basis, through updated performance monitoring reports, allows the City to understand the benefits of private and public investments in our transportation system.

TIMELINE:
The Performance Monitoring Report was last updated in 2020. The City updates the Performance Monitoring Report every three years.

CURRENT YEAR BUDGET IMPACTS:
The total cost of this report is $59,550. The cost has been budget for and split between fiscal year (FY) 2022-23 and FY 2023-24.

COMMUNITY INVOLVEMENT PROCESS:
The final report will be posted to the City's website.

POTENTIAL IMPACTS OR BENEFIT TO THE COMMUNITY:
Reviewing the progress toward meeting the performance measures adopted in the Transportation System Plan every three years helps to assure private and public improvements are continuing to meet the City's adopted goals.

ALTERNATIVES:
N/A

CITY MANAGER COMMENT:
N/A

ATTACHMENTS:
1. 2023 Wilsonville Transportation Performance Monitoring Report

WILSONVILLE PERFORMANCE REPORT UPDATE 2023

SEPTEMBER 2023

UPDATE FOR 2019 - 2023 DATA*

DKS

WILSONVILLE OREGON

TABLE OF CONTENTS

PURPOSE OF THE PERFORMANCE MONITORING REPORTS

The Wilsonville Performance Reports lay the foundation for on-going monitoring of the City's transportation goals. The seven transportation goals are stated in the Transportation System Plan and guide the City in providing and managing a functional transportation system. The seven goals for the transportation system are:

- **SAFE**
- **CONNECTED AND ACCESSIBLE**
- **FUNCTIONAL AND RELIABLE**
- **COST EFFECTIVE**
- **COMPATIBLE**
- **ROBUST**
- **PROMOTES LIVABILITY**

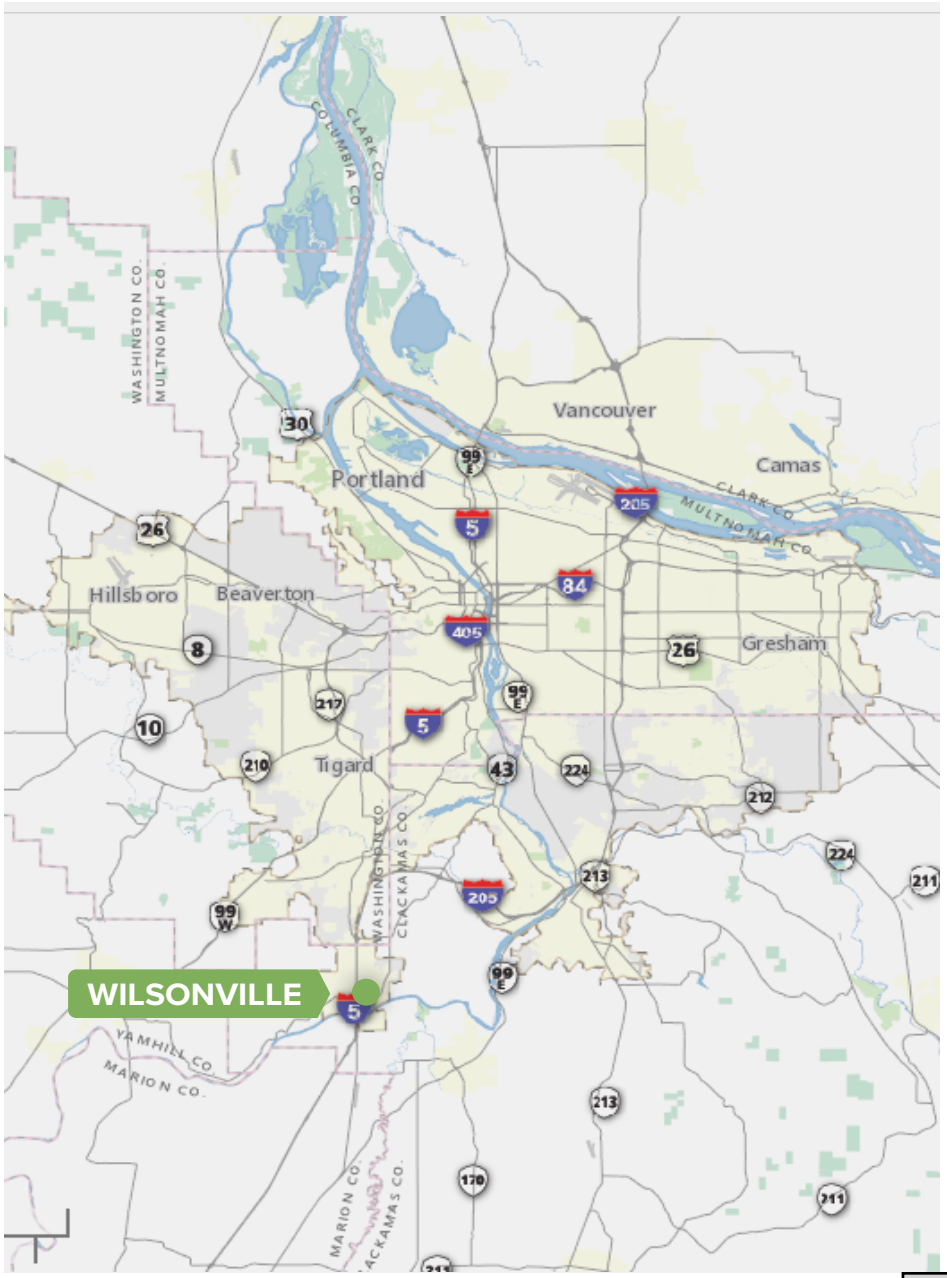
The Performance Reports identify performance measures for each TSP goal and provide progress updates for each measure approximately every three years. Monitoring of the performance measures helps indicate the City's progress towards their transportation goals and also identifies impacts to the City's transportation system as a result of regional transportation projects and growth in neighboring cities.

The 2023 Performance Report provides updates for the performance measures based on 2019 to 2023 data. No updates, however, were provided for the performance measures for Goals 4 and 5. These performance measures will be evaluated during the next round of performance monitoring.

WILSONVILLE LOCATION AND DEMOGRAPHICS

The performance measures in this report are best understood against the backdrop of Wilsonville's location and demographics. Wilsonville is located on the southern edge of the Portland Metro area along the Interstate-5 (I-5) corridor. Because of the nearby I-5 Boone bridge over the Willamette River, Wilsonville serves as the region's southern gateway and is a strategic connection between the Portland Metro area to the north, the Mid-Willamette Valley to the south, and the I-5 corridor. Due to its strong employment base and central location, it attracts employees from all over the region.

For the past 25 years, Wilsonville has been one of Oregon's fastest growing cities. With over 26,600 residents and over 20,600 full- and part-time jobs, Wilsonville is an attractive place to live and work. However, with growth comes increasing transportation demands for all travel modes, and it is essential to ensure the multimodal transportation system can serve the current and future residents, employees, and visitors who frequent the city. Understanding who these users are and how they like to travel facilitates improved transportation decisions.



WILSONVILLE LOCATION AND DEMOGRAPHICS

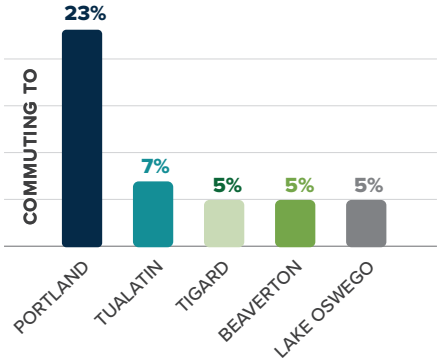
EMPLOYMENT STATISTICS

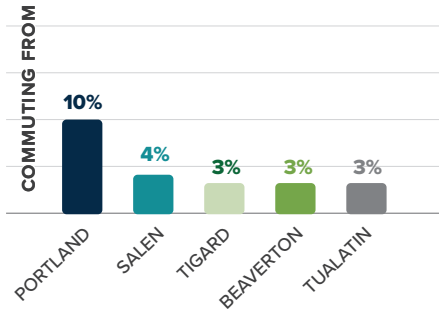
COMMUTE PATTERNS

Percent of working residents who commute **out** of Wilsonville **85%**
10,006 OUT OF 11,792

Percent of workers in Wilsonville who commute **into** Wilsonville **91%**
18,875 OUT OF 20,661

AVERAGE TRAVEL TIME TO WORK (WORKERS AGE 16+)
26.3 MIN





TOP 5 WILSONVILLE JOB SECTORS

19% MANUFACTURING

15% WHOLESALE TRADE

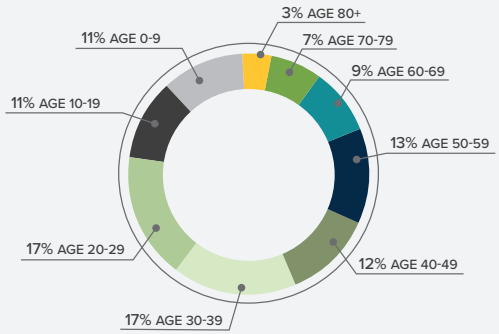
10% RETAIL TRADE

9% ADMINISTRATIVE SUPPORT, WASTE MANAGEMENT, AND REMEDIATION

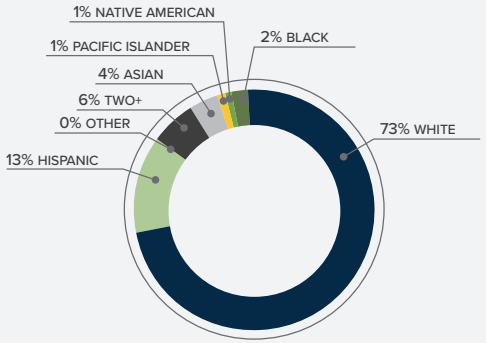
9% PROFESSIONAL, SCIENTIFIC, AND TECHNICAL SERVICES

RESIDENTIAL STATISTICS

POPULATION AGE



RACE AND ETHNICITY



POPULATION TENURE

YEAR MOVED TO WILSONVILLE, BY PERCENTAGE OF POPULATION

BEFORE 1990	1%
1990s	5%
2000s	15%
2010-2014	21%
2015-2016	43%
SINCE 2017	15%

4.5% AVERAGE POPULATION GROWTH PER YEAR (2000–2020)

Compare population growth per year (2000-2020): 1.1% in Tualatin and West Linn, and 1.2% in Clackamas County.

NUMBER OF HOUSEHOLDS
10,261

AVERAGE NUMBER OF PEOPLE PER HOUSEHOLD
2.4

MEDIAN HOUSEHOLD INCOME (2014–2018)
$78,508

WILSONVILLE POPULATION (BASED ON CENSUS)

2000	13,991
2010	19,509
2020	26,664

Data provided by U.S. Census Bureau, 2024

PROJECTS BUILT


GREEN BIKE PAINT ON BURNS WAY


GARDEN ACRES ROAD UPGRADES


BUFFERED BIKE LANES ON TOWN CENTER LOOP WEST

The City of Wilsonville has constructed numerous transportation projects since the previous Performance Report (2020) was completed. This page provides a list of those transportation projects and the year of completion.

- Buffer added to Bike Lanes on Wilsonville Road between Willamette Way West and Kinsman Road (2019)
- Two new RRFBs on Wilsonville Road at Grahams Oak Entrance and Orchard Drive (2019)
- New bike lanes on the west side of Boones Ferry Road from Barber Street to Wilsonville Road (2019)
- Garden Acres Road upgrades (cycle track, sidewalk, etc) and realignment of Clutter/Ridder Road (2020)
- Green bicycle paint on bike lanes at Elligsen Rd/Parkway Ave/Argyle Ave (2020)
- Green bicycle paint and striping at Parkway Center Drive/ Burns Way (2020)
- Pedestrian and Bike Lane Improvements along Parkway Ave/Main St (2020)
- Lane Conversion to Buffered Bike Lanes on Town Center Loop West (2021)
- RRFB at Town Center Loop West/Park Place (2021)

CURRENT PROJECTS

THE FOLLOWING PROJECTS ARE CURRENTLY UNDER CONSTRUCTION WITHIN THE CITY OF WILSONVILLE.

- Kinsman Road Extension from Wilsonville Road to 5th Street
- Street Improvements on Boeckman Road at the Boeckman Dip
- Installation of a Traffic Signal or Roundabout at Canyon Creek Road/ Boeckman Road
- Clackamas County Freight ITS Improvements on multiple corridors in Wilsonville (see list below). Improvements include upgraded traffic signal controllers and installation of radar detection, wireless interconnect, and cameras.
  - 95th Ave between Boones Ferry Road and Boeckman Road
  - Boones Ferry Road between Day Road and 95th Ave
  - Elligsen Road between I-5 and Parkway Center Drive
  - Wilsonville Road between Willamette Way East and Town Center Loop East

FATALITIES AND INJURY "A" COLLISIONS

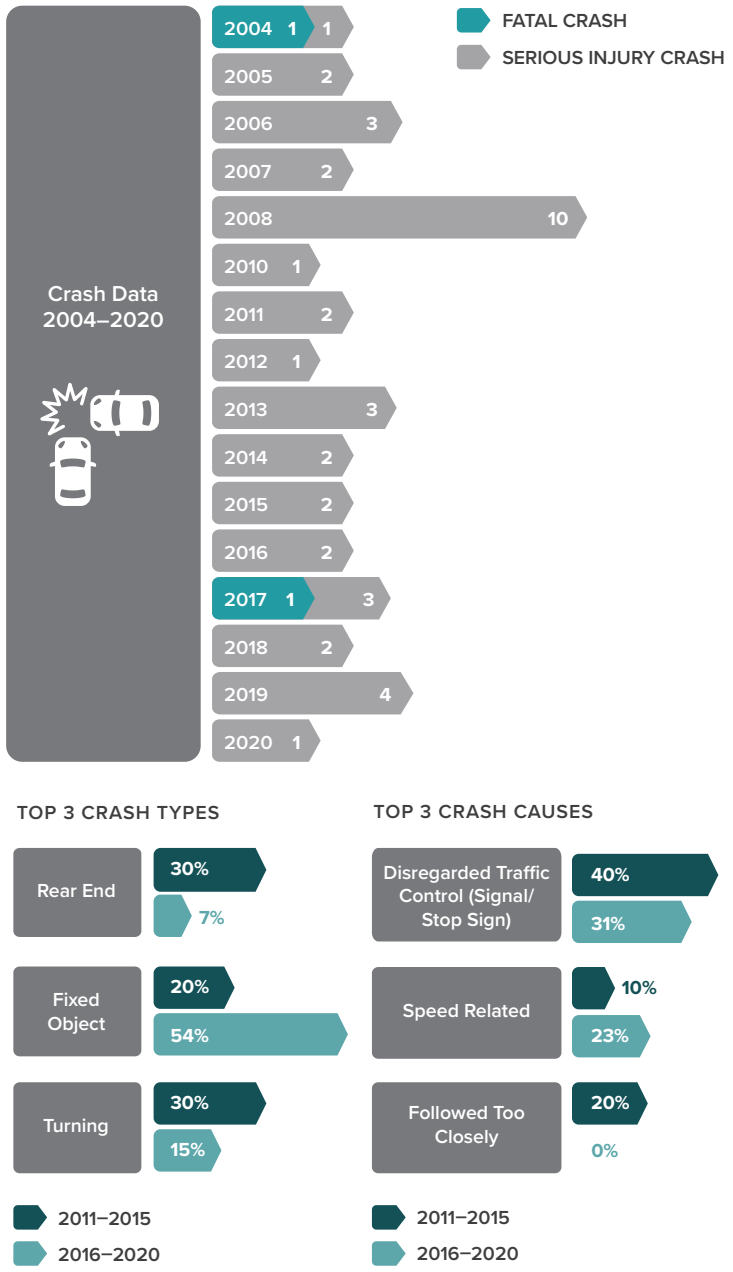
Eliminate traffic fatalities and serious injuries (Injury "A") on City roadways.

Safety is Wilsonville's first transportation system goal and is also an important goal statewide. In 2021, Oregon developed a Transportation Safety Action Plan (TSAP), which states its vision is to eliminate deaths and life-changing injuries (Injury A) on Oregon's transportation system by 2035.

Serious Injury (or Injury "A") is defined by ODOT as an incapacitating injury that "prevents the injured person from walking, driving, or normally continuing the activities the person was capable of performing before the injury occurred."

The previous Wilsonville Performance Report contained crash data from 2004 to 2018. For this Performance Report Update, crash data from 2019 to 2020 was added and evaluated, which reflects the most recently finalized crash data by ODOT. As shown in the graph, the number of fatal and serious injury crashes in Wilsonville increased in 2019 but decreased in quantity in 2020.

It should be noted that the crashes shown in the graph only represent crashes that occurred on City streets or at I-5 ramp intersections (no crashes were included on ODOT or County roadways in this data).



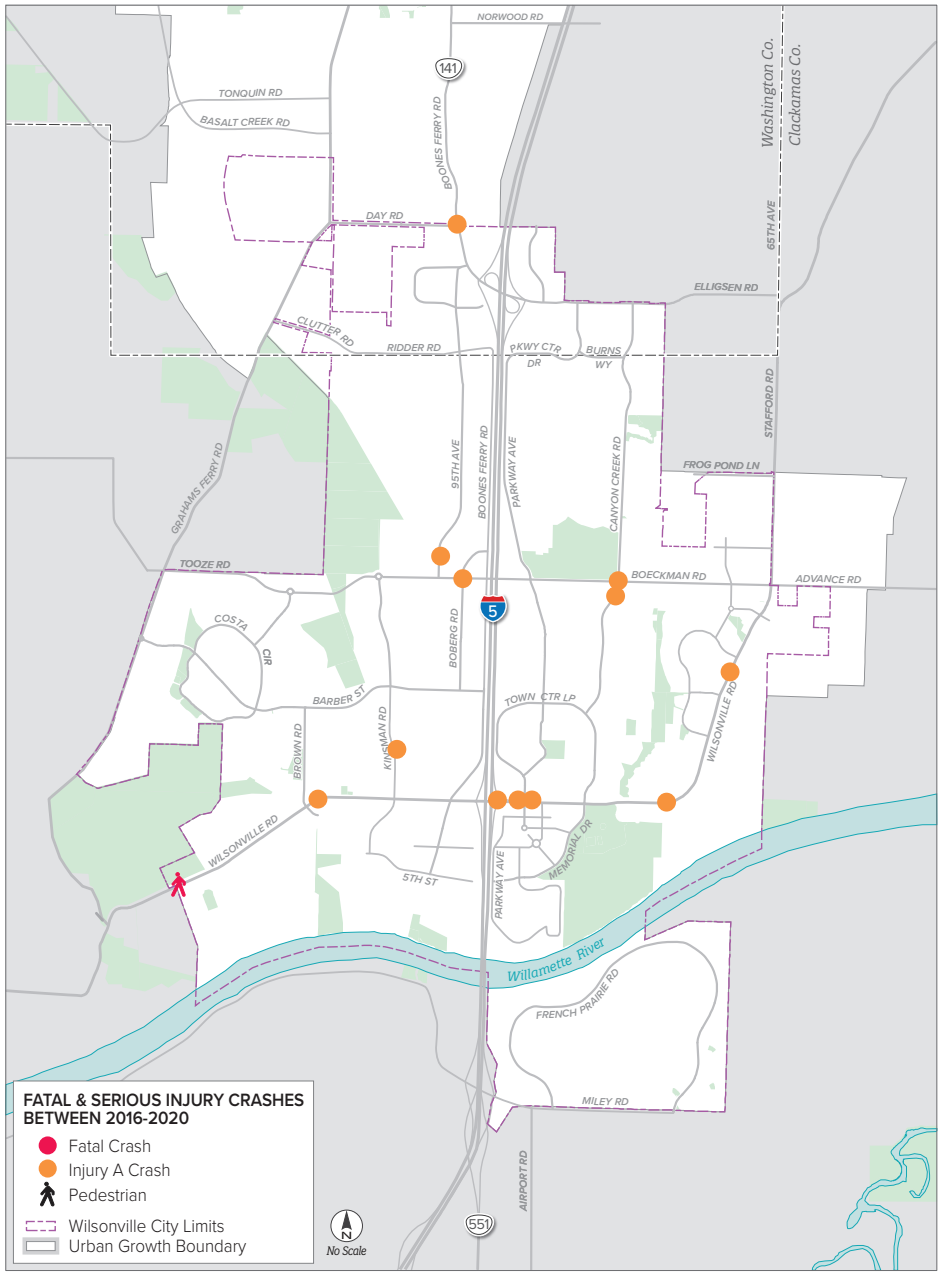
The location of the fatal and serious injury crashes over the last five years of reported data (2016-2020) are shown in the figure below. The average number of crashes over the last five years is the typical range for tracking changes in crash frequency.

In 2019 and 2020, three of the five serious injury crashes involved fixed object crashes in which a vehicle struck an obstruction (tree or curb) adjacent to the street. All three crashes occurred in the early morning between 4AM - 6AM.

As shown on the previous page, fixed object crashes and turning crashes have increased over the last few years. Crashes caused by disregarding traffic controls or failing to yield have increased, but speeding and following too closely as a cause has decreased over the last few years.

Based on this data, the city should consider identifying safety improvements that improve lighting conditions and design treatments that increase awareness and traffic control compliance at intersections.

Looking at the map, a cluster of serious injury crashes are located near the Wilsonville Road & Town Center Loop West intersection. Due to the high number of serious injury crashes, this location could be competitive for safety improvements through Oregon's All Roads Transportation Safety (ARTS) funding program.



MULTIMODAL CONNECTIVITY

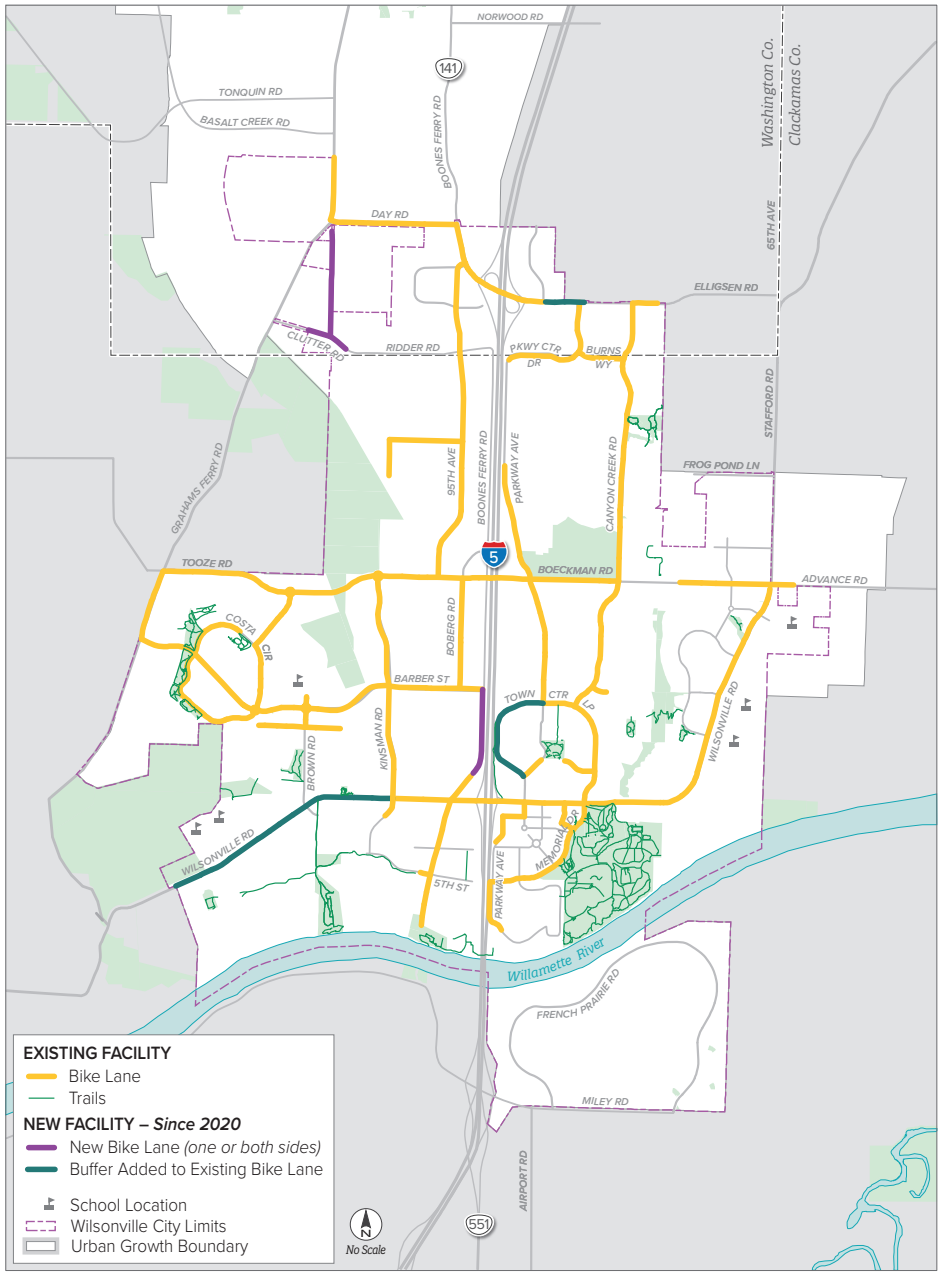
Provide residents with multimodal access to parks, schools, employment centers, retail areas, and the surrounding region.

Network connectivity is a critical component of Wilsonville's transportation system and is one of the City's stated transportation goals. Wilsonville's elected officials and staff have stated how important it is to create a comprehensive network of safe, attractive, and direct travel options to provide residents with multimodal access to parks, schools, employment centers, and retail areas.

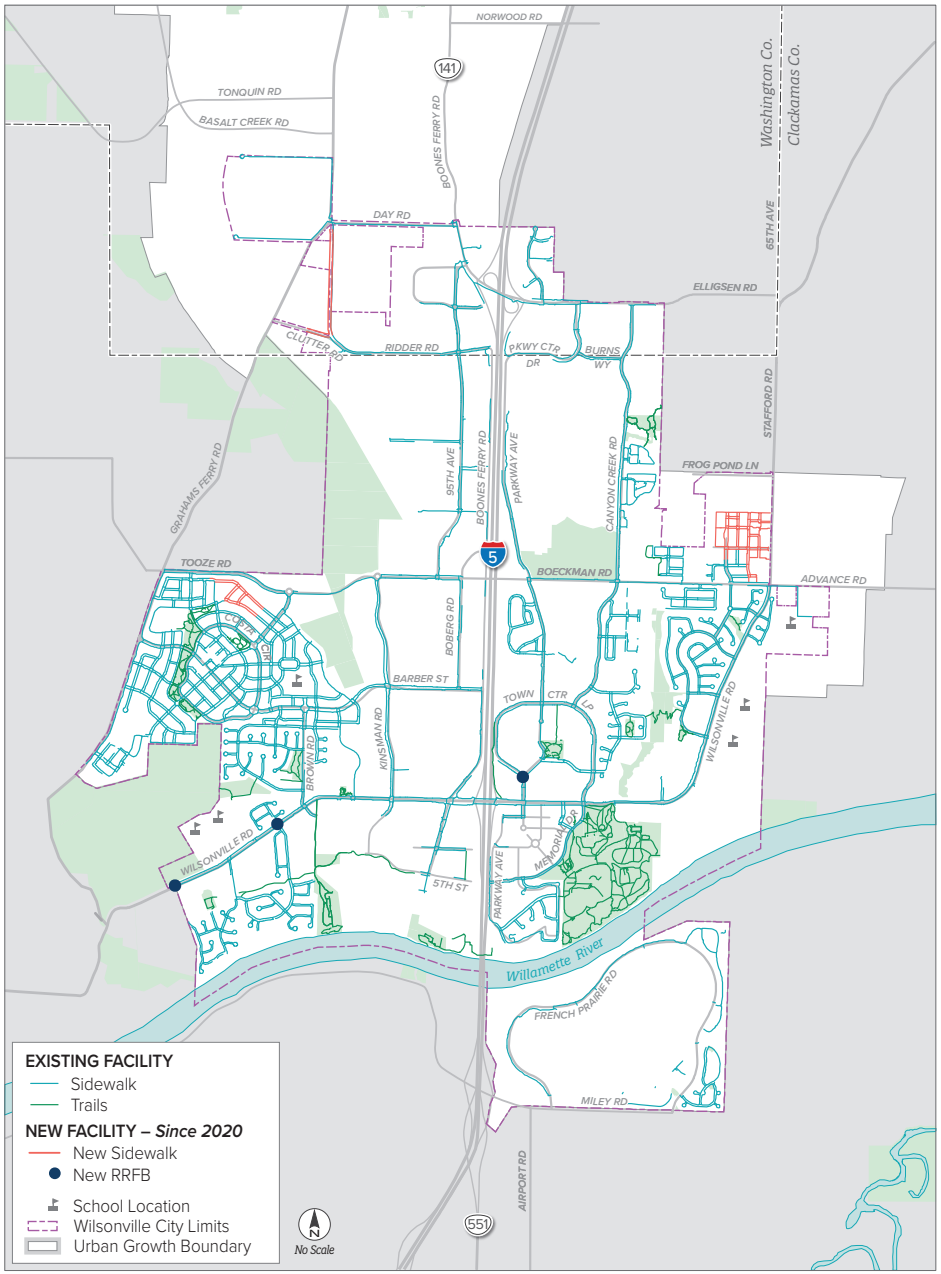
In the previous Transportation Performance Monitoring update, a map showing bicycle and pedestrian network changes between 2016 and 2018 was presented. This map highlighted new bicycle lanes and sidewalks on City streets and also noted locations where existing bicycle lanes were improved with buffers. This map has been updated and expanded to two figures to show pedestrian and bicycle network changes in the City's multimodal transportation network between the years 2019 and 2022. The bicycle facility figure is presented to the right, and the pedestrian facility figure is presented on the following page.

Changes are fairly minor and mainly consist of the addition of new bike lanes and/or bike lane buffers. Some sidewalk infill occurred in the Frog Pond West and Villebois residential areas as new housing construction continues. There were three locations throughout the city where Rectangular Rapid Flashing Beacons (RRFBs) were installed, two along Wilsonville Road and one on Town Center Loop West.

The upcoming Kinsman Road extension project and Boeckman Road street improvements will fill major multimodal gaps in the system for pedestrians, bicycles, and transit.



From top: Memorial Park, Old Town Wilsonville on Boones Ferry Road



INTERSECTION DELAY AND TRAFFIC GROWTH

Maintain an acceptable level of delay (less than 55 seconds average per vehicle at traffic signals and 35 seconds at unsignalized intersections) at key intersections during the PM peak traffic hour.

The primary culprit of congestion within the transportation network is found at the intersection, as vehicles from all approaches enter and exit the intersection, creating conflict points and necessitating traffic control devices to help vehicles safely and efficiently navigate the intersection. Due to intersections being the primary area of delay within the transportation network, municipalities measure the intersection congestion and have standards for the maximum level of congestion that is acceptable. The City of Wilsonville has a standard for average delay, which establishes the acceptable average delay that a vehicle experiences at an intersection. Delay is calculated using Highway Capacity Manual, 6th Edition (HCM 6th) procedures, and the City defines the maximum acceptable level of delay to be 55 average seconds per vehicle at signalized intersections and 35 average seconds per vehicle at unsignalized intersections.

Ultimately, while delay is the experienced level of congestion by a driver, intersection delay is related to the volume of traffic present within the intersection and surrounding area. Therefore, to understand how congestion levels have changed around Wilsonville since the previous Transportation System Plan (2013), vehicular volume and intersection delay is tracked in this report. All locations were carried over from previous reporting.

Stafford Road-Wilsonville Road and Boeckman Road-Advance Road

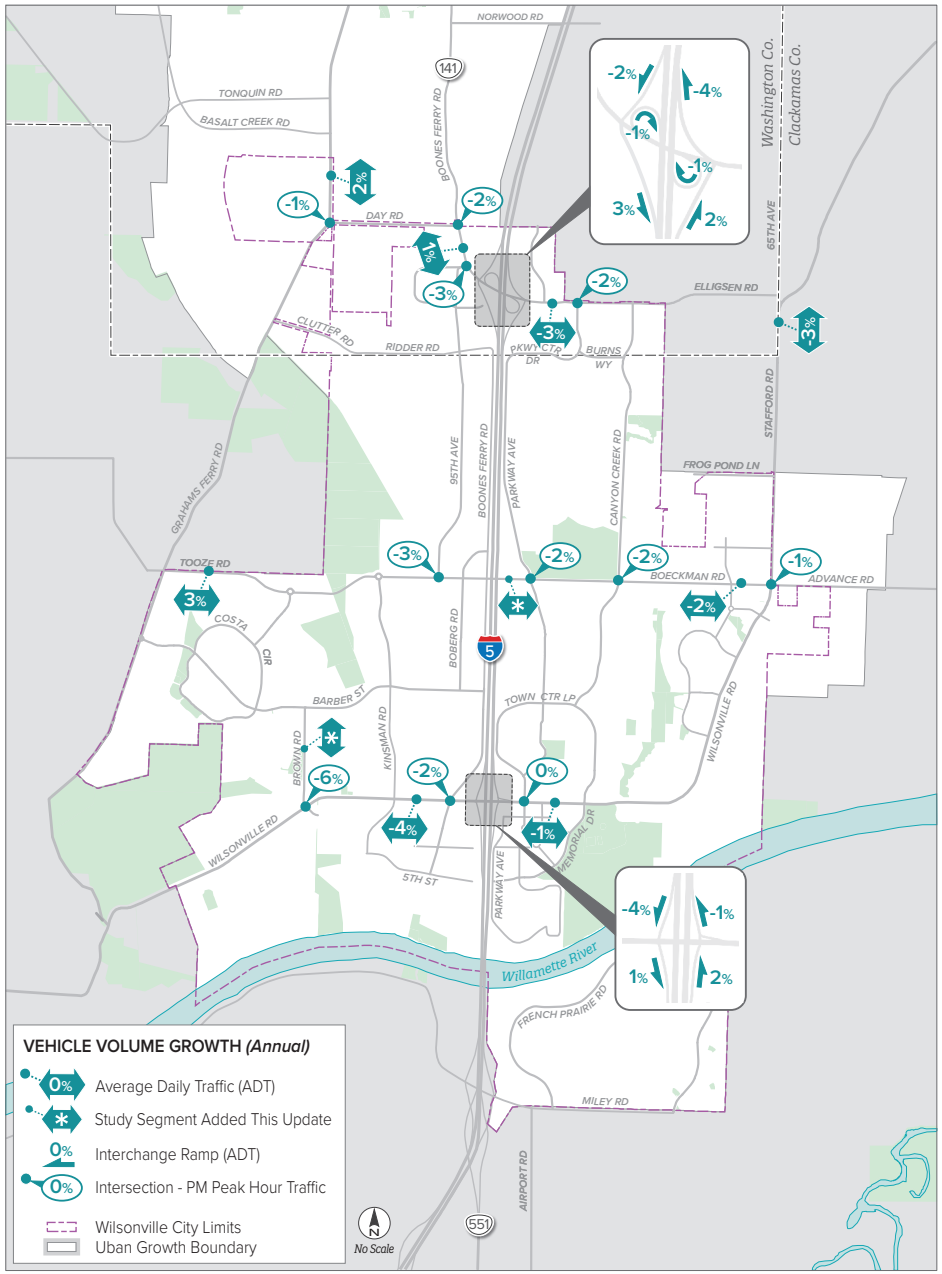
The map to the right shows motor vehicle volume growth from 2019 to 2023 as an average annual percentage. Percent growth is shown at key intersections (PM peak, total entering vehicle volume), key roadway segments (24-hr average daily bidirectional volumes), and all I-5 interchange ramps (24-hr average daily unidirectional volumes).

Traffic volumes in Wilsonville generally decreased over the four-year period, which is largely attributed to COVID-19 restrictions and its impacts to commuting patterns, resulting in more residents working remotely part-time or full-time.

As a whole, the I-5 interchange areas and high-volume corridors of Boones Ferry Road-Elligsen Road and Wilsonville Road decreased in traffic volumes between 2019 and 2023. Elligsen Road saw a relatively consistent decrease of approximately 2% per year in traffic volumes, while the western end of the Wilsonville corridor saw larger decreases including a 6% decrease in PM peak traffic volumes at the Brown Road intersection, which is a gateway to a large residential area in the city. While the interchange volumes as a whole decreased, the southbound on-ramps and northbound off-ramps did increase; this increase could indicate a higher number of vehicles traveling between Wilsonville and Woodburn, Salem, etc. over the Willamette River.

The overall negative growth at both I-5 interchange locations is a trend that has been shared in previous traffic monitoring reports and is expected to continue or remain steady as is shown in the Metro Regional Travel Demand model. In the past, Wilsonville has had a large disparity between the number of local jobs and residential units. But now with the construction of many local residential developments (approximate average of 100 housing units per year) and supporting residential land uses, the reliance on I-5 for employment-based trips has been decreasing.

The exception to the negative growth trend was on Tooze Road and Grahams Ferry Road, which saw over a 2% increase per year on average between 2019 and 2023. This positive rate of growth on Tooze Road is likely related to



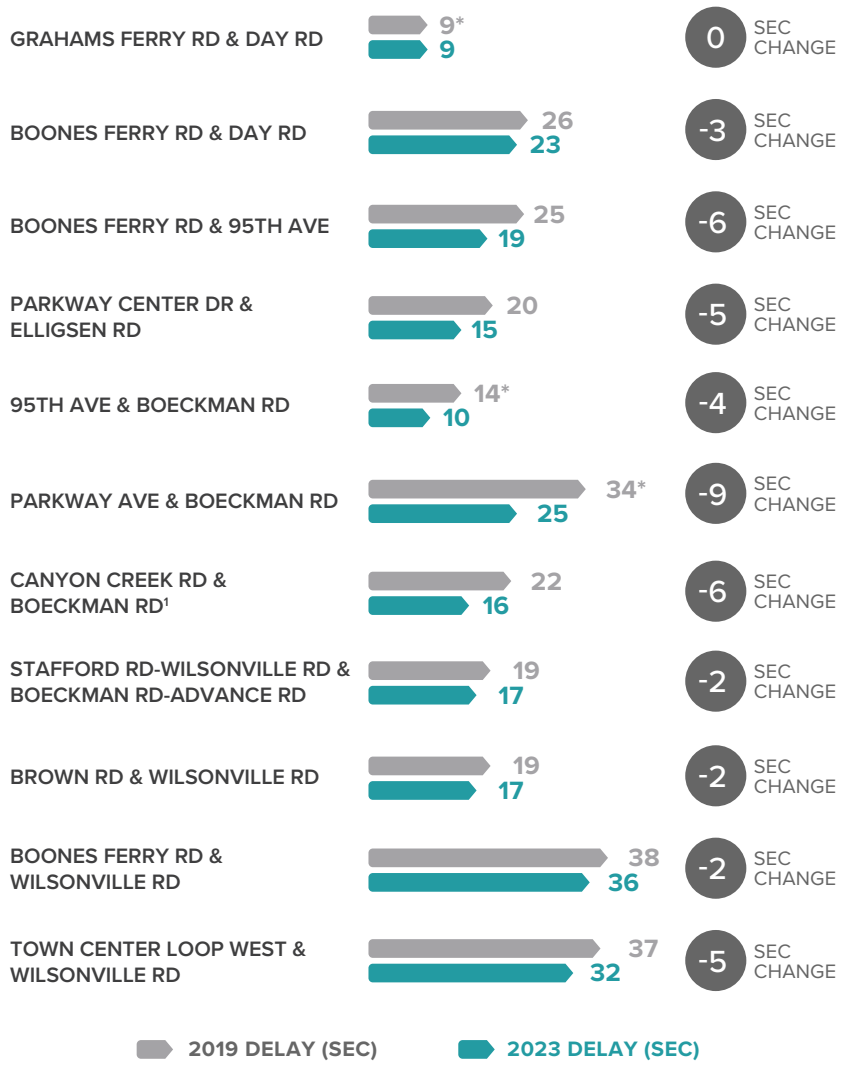
the continued construction of new housing in north Villebois since 2019. The increase on Grahams Ferry Road could be attributed to increasing daily traffic volume on the I-5 mainline between Wilsonville and the other Metro cities. Grahams Ferry Road (and the 124th Ave extension) is an alternative route of I-5 if a driver's destination or origin is Tualatin, Tigard, or even Beaverton.

While traffic volume is one factor to be considered in determining a functional and reliable transportation system, an assessment of the average vehicle delay at intersections was also conducted. Average delay per vehicle for the typical weekday evening PM peak period was calculated at the 11 study intersections using Highway Capacity Manual (HCM) 6th Edition procedures. The City has a designated level of service (LOS) D standard, which means that the typical vehicle, on average, should not experience a delay of more than 55 seconds at a signalized intersection or 35 seconds at an unsignalized intersection.

The 2023 delays results along with a comparison to the 2019 delay results can be seen in the graphic to the right. As a general notion, any differences of five seconds or less between 2023 and 2019 can be considered negligible and may be due to seasonal variations of collected traffic volume data, randomness in the data, or updated evaluation methods. However, not only did delay decrease at all study intersections between the two time periods, but none of the analyzed intersections are close to surpassing the City's standard maximum average delay of 55 seconds.

Most intersections saw a decrease in delay of 10 seconds or less, which aligns with the decrease in traffic volume data between 2019 and 2023 during the PM peak hour. When comparing these delay results to recent land development transportation studies, the results are consistent with what has been observed and presented in recent traffic impact studies.

INTERSECTION DELAY



[1] Intersection is stop-controlled, delay standard is 35 seconds (LOS D)

**Delay calculations were revised based on updated HCM methodology*

TRAVEL TIME RELIABILITY

Maintain consistent travel times on key City arterials and freight routes with an acceptable range of reliability.

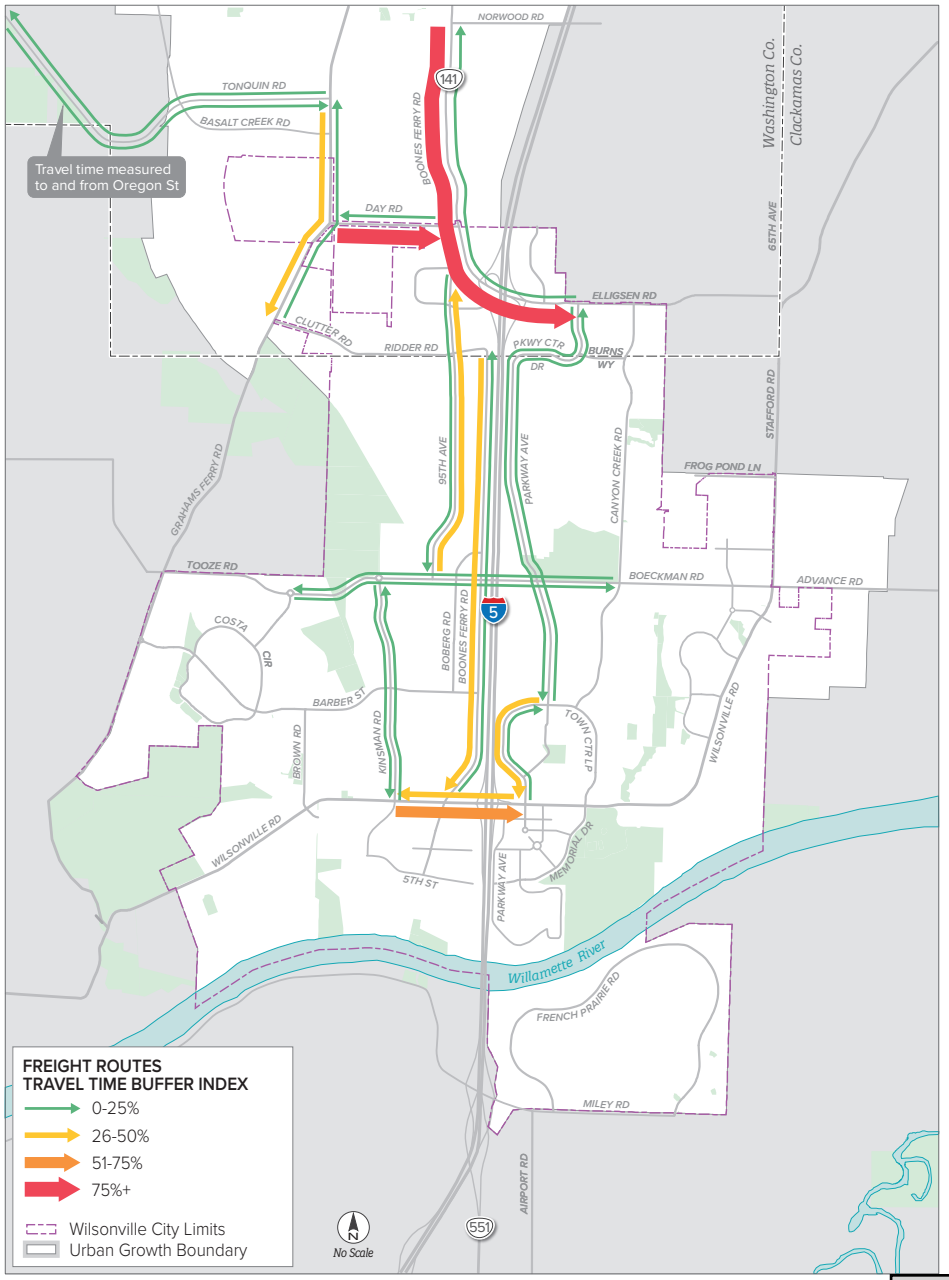
Travel time reliability measures the consistency or dependability of motor vehicle travel times that travelers experience. While travel time itself is an important metric to measure and track, the reliability of the travel time is just as important. It is a helpful way to understand the regularity and extent of unexpected motor vehicle delays, which can significantly affect a person's experience with the transportation system. For example, a driver who expects a route to take 10 minutes but then actually takes 15 minutes is typically more frustrated than a driver who expects the route to take 15 minutes and then gets there in the expected amount of time. When agencies monitor travel times and travel time reliability, they are better able to manage and operate their transportation systems.

The buffer index is a common reliability measure representing the extra time that travelers should add to their average travel time when planning trips to ensure arriving on-time 95% of the time. For example, if a trip's average travel time is 15 minutes and the buffer index is 33%, a traveler should plan for an extra 5 minutes to arrive at their destination on-time 95 out of 100 times. Therefore, lower buffer indexes point to a more reliable transportation system.

With the introduction of crowdsourced GPS data and cellphone records, private companies like INRIX can provide roadway data throughout Wilsonville to calculate motor vehicle travel time reliability measures.

Travel time and travel time reliability are tracked for key arterial routes and freight routes around the City of Wilsonville. The key arterials and freight routes are areas of top concern within the transportation system. In general, the key arterials are the primary routes that deliver traffic between collector roads and freeways. Freight routes are designated roads that are designed to accommodate heavy vehicles and freight traffic and provide connectivity to industrial areas and dense-commercial areas. Freight performance is an important consideration in Wilsonville due to the significant number of large manufacturing and distribution companies located in the city, so these corridors are intended to represent the primary network that freight would use to travel through the City and are therefore representative of the delay that freight might experience.

The travel time buffer index figures and tables show the 2022 PM[1] peak period travel time and buffer index for the identified segments, along with the change in value compared to the previous 2019 data. Based on some minor changes in methodology, new data for both 2019 and 2022 was collected to perform a more direct comparison between analysis years. Travel times with buffer indexes over 25% are typically not preferred, but buffer indexes over 50% are usually considered unacceptable from drivers.



[1] *For each segment, the hour with the highest travel time between 3:00 pm and 7:00 pm was chosen.*

As displayed in the tables and figures, segments surrounding the I-5 interchanges and the Boones Ferry Road-Elligsen Road and Wilsonville Road corridors have the higher buffer indexes and require travelers to plan for more travel time than the average conditions usually warrant. The routes with higher buffer indexes are prone to have more variable travel times and drivers experience more unanticipated delays. This is especially true on segments near and around the intersections of Day Road and 95th Avenue on Boones Ferry Road.

While there are areas with lower than desired reliability, the transportation system overall saw significant decreases in travel time and increases in travel time reliability. Almost every segment between both the key arterials and freight routes saw a decrease or net zero change in travel times, and every segment saw an increase in travel time reliability. For the segments surrounding the I-5 interchanges and the Boones Ferry Road-Elligsen Road and Wilsonville Road corridors, in particular, the buffer indexes were significantly lower (meaning less variability).

KEY WILSONVILLE ARTERIAL ROUTES - 2022 TRAVEL TIME & BUFFER INDEX

NAME OF ROADWAY	EXTENT	DIRECTION	AVERAGE TRAVEL TIME	3-YEAR PERCENT CHANGE	BUFFER INDEX[1]	3-YEAR DIFFERENCE
Boones Ferry Rd	Norwood Rd - Day Rd	NB	1:25	-5%	10%	-20%
		SB	2:10	-10%	120%	20%
Elligsen Rd	Day Rd - 65th Ave	EB	4:20	-20%	40%	-40%
		WB	3:35	-5%	25%	-45%
95th Ave	Elligsen Rd - Boeckman Rd	NB	3:45	0%	45%	-15%
		SB	3:10	5%	20%	-20%
Stafford Rd	65th Ave - Boeckman Rd	NB	1:50	0%	15%	-5%
		SB	2:00	0%	20%	-20%
Boeckman Rd	Grahams Ferry Rd - I-5 Overpass	EB	3:20	0%	20%	-30%
		WB	3:35	10%	20%	-10%*
Boeckman Rd	I-5 Overpass - Stafford Rd	EB	3:00	-5%	20%	-25%
		WB	2:55	-5%	15%	-25%
Wilsonville Rd	Brown Rd - Town Center Loop East	EB	4:05	-5%	40%	-30%
		WB	4:15	-15%	45%	-45%
Wilsonville Rd	Bell Rd - Boeckman Rd	EB	9:20	-5%	30%	-20%
		WB	9:35	-5%	35%	-20%

** Increase is mainly within roundabout at Villebois Dr*

[1] Buffer index = the extra time travelers should add to the average travel time when planning trips to ensure a 95% on time arrival rate, considering daily variability in travel times.

KEY WILSONVILLE FREIGHT ROUTES - 2022 TRAVEL TIME & BUFFER INDEX

NAME OF ROADWAY	EXTENT	DIRECTION	AVERAGE TRAVEL TIME	3-YEAR PERCENT CHANGE	BUFFER INDEX[1]	3-YEAR DIFFERENCE
Tonquin Rd	Oregon St - Grahams Ferry Rd	EB	3:55	-15%	15%	-35%
		WB	4:00	-20%	20%	-35%
Grahams Ferry Rd	Tonquin Rd - Clutter Rd	NB	2:05	-5%	20%	-20%
		SB	2:25	-5%	30%	-50%
Day Rd	Grahams Ferry Rd - Boones Ferry Rd	EB	2:40	5%	110%	-10%
		WB	1:15	-5%	25%	-30%
Boones Ferry Rd	Norwood Rd - Parkway Center Dr	NB	3:20	-10%	25%	-40%
		SB	4:40	-15%	80%	-10%
95th Ave	Elligsen Rd - Boeckman Rd	NB	3:45	0%	45%	-15%
		SB	3:10	5%	20%	-20%
Boones Ferry Rd	Ridder Rd - Wilsonville Rd	NB	3:25	0%	20%	-10%
		SB	3:45	-15%	45%	-55%
Parkway Ave	Elligsen Rd - Town Center Loop West	NB	4:10	0%	15%	-15%
		SB	4:10	-5%	15%	-25%
Boeckman Rd	Villebois Dr - Canyon Creek Rd	EB	3:50	0%	25%	-30%
		WB	3:40	0%	20%	-25%
Kinsman Rd	Boeckman Rd - Wilsonville Rd	NB	2:00	-10%	20%	-5%
		SB	2:15	-5%	25%	-25%
Town Center Loop West	Wilsonville Rd - Parkway Ave	NB	1:35	-10%	25%	-20%
		SB	1:45	-15%	30%	-45%
Wilsonville Rd	Kinsman Rd - Town Center Loop West	EB	2:15	-10%	55%	-25%
		WB	2:15	-20%	40%	-55%

[1] *Buffer index = the extra time travelers should add to the average travel time when planning trips to ensure a 95% on time arrival rate, considering daily variability in travel times.*

VEHICLE MILES TRAVELED

Reduce vehicle miles traveled (VMT) per capita by providing robust travel mode choices.

Vehicle miles traveled is a common measurement of roadway use which is calculated by multiplying miles traveled per vehicle by the total number of vehicles for a specified time period. In this report, the definition of "vehicles" include automobiles, light trucks, heavy trucks, and other passenger vehicles used for the movement of people or goods.

Decreasing VMT per capita can directly improve air quality and the overall health of a population. Reducing VMT also eases congestion and improves travel time reliability. VMT levels are lower in communities that are more walkable and compact and in communities that have strong public transportation systems.

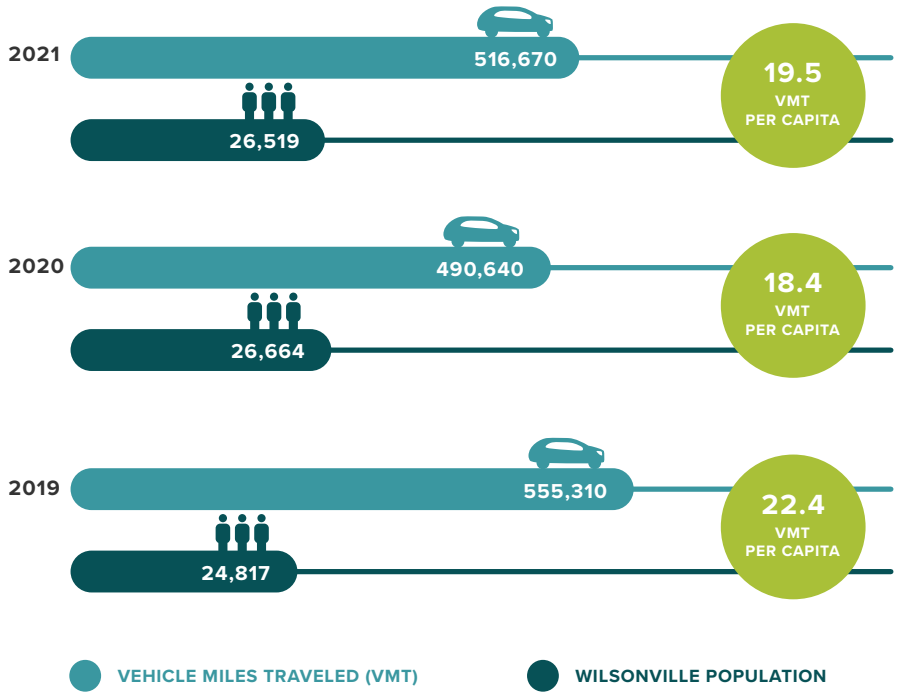
Metro has identified performance targets for VMT, which is to reduce VMT per capita by 10% by 2040 compared to 2015.[1]

The figure to the right shows the vehicle miles traveled in Wilsonville for an average weekday. The VMT per capita was 19.5 in 2021, which is a decrease of 13% compared to the VMT in 2019. The VMT in 2020 was even lower at 18.4 vehicle-miles.

The VMT data was acquired from Replica, which is an activity-based travel demand model that simulates the complete activities and movements of residents, visitors, and commercial vehicles on a typical day.

It should be noted that the VMT shown here represents vehicle miles traveled (VMT) by all trips that use the Wilsonville street network. This includes residents and nonresidents as well as trips that may not start or end in Wilsonville.

VEHICLE MILES TRAVELED IN WILSONVILLE (AVERAGE WEEKDAY)



Published population statistics for 2021 were estimated based on the 2020 census.

Based on data from the Oregon Department of Transportation (ODOT), the number of vehicle miles traveled in Oregon in 2021 was 36.8 billion vehicle-miles. The population estimate for Oregon in 2021 was 2.64 million people, resulting in a daily VMT per capita of 23.8 for Oregon public roads.[2] Clackamas County has a daily VMT per capita of 11.7 vehicle-miles in 2021 based on the same ODOT data.

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[1] *Chapter 7 - Measuring Outcomes, Regional Transportation Plan, Metro, December 2018.*
[2] *https://www.oregon.gov/odot/Data/Pages/Traffic-Counting.aspx#VMT*

PAVEMENT CONDITION

Updated data was not included in this Performance Monitoring Report, but will be provided in future reports. However, Recommended Action(s) from the previous report are carried over to this update.

CROSS-SECTION COMPLIANCE

Updated data was not included in this Performance Monitoring Report, but will be provided in future reports. However, Recommended Action(s) from the previous report are carried over to this update.

TRANSPORTATION MODE SHARE

Accommodate transportation choices for drivers, pedestrians, bicyclists, and transit riders.

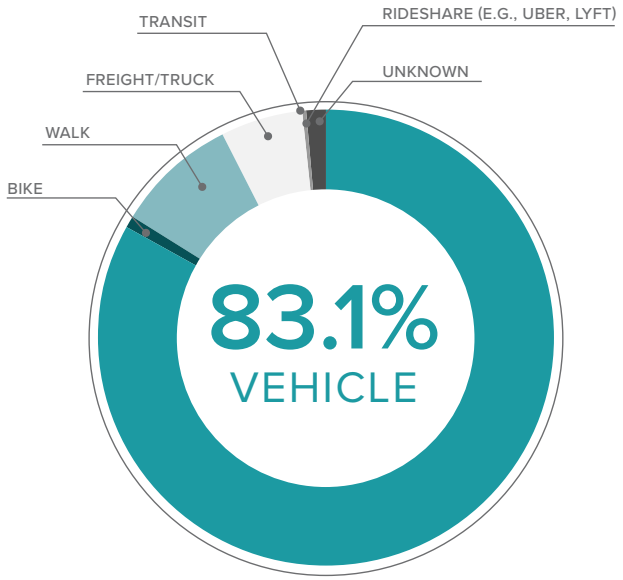
Transportation mode share measures the relative use of transportation options in the City. These options principally include motor vehicle use, walking, biking, and public transit; though travel modes also can include skateboards and wheelchairs. Additional micro-mobility trends such as E-scooters are growing in popularity. E-scooters are not currently available in Wilsonville, but have been available to the public via pilot programs in Tualatin and Tigard.

The graphic to the right shows the mode share breakdown for transportation trips in Wilsonville. While automobile use is the predominant travel mode in Wilsonville and provides an important means for the majority of users to access local and regional destinations, it is important for Wilsonville to make other transportation options available to residents, employees, and visitors due to health, equity, and economic benefits. The mode share trips were acquired from Replica, which is an activity-based travel demand model that simulates the complete activities and movements of residents, visitors, and commercial vehicles on a typical day.

Travel options are particularly important to those who may have physical or economic limitations that prevent them from driving their own personal vehicle. In addition, active options such as walking and biking support healthy lifestyles, are economic, and can help reduce traffic congestion and greenhouse gasses – particularly around schools and in areas with higher residential and commercial density.

Metro has identified performance targets for non-driving mode share percentages, which is to triple the walking, biking, and transit mode shares by 2040 compared to 2015.[1]

TRIPS IN WILSONVILLE BY TRANSPORTATION MODE[2]



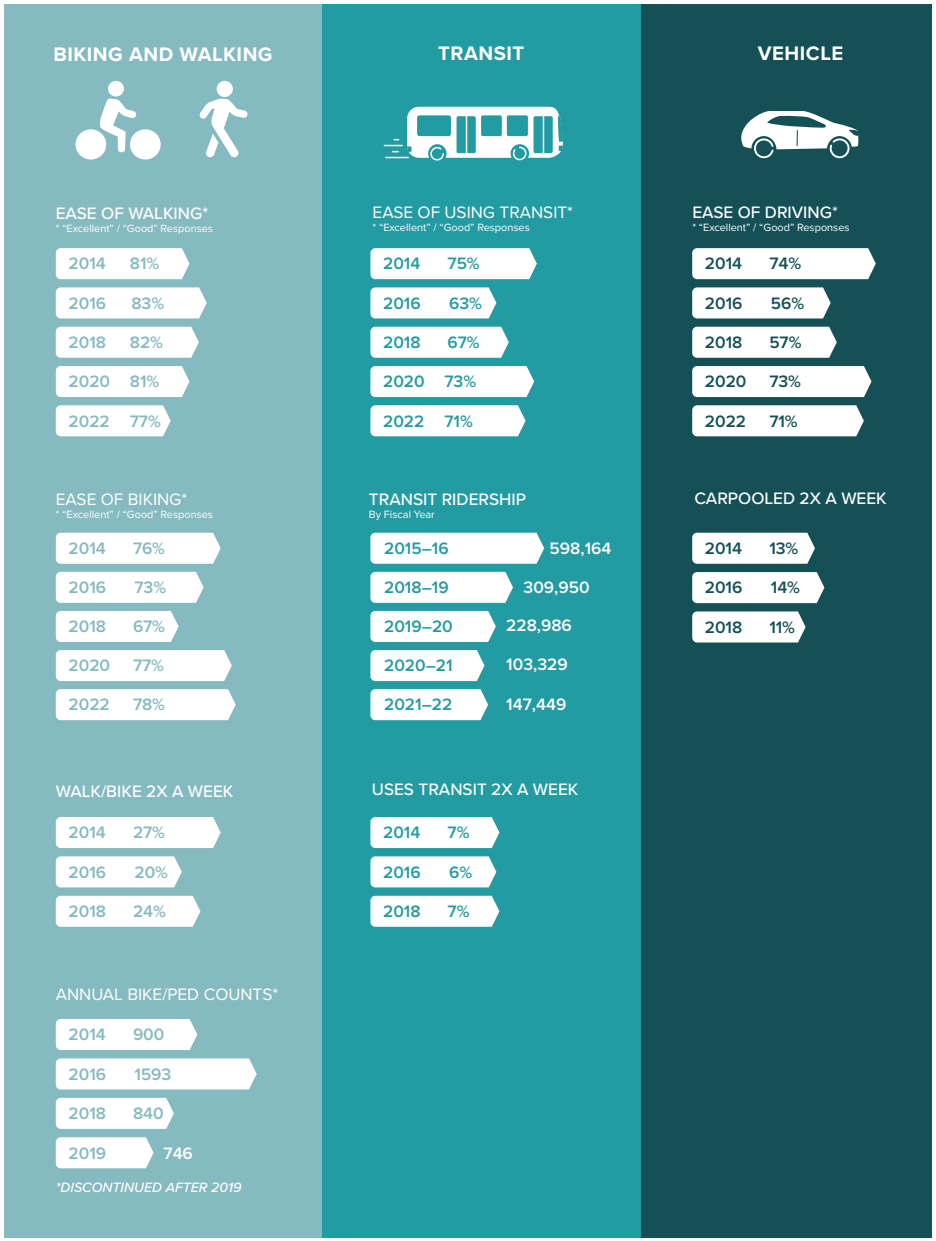
PERCENT	TRIPS	TRANSPORTATION MODE
83.1%	209,400	VEHICLE
0.9%	2,264	BIKE
8.8%	22,082	WALK
5.6%	14,132	FREIGHT / TRUCK
0.1%	166	TRANSIT
0.3%	768	RIDESHARE (E.G., LYFT, UBER)
1.3%	3,200	UNKNOWN

[1] *Chapter 7 - Measuring Outcomes, Regional Transportation Plan, Metro, December 2018.*

[2] *Mode Share in Wilsonville (Data Source: Replica, 2021)*

The graphic to the right depicts trends in survey results from the Wilsonville Nation Citizens Surveys (NCS) from 2014 to 2022, as well as transit ridership data from SMART (South Metro Area Regional Transit). The NCS is a bi-annual survey that gathers residents' opinions about community livability, infrastructure, and government services. The questions related to walking, biking, transit, and driving were reported for the surveys between 2014–2022. The percentages shown indicate the percent of residents that would rate the ease of using the particular transportation mode as "Excellent" or "Good". A summary of the trends in Wilsonville transportation modes is as follows:

- Residents' perception of ease of biking in Wilsonville showed a declining trend between 2014 and 2020, but showed a significant increase in approval in 2020 and 2022. The increase in ease of bicycle use may be due to the construction of new bicycle lanes and addition of buffers to existing bike lanes in key areas of the City between 2020 and 2022. See Page 8 for those locations.
- Residents' perception of ease of driving increased in 2020 and 2022, this may be due to the negative growth in vehicle volumes due to the COVID-19 pandemic and increase in telecommuting options for Wilsonville residents and employees.
- Ease of transit use also increased in 2020 and 2022. Around 2020, SMART implemented real-time bus tracking for the transit system that alerts riders to route changes and gives them a better idea of when buses will arrive.
- Annual bicycle and pedestrian counts were overseen by SMART, collected by volunteers at key locations, and supported by Metro and The National Bicycle and Pedestrian Project. The program was discontinued after 2019.
- SMART transit ridership was trending downward between 2014 and 2019 and took a steep decline in numbers in fiscal year 2020/2021. This is due to the COVID-19 pandemic, which resulted in a sudden increase in telecommuting and reduced demand for transit services. The ridership numbers slightly increased the following year (2021/2022) and are expected to continue to increase over the next few years as users gain comfort with transit options.



CHANGE IN BIKING AND WALKING TRIPS

Using Replica data[1], the change in biking and walking trips over the last few years in Wilsonville are reported below. The trips changes are further broken down into the following neighborhoods:

NORTHEAST	EAST	SOUTHEAST
East of I-5 and north of Boeckman Road	East of I-5 and between Boeckman Road and Wilsonville Road	East of I-5 and south of Wilsonville Road

VILLEBOIS + WEST	SOUTHWEST
West of I-5 and between Boeckman Road and Wilsonville Road	West of I-5 and south of Wilsonville Road

The trip data shown in the data table are biking and walking trips that originated in the neighborhood listed.

For biking trips, there was an average 60% decrease in trips in Wilsonville between 2019 and 2021. However, the biking trip numbers increased by two-fold (approximately 100%) on average between 2021 and 2022, meaning that the current number of biking trips are almost back to what they were in 2019.

For walking trips, there was an average 25% increase in trips in Wilsonville between 2019 and 2021. Between 2021 and 2022, the increase in walking trips was lower at an average of 1% - 5%.

	BIKING TRIPS		WALKING TRIPS	
NEIGHBORHOODS	2019-2021	2021-2022	2019-2021	2021-2022
NORTHEAST	-60%	150%	15%	1%
EAST	-65%	95%	35%	1%
SOUTHEAST	-60%	55%	25%	-5%
VILLEBOIS + WEST	-60%	110%	30%	-5%
SOUTHWEST	-55%	50%	15%	15%

It is reasonable to assume that biking and walking trips could continue to increase through the next few years, especially in the East and Northeast Neighborhoods as more planned residential and commercial-retail development is expected to occur.

[1] *Replica is an activity-based travel demand model that simulates the complete activities and movements of residents, visitors, and commercial vehicles on a typical day.*

PUBLIC SATISFACTION OF FACILITIES

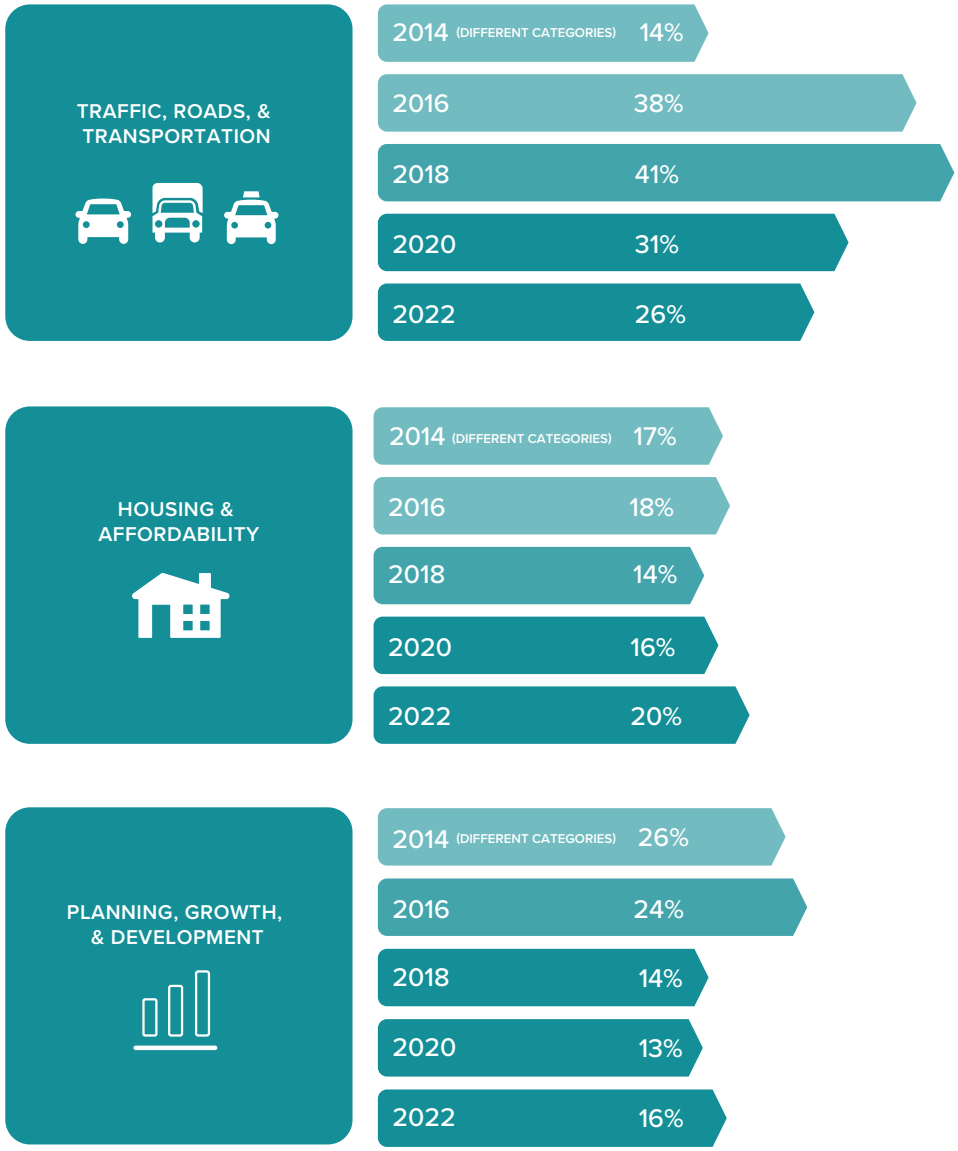
Maintain positive citizen satisfaction with the City's transportation facilities and services.

Citizen surveys are a helpful way to gauge public perception regarding the effectiveness of Wilsonville's transportation system. The purpose of the transportation system is to connect residents, employees, and visitors with their desired destinations, and to do so in a safe and convenient manner. By understanding a wide range of user perspectives, the City can identify areas where improvements can be made and are likely to be most appreciated by the public.

The National Citizens Survey (NCS) captures residents' opinions within three pillars of a community (Community Characteristics, Governance, and Participation) across eight central facets of community (Safety, Mobility, Natural Environment, Built Environment, Economy, Recreation and Wellness, Education and Enrichment, and Community Engagement).

Based on the survey results, Wilsonville residents have continued to identify Traffic and Infrastructure as the biggest priority facing the City (26% of total responses in 2022) over Housing & Affordability and Planning, Growth, & Development.

BIGGEST PRIORITY FACING THE CITY, ACCORDING TO RESIDENTS



PERFORMANCE MEASURES

GOAL 7: PROMOTES LIVABILITY

PERCEPTION OF CONDITIONS (BASED ON NCS RESULTS)

OVERALL QUALITY OF TRANSIT SYSTEM*

No data prior to 2020

- 2020 77%
- 2022 73%

BUS OR TRANSIT SERVICES*

- 2014 83%
- 2016 80%
- 2018 83%
- 2020 82%
- 2022 78%

TRAFFIC FLOW ON MAJOR STREETS*

- 2014 66%
- 2016 43%
- 2018 38%
- 2020[1] 49%
- 2022[1] 46%

[1] *Recent citizen ratings of traffic flow on major street in Wilsonville has improved since 2018, likely due to the reduction in vehicle volumes and average vehicle delay post-COVID.*

TRAFFIC SIGNAL TIMING*

- 2014 64%
- 2016 61%
- 2018 60%
- 2020 58%
- 2022 58%

STREET REPAIR*

- 2014 75%
- 2016 71%
- 2018 63%
- 2020 67%
- 2022 59%

AVAILABILITY OF WALKING PATHS AND TRAILS*

- 2014 84%
- 2016 84%
- 2018 83%
- 2020 89%
- 2022 79%

STREET LIGHTING*

- 2014 84%
- 2016 84%
- 2018 83%
- 2020 86%
- 2022 85%

SIDEWALK MAINTENANCE*

- 2014 84%
- 2016 84%
- 2018 83%
- 2020[2] 65%
- 2022[2] 57%

[2] *Recent citizen ratings of the city's sidewalk maintenance has significantly decreased since 2018.*

* *"Excellent" / "Good" Responses*

HEALTHY CONDITIONS AND LIFESTYLE OPTIONS

Provide transportation facilities that support improved health of residents.

Health conditions and healthy lifestyle choices are an essential contributor to livability and are enhanced by an individual's built environment, including the transportation system. Families, employees, and others benefit from convenient and attractive paths and trails that support outdoor recreation, activity, and travel.

The City of Wilsonville can encourage and support resident's healthy lifestyles by making active transportation options available. Over the years, the National Citizen Survey results indicate that there is not much change in how many residents have a positive perception (i.e., rating as excellent or good) of the fitness opportunities in Wilsonville, which include exercise classes, paths or trails, etc. The City should continue to encourage active transportation as a healthy option for citizens as they enhance the multimodal network described in Goal 2.

HEALTH AND WELLNESS

FITNESS OPPORTUNITIES

"Excellent" / "Good" Responses

(INCLUDING EXERCISE CLASSES AND PATHS OR TRAILS, ETC)

2014	81%
2016	66%
2018	72%
2020	80%
2022	69%

GENERAL PERCEPTION OF PERSONAL HEALTH

"Excellent" / "Very Good" Responses

2014	69%
2016	67%
2018	69%
2020	71%
2022	70%

RECOMMENDED ACTIONS

This performance report update continues to support Wilsonville's effort towards improved performance management of its transportation system. The Transportation System Performance Monitoring and Reporting Program tracks system-wide performance measures which align with the City's transportation goals. Tracking the performance measures on a regular basis, through updated bi-yearly future reports, will allow the benefits of public investments and private development to be better understood and directed more effectively.

TSP GOAL	MEASURE	RECOMMENDED ACTION(S)
1 SAFE	Fatal and Serious Injury Collisions	Identify funding for TSP projects that improve multimodal safety. Identify corridors and intersections where, based on safety data, the visibility of vehicles, pedestrians, and bicycles could be improved with lighting. Implement intersection design treatments to increase awareness and improve compliance at traffic control locations. Identify eligible locations within the City that would be competitive for ARTS safety funding (e.g., Wilsonville Road and Town Center Loop West). Prioritize and implement safety-oriented projects in the Town Center Master Plan.
2 CONNECTED AND ACCESSIBLE	Multimodal Connectivity	Continue to require streets, sidewalks, and bicycle and pedestrian connectivity through developments, connecting planning and city capital improvement projects. Identify funding for projects that provide sidewalk infill, improve key pedestrian crossings, make new bike lane connections, and install bike lane buffers. Consider adding bike lanes on Ridder Road, Parkway Avenue (Holly Lane to Memorial Drive), and Elligsen Road (Parkway Center to Canyon Creek) to fill gaps in bicycle connectivity. All would require roadway widening with varying levels of right-of-way and geographical constraints.

Goals and Recommended Action(s) continue on following page.

RECOMMENDED ACTIONS

TSP GOAL	MEASURE	RECOMMENDED ACTION(S)
3 FUNCTIONAL AND RELIABLE	Intersection PM Peak Hour Delay	Continue upgrading traffic signal controllers to allow for the collection of automated transportation performance data. Review intersection performance measures and work with Clackamas County to evaluate corridors (Wilsonville Road, Boones Ferry Road, and Elligsen Road) that would benefit from optimized signal timing and/or coordination.
	Vehicle Miles Traveled	Implement or improve bicycle and pedestrian programs, carpooling and rideshare programs, complete streets, and transit-oriented development to reduce VMT. Continue building pedestrian, bicycle, and transit facilities for all ages and abilities to encourage mode shift and reduce VMT.
	Travel Time Reliability on Key Arterial Routes	Identify acceptable travel times and buffer indexes for key arterial corridors in Wilsonville. Coordinate with regional partners to share performance data and continue evaluation efforts on local and regional roadways.
	Travel Time Reliability on Freight Routes	Maintain acceptable travel time reliability for key freight route corridors in Wilsonville. Consider implementing recommendations from the Clackamas County ITS Plan to other facilities within the City such as travel time monitoring systems, transit signal priority (TSP), and adaptive signal timing.
4 COST EFFECTIVE	Pavement Condition	Continue to regularly inventory the PCI of City Streets via in-house staff.[1] Create an action plan for the public's high priority roadways that target areas of public concern and best prioritize the City's Pavement Management budget.[1] Partner with private developments to cost effectively fund full street pavement repairs as part of development construction.[1]
5 COMPATIBLE	Cross-section Compliance	Continue to implement the City's TSP Urban Upgrades (UU) projects that bring streets up to City cross section standards.[1]

Goals and Recommended Action(s) continue on following page.

[1] *Recommended Action(s) taken from previous Performance Report*

RECOMMENDED ACTIONS

TSP GOAL	MEASURE	RECOMMENDED ACTION(S)
6 ROBUST	Transportation Mode Share	Continue to support SMART in the investment of capital projects identified in the recently approved Transit Master Plan that focus on increasing transit frequency and expanding transit service to areas like Frog Pond and Town Center to encourage transit use. Coordinate with Clackamas County to attain bike and pedestrian data at traffic signals to monitor annual walking and biking usage in Wilsonville. Explore bicycle detection with upgraded signals to enhance safety and bikeability throughout the City while collecting modal data that can be used in the performance monitoring process. Continue building pedestrian, bicycle, and transit facilities for all ages and abilities to encourage mode shift.
7 PROMOTES LIVEABILITY	Public Satisfaction of Facilities	Continue to use citizen surveys, such as the National Citizen Survey (NCS), on a bi-yearly basis to track and monitor citizen's opinions on the City's transportation system. Use responses to guide funding decisions and promote programs and projects that matter to citizens. Specifically, traffic flow, street repair, sidewalk maintenance, and transit service.
	Health Conditions & Lifestyle Options	Identify new data sources or metrics to analyze the relationship between Wilsonville's transportation system and the health of its residents. Implement complete streets policies that require or encourage a safe, comfortable, integrated transportation network for all users, regardless of age, ability, income, ethnicity, or mode of transportation. Implement social media and news campaigns to promote active transportation and improve citizen awareness of existing walking and biking infrastructure as well as campaigns of future walking and biking projects built by the City.

PLANNING COMMISSION

WEDNESDAY, OCTOBER 11, 2023

INFORMATIONAL

6. City Council Action Minutes (September 18, 2023) *(No staff presentation)*

City Council Meeting Action Minutes
September 18, 2023

COUNCILORS PRESENT
Mayor Fitzgerald
Council President Akervall
Councilor Linville
Councilor Berry
Councilor Dunwell

STAFF PRESENT
Amanda Guile-Hinman, City Attorney
Kimberly Veliz, City Recorder
Jeanna Troha, Assistant City Manager
Beth Wolf, Senior Systems Analyst
Andy Stone, IT Director
Zoe Mombert, Assistant to the City Manager
Dwight Brashear, Transit Director
Matt Lorenzen, Economic Development Manager
Stephanie Davidson, Assistant City Attorney
Cindy Luxhoj, Associate Planner
Miranda Bateschell, Planning Director
Georgia McAlister, Associate Planner
Chris Neamtzu, Community Development Director
Kimberly Rybold, Senior Planner
Mark Ottenad, Public/Government Affairs Director

AGENDA ITEM	ACTIONS
WORK SESSION	**START:** 5:00 p.m.
A. Information Technology Strategic Plan	Staff and consultants introduced the newly updated Information Technology (IT) Strategic Plan to Council.
B. Town Center Urban Renewal Feasibility Study	Council heard an update on the Town Center Urban Renewal Feasibility Study.
C. Coffee Creek Code Assessment	Staff shared they had initiated an assessment of the Coffee Creek Industrial Design Overlay District form-based code and sought input from Council on the direction of possible Development Code amendments to the form-based code standards and review process.
D. Proposed Updates to Solid Waste Franchise Agreement and related Administrative Rules	Staff informed Council of potential policy changes on proposed updates to the solid waste collection franchise agreement with Republic Services.
REGULAR MEETING	
Mayor's Business A. Upcoming Meetings	Upcoming meetings were announced by the Mayor as well as the regional meetings she attended on behalf of the City.

Communications A. Mediterranean Oak Borer	Staff reported on a new pest called the Mediterranean Oak Borer that had been found in Wilsonville.
Consent Agenda A. **Resolution No. 3085** A Resolution Of The City Of Wilsonville Authorizing The City Manager To Enter Into An Intergovernmental Agreement With Metro For Receipt Of Local Share Funds. B. **Resolution No. 3086** A Resolution Of The City Of Wilsonville Authorizing The City Manager To Execute The Tri-County Metropolitan Transportation District Of Oregon (TriMet) Subrecipient Agreement. C. Minutes of the August 21, 2023 City Council Meeting.	The Consent Agenda was approved 5-0.
New Business A. None.	
Continuing Business A. None.	
Public Hearing A. **Ordinance No. 881** An Ordinance Of The City Of Wilsonville Adopting Wilsonville Code Sections 10.800 Through 10.870 Governing Parking In City-Owned Parking Lots. B. **Ordinance No. 882** An Ordinance Of The City Of Wilsonville Amending The Text Of The Development Code To Clarify Review Processes And Correct Inconsistencies.	After a public hearing was conducted, Ordinance No. 881 was approved on first reading by a vote of 5-0. After a public hearing was conducted, Ordinance No. 882 was approved on first reading by a vote of 5-0.
City Manager's Business	The Assistant City Manager announced the following upcoming events: • Story Walk on October 13, 2023 • Emergency Preparedness Fair on October 28, 2023
Legal Business	No report.
EXECUTIVE SESSION	Council met in Executive Session pursuant to ORS 192.660(2)(a) and ORS 192.660(2)(h).
ADJOURN	9:38 p.m.

PLANNING COMMISSION

WEDNESDAY, OCTOBER 11, 2023

INFORMATIONAL

7. 2023 PC Work Program *(No staff presentation)*

2023 DRAFT PC WORK PROGRAM SCHEDULE

Updated 8/23/2023

AGENDA ITEMS			
Date	**Informational**	**Work Sessions**	**Public Hearings**
JANUARY 11		• Frog Pond E+S Implementation	
FEBRUARY 8		• Frog Pond E+S TSP • Frog Pond E+S Implementation	
MARCH 8		• Frog Pond E+S Implementation	• Frog Pond E+S TSP
APRIL 12		• Transit Master Plan • Frog Pond E+S Implementation	
MAY 10		• Frog Pond E+S Implementation	• Transit Master Plan
JUNE 14	• Annual Housing Report	• Housing Needs & Capacity Analysis	
JULY 12		• Procedural Develop Code Cleanup • Frog Pond E+S Implementation	
AUGUST 9	**CANCELLED**		
SEPTEMBER 13		• Coffee Creek Assessment	• Development Code Process Clarifications
OCTOBER 11	• Transportation Performance Monitoring Report 30	• Frog Pond E+S Implementation 30 • Stormwater System Master Plan 45 • Wastewater Treatment Plan Update and Review (brief work session) 15	
NOVEMBER 8	HOLD for public event on housing		
DECEMBER 13		• Coffee Creek Assessment 45 • Frog Pond E+S Implementation 45	• Wastewater Treatment Plant Master Plan 30
JAN. 10, 2024	•	• Frog Pond E+S Implementation 60	• Stormwater System Master Plan 60

2023 Projects		Future (2024)/Potential Fill In Projects	
• Annual Housing Report • Housing Needs Analysis • Housing Production Strategy • Transit Center TOD • Transit Master Plan Update	• Frog Pond E&S TSP Ammend. • Frog Pond E&S Devt. Code	• TC Programming Plan • TC Ec Dev/Business Retention • Mobile Food Vendor Standards • Basalt Creek Zoning • Basalt Creek Infrastructure	• CFEC Parking Code Updates & TC Parking Study • CFEC Transportation Model Update • CFEC TSP Update (2025)

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