Exploring Green Stormwater Infrastructure Funding and Financing Options for Eugene, Oregon

Final
January 19, 2022

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Executive Summary

In January 2021, as a continuation of the GSI Funding Academy held in 2020, the City of Eugene joined a cohort of communities around the country to explore innovative localized strategies that help build community resilience by scaling up investments in green infrastructure while keeping water services affordable for all. Other participants include San Mateo County, CA, Sheboygan, WI, and Green Bay, WI. Offered by Water Now Alliance through its Tap into Resilience initiative and the team of American Rivers and Corona Environmental Consulting, over the last ten months participants have received technical support, information, tools and resources to potentially scale investment in green infrastructure for stormwater management (GSI).

With over 400 public property GSI facilities and 1,200 private property facilities, and intentions to continue to install additional green infrastructure facilities, Eugene faces challenges with the rising cost of ongoing operation and maintenance (O&M) of public facilities and oversight of maintenance of private facilities, which are currently the responsibility of the City's Parks and Open Space Division. To support the City's efforts to build green infrastructure throughout the community on public and private property while meeting operation and maintenance needs, in partnership with WaterNow, American Rivers, and Corona Environmental Consulting, a multidisciplinary team of city engineers, financial managers, and GSI operators from City Public Works have been exploring funding, financing, and incentives that may be available to Eugene.

In particular, WaterNow worked with the City to explore funding and financing options for addressing the rising cost of GSI facility maintenance and to further enhance investment in GSI facilities on public and private property for accelerated environmental benefits. This report details WaterNow's exploration of approaches to closing the identified funding gap for ongoing O&M costs, examination of Eugene's options to leverage municipal bonds or other forms of debt to finance capital investments in public and private GSI facilities, and provides a hypothetical example of how Eugene might finance an enhanced GSI program.

Funding Options for Green Infrastructure O&M

To support the City's exploration of how to meet increasing green infrastructure O&M needs, WaterNow discussed issues and opportunities with the project team. As to issues, the project team identified limited funding for ongoing O&M of existing, and potentially future, GSI facilities as a key constraint on the City's GSI program. As of November 2021, the estimated gap in funding for O&M totals $310,000 annually; this is not a finite amount, however. As more GSI facilities come online, the O&M funding shortfall may continue to grow.

As to opportunities, WaterNow has explored two options for meeting Eugene's green infrastructure O&M needs: (1) increased stormwater fees, and (2) co-funding O&M with other revenues. The first option will be of no surprise to the City. The second may be a more novel approach. To close the estimated $310,000 annual O&M funding gap, an additional stormwater fee increase of 1.5% would be needed. This level of increase would be in addition to regular rate increases to maintain the City's level of stormwater services generally and keep pace with inflation. This combined increase would be within the historical range WaterNow identified based on past fee orders. Whether, and by how much, to increase stormwater fees is, of course,

a complex matter. WaterNow provides this summary for informational purposes only to aid in the City's evaluation of options.

Additional options for co-funding GSI operations and maintenance WaterNow explored include the road fund and/or wastewater user fees. GSI facilities provide multiple benefits in addition to water quality improvement. These multiple benefits include:

- reduce inflow and infiltration into the sanitary sewer system helping prevent sewer overflows and basement backups,
- reduced wastewater treatment costs,
- increased road safety, and
- reduced commuter stress.

Given these multiple benefits and the apparent flexibility of applicable legal requirements for the use of road funds and wastewater user fee revenues, there appear to be no legal impediments to using these funds to support GSI operation and maintenance. However, WaterNow's analysis provides only an initial horizon scan for potential barriers. If Eugene were to consider accessing these revenues to help close the green infrastructure O&M gap, Eugene's legal counsel would need to conduct an in-depth legal review and analysis.

Financing Options for Enhanced GSI Investments

GSI serves as a vital stormwater management solution for the City. Eugene has a growing portfolio of GSI facilities. To maximize stormwater management and co-benefits, cities like Eugene will need to be positioned to make significant investments in GSI—just as they would for other stormwater management projects. These investments will need to extend to GSI facilities on publicly owned property, as well as private property, because a great deal of stormwater runoff is generated from private property.

In most instances, the level of investment needed to achieve maximum benefits of GSI is far in excess of what most cities and utilities can afford to divert from their annual operating budgets without imposing significant rate increases or even experiencing rate shock. To mitigate these rate impacts, GSI facilities on public and private property can be financed as long-term capital projects. Municipal bonds and other forms of debt have long been the financing vehicle of choice for cities, water utilities, and other public agencies to pay for long-term capital projects such as pipes, tunnels, and treatment plants. This same debt-financing approach can be applied to GSI investments.

Debt-financing GSI can also be appropriate from an accounting-policy perspective. It matches the benefits with costs of GSI. Because GSI provides long-term stormwater management benefits, the costs of those projects are appropriately paid for over the long-term rather than as annual expenses. And it provides inter-generational equity ensuring that both current and future ratepayers bear the burden of the cost, because current and future ratepayers both enjoy the benefits.

Incurring debt is not without its risks. On October 12, 2021, to share highlights from this funding exploration, elicit feedback and discussion, and identify ways to communicate about and

navigate these topics, WaterNow, American Rivers, and Corona Environmental and the City convened a workshop with Eugene's Stormwater Management Team. During the workshop, City management and staff shared their views on the pros and cons of debt-financing GSI investments. The full set of comments from the brainstorming exercise are reflected in ***Appendix A* – *Brainstorming Pros & Cons of GSI Financing Options***. Key points are listed in the table below.

Pros	Cons
"Debt is uncomfortable, but creative approaches to incentives sound interesting."	"We lose span of control over private facilities, I worry about investing public dollars without also investing significantly more oversight in ongoing functionality."
"Cleaner water now, pay for it later!"	"Debt limits options for us down the road."
"Investing in GSI now will pay off in the future, potentially attracting people and businesses to Eugene and increasing the livability of our city."	"Don't want to saddle future generations with debt we (current generation) [have] accrued."

Whether and when to debt-finance GSI investments is a multifaceted decision that will depend on Eugene's unique needs and circumstances. WaterNow's analysis of available financing options is aimed at supporting future conversations about enhancing right-sized GSI investments in Eugene by providing City staff and decisionmakers a menu of available financing options, as well as an overview of how Eugene can account for capital investments in GSI incentives.

WaterNow's evaluation of available options included: (1) municipal revenue bonds; (2) state revolving fund loans; and (3) Water Infrastructure Finance and Innovation Act (WIFIA) loans. Initial review of the legal requirements for accessing each of these options indicates that there are no legal impediments to using these mechanisms to finance GSI facilities on both public and private property. GSI facilities serve public purposes, and are already a well-established component of Eugene's stormwater management strategies.

Further, from an accounting perspective, as a municipality empowered to set rates, Eugene can likely meet the requirements for capitalizing investments in GSI with Regulated Operations accounting. Regulated Operations accounting allows public agencies to book the cost of "business-type activities" as assets instead of annual expenses. The Regulated Operations approach is a complete alternative to traditional public agency accounting for capital assets, and, importantly, allows local governments to access municipal bond proceeds and other forms of debt to invest in consumer rebate (and/or direct installation) programs. For example, Los Angeles Department of Water and Power uses municipal bond proceeds to finance consumer

rebate programs for a variety of water efficiency and stormwater capture programs, including rebates for water-efficient installations, high-efficiency washing machines, permeable pavement, rain barrels, cisterns, and replacement of turf with low-water landscaping using Regulated Operations accounting.

Putting It All Together: A Eugene Hypothetical

To envision how the City might finance an enhanced GSI program in Eugene, WaterNow's municipal finance expert developed a hypothetical capital and O&M spending plan for the City. The hypothetical plan reflects investments in 15 regional-scale GSI projects on public property as well as an annual investment of $100,000 in parcel-scale GSI facilities on private property over a 10 year timeline. The full spending plan is available in ***Appendix B* – *Financing Scenarios Summary Worksheet***.

Because the spending plan is a hypothetical example, it is based on several assumptions discussed with the project team, which are:

- Fifteen regional-scale public projects were estimated to cost $1.24 million each with two projects to be completed each year from year 2 through year 8, and only one project completed in year 9. Capital costs for regional-scale projects total $18.58 million.
- Parcel-scale private GSI facilities capital costs total $1 million.
- Additional maintenance costs for new public regional-scale installations were estimated to be 2% of the construction costs per year for each major project for a total of $840,000 during the 10-year timeline of the hypothetical plan.
- Maintenance costs for private property GSI facilities were assumed be the sole responsibility of the private property owner and oversight of these private property facilities assumed to be conducted by a party other than the City.
- Closing the O&M gap for existing GSI facilities was assumed to cost $300,000 annually, or a 1.5% increase on 2022 rates.

in sum, the enhanced spending plan would cost a total of approximately $20.42 million over 10 years. WaterNow next developed three options based on this spending plan. Option 1 represents Eugene's existing program, serving as a baseline. Options 2 and 3 examine how Eugene could fund and finance an enhanced GSI program, laying out both cash-funded and debt-financed scenarios and the related rate impact of those scenarios:

- Option 1: assumes no changes to the City's current program and that $300,000 to cover O&M would be transferred from the capital to operating budget. There would be no rate impact under Option 1.
- Option 2: assumes a $20 million enhanced program implemented over 10 years with the City returning to its baseline program after year 10.
    - Option 2A: the City would cash fund the enhanced program by raising stormwater rates by 4% in the first year and 10% the second year. No rate increase would be needed in year 3 or year 4. An increase of 0.2% would be needed in years 5-8, reflecting the enhanced program's ongoing O&M needs. Rates would then be reduced by 8.5% in year 9 and by 2.5% in year 10.

- Option 2B: the City would debt-finance[i] the enhanced program splitting the capital investments between year 1 and year 5 and ending the enhanced capital program in year 9. In year 1, rates would increase 3.75%; in year 5 rate would increase 2.45%. There would be no rate increase in year 3 or year 4, and increases in years 6-10 would be 0.2% for continuing O&M.

- Option 3: assumes a $20 million enhanced program implemented over 10 years, and that the City would then keep that level of capital spending indefinitely, i.e., there would be no assumed rate reductions.
  - Option 3A: the City would cash fund the enhanced program by raising stormwater rates by 4% in year 1 and 10% in year 2. No rate increase would be needed in year 3 or year 4. An increase of 0.2% would be needed in years 5-10, reflecting the enhanced program's ongoing O&M needs.
  - Option 3B: the City would debt-finance the enhanced program in year 1 then build up annual revenue to cash fund the enhanced program. Rates would increase by 4% in year 1 and by 2.5% years 2-5. An increase of 0.2% would then be needed in years 6-10, reflecting ongoing O&M.
  - Option 3C: the City would debt-finance the enhanced program as under Option 3B, but spread the cost of closing the current O&M gap over the first three years of the plan rather than transferring funds from the capital budget. Rates would increase by 3% in years 1-3; by 2.5% in years 4-5; and by 0.2% in years 6-10.
  - Option 3D: the City would close the current O&M gap in year 1 by increasing rates rather than transferring funds from the capital budget. It would then debt-finance the enhanced program in years 2-6. A rate increase of 1.5% would be needed in year 1. Rates would increase by 2.5% in years 2-5; by 2.7% in year 6; and by 0.2% in years 7-10.

It should be noted that these estimated rate increases would be in addition to any increases needed to operate and maintain the City's stormwater system generally, as well as increases to keep pace with inflation. WaterNow's review of Eugene's past rate increases from 2016-2022 shows that increases have ranged from 3% in 2022 to 7.5% in 2017; the median increase since 2016 was 4%; and there were no increases in 2020 or 2021. Thus, the rate impact of several of the options explored in the hypothetical plan, including, in particular, the debt-financed options, would theoretically keep the City's rate increases to pay for an enhanced GSI program within the upper bounds of this historical range.

These scenarios are meant to show how Eugene could leverage debt-financing to theoretically make an upfront capital investment of $20 million in GSI and maintain those new facilities while mitigating rate increases. Such an upfront infusion of funding could help the City accelerate the environmental benefits of GSI, meeting its twin goals of addressing rising costs of GSI facility maintenance and enhancing investment in GSI facilities on public and private property. This

[i] Incurring $10 million in debt for 30 years at 2.0% would have an ultimate total cost of $13.4 million. If the annual inflation rate is 2% over that 30-year time period, given the time value of money, the cost of the debt would essentially be the same as if the money that would be used to service the debt were kept in the bank.

hypothetical mix of projects also provides a framework for decision making going forward. In that process, decisionmakers will need to consider:

1. What is the appropriate level of green infrastructure spending?
2. Is it possible to raise the revenue needed to meet the level of spending?
3. What is the appropriate and feasible mix of revenues?

Additional considerations raised during the October 12 workshop include concern that debt would limit the City's ability to respond to current economic conditions by creating a fixed cost, i.e., debt service, and that other City programs are under resourced, so adding GSI expenditures on these revenues would exacerbate existing funding constraints. As positive considerations, it was noted that removing the limit on funding for projects on private property would give the City flexibility to site projects within the stormwater system where they can have the biggest stormwater impacts, and that partnering with private property owners may motivate more citizens to engage with stormwater management.

Conclusion

There are no silver bullets to answering the questions and weighing the considerations explored over the course of this project. There are, however, a variety of funding and financing pathways available to Eugene to support the City's efforts to build green infrastructure throughout the community while meeting operation and maintenance needs. Many of the legal and accounting requirements that are often perceived as barriers to enhanced investments in GSI can likely be resolved, offering the City options for building GSI not only on public property within its control, but also on private property through consumer incentive programs that encourage GSI retrofits. With this wide range of options in hand, Eugene planners and decisionmakers may have more flexibility in their future evaluation of a right sized GSI program for the City.

Table of Contents

Introduction

In January 2021, as a continuation of the GSI Funding Academy held in 2020, the City of Eugene joined a cohort of communities around the country to explore innovative localized strategies that help build community resilience by scaling up investments in green infrastructure while keeping water services affordable for all. Other cities participating include San Mateo County, CA, Sheboygan, WI, and Green Bay, WI. Offered by Water Now Alliance through its Tap into Resilience initiative and the team of American Rivers and Corona Environmental Consulting, over the last ten months participants have received technical support, information, tools and resources to potentially scale investment in green infrastructure for stormwater management (GSI).[1]

With over 400 public property GSI facilities and 1,200 private property facilities, and intentions to continue to install additional green infrastructure facilities, Eugene faces challenges with the rising cost of ongoing operation and maintenance (O&M) of public facilities and oversight of maintenance of private facilities, which are currently the responsibility of the Parks and Open Space Division. To support the City's efforts to build green infrastructure throughout the community on public and private property while meeting operation and maintenance needs, in partnership with WaterNow, American Rivers, and Corona Environmental Consulting, a multidisciplinary team of city engineers, financial managers, and GSI operators from City Public Works have been exploring funding, financing, and incentives that may be available to Eugene.

In particular, WaterNow worked with the City to explore funding and financing options for addressing the rising cost of GSI facility maintenance and to further enhance investment in GSI facilities on public and private property for accelerated environmental benefits. This exploration includes approaches to closing the identified funding gap for ongoing O&M costs, such as the level of rate increases needed and whether green infrastructure investments and O&M could be co-funded by stormwater fees and sewer and/or the road fund. WaterNow also examined Eugene's options to leverage municipal bonds or other forms of debt to finance capital investments in public and private GSI facilities. To provide a hypothetical example of what a debt-financed program in Eugene might include, WaterNow's municipal finance expert developed a hypothetical capital and O&M spending plan with three financing scenarios.

On October 12, 2021, to share highlights from this funding exploration, elicit feedback and discussion, and identify ways to communicate about and navigate these topics, WaterNow, American Rivers, and Corona Environmental and the City convened a workshop with Eugene's Stormwater Management Team. The workshop had 3 objectives. To—

(1) Identify a common understanding within the Stormwater Management Team about the current challenges associated with GSI, particularly related to O&M, and pros and cons of increased investment in distributed GSI;
(2) Surface pathways for navigating real or perceived barriers to addressing O&M funding challenges and further increasing investment in distributed GSI;
(3) Develop an initial framework and messaging about the community's investment in distributed GSI to potentially inform Eugene's upcoming Stormwater Basin Plan and

Retrofit Strategy updates, expanded metro-area partnership's retrofit strategy, or other near to mid-term work items on the horizon.

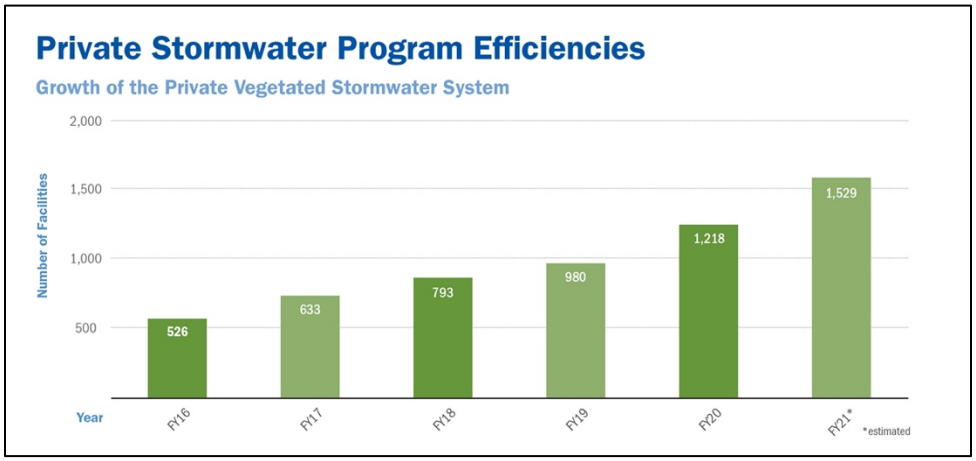
This report is the culmination of this exploration and reflects feedback provided during the October 12 workshop, and is organized into five main sections:

(1) Background: Green Stormwater Infrastructure in Eugene
(2) Funding Options for Green Infrastructure O&M
(3) Financing Options for Enhanced GSI Investments
(4) Accounting for GSI
(5) Putting It All Together: A Eugene Hypothetical

As detailed below, there are funding and financing pathways available to Eugene to support the City's efforts to build green infrastructure throughout the community on public and private property while meeting operation and maintenance needs. These pathways each have their unique benefits and drawbacks that City decisionmakers will need to weigh in the future planning or other policymaking processes. WaterNow provides the City with the below initial legal and accounting analyses to support Eugene's Stormwater Management Team, Stormwater Policy Team, and other decisionmakers' deliberations in these future discussions.

Background: Green Stormwater Infrastructure in Eugene

The City of Eugene Department of Public Works implements the City's Stormwater Management Program. Eugene faces two key water management challenges: (1) managing urban stormwater to meet multiple objectives and (2) reducing pollutant discharges in local waterways in compliance with the City's Phase I National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System permit (MS4 Permit). As part of the City's stormwater management, the City of Eugene has made significant investments in GSI projects located in the public right-of-way and on publicly owned land. In addition, post construction stormwater standards require/prioritize GSI for most new development and redevelopment projects. To date, the City has installed over 400 GSI facilities on public property. The post construction stormwater standards have resulted in over 1,200 private property GSI facilities, as shown in the chart to the left.



The pace of redevelopment is such that implementing code-required retrofits on private properties will take place at a relatively slow pace over several decades. Stormwater retrofits, via both public capital improvement projects and private voluntary projects, can help improve water quality at a quicker pace than the naturally slow pace of redevelopment. To help accelerate private retrofits, the City has partnered with the Long Tom Watershed Council to incentivize voluntary stormwater retrofits on private properties, and is participating in discussions regarding an expanded metro-area partnership. The City's partnership with Long Tom Watershed Council has nonetheless led to limited number of GSI retrofit projects due to limited availability of funding.

These measures, when taken together, represent a significant investment in water quality protection and improvement. Additional details about Eugene's GSI program, including drivers and future efforts related to GSI implementation, can be found in American Rivers and Corona Environmental's report, *Exploration of Green Stormwater Infrastructure Incentives in Eugene, Oregon* (Incentives Report).

Funding Options for Green Infrastructure O&M

With over 400 public property green infrastructure facilities and 1,200 private property facilities, and intentions to continue to install additional green infrastructure facilities, Eugene faces challenges with the rising cost of ongoing operation and maintenance of public facilities and oversight of maintenance of private facilities.

To support the City's exploration of how to meet these increasing O&M needs, this section outlines identified issues and opportunities discussed with the project team as well as potential ways to co-fund GSI operations, maintenance, and oversight with other City revenues. Because GSI can provide multiple benefits in addition to water quality improvement, such as reducing inflow and infiltration into the sanitary sewer system and traffic calming, the City may have the option to bolster its GSI funding sources by taking a portfolio approach combining several sources of revenue.

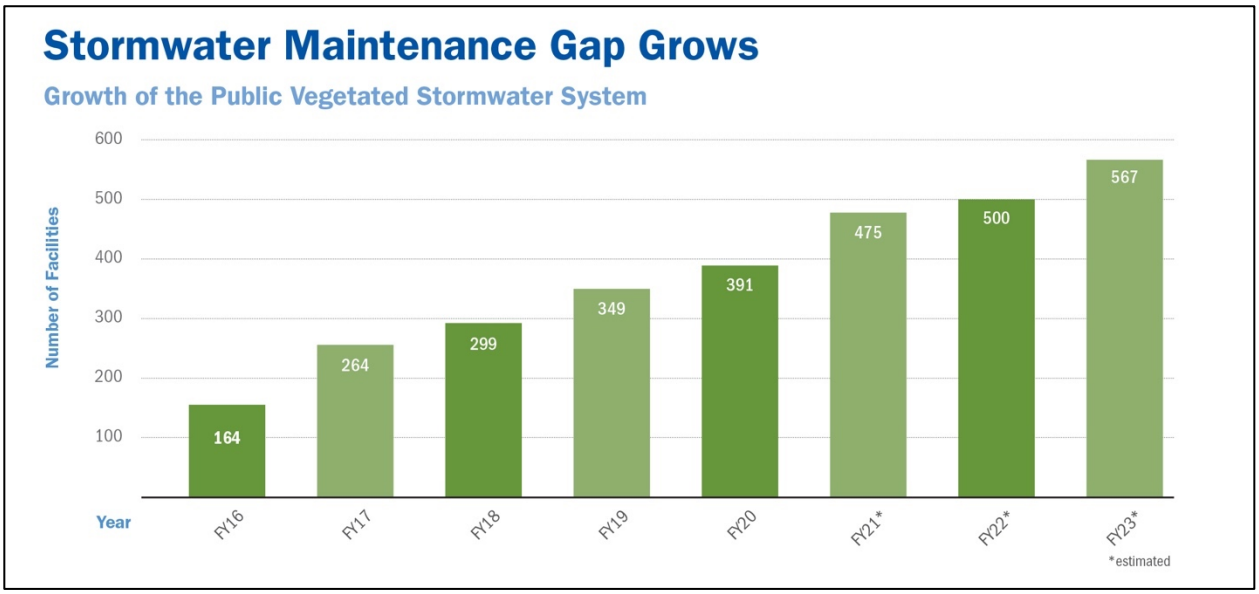
GSI Operation & Maintenance: Issues and Opportunities

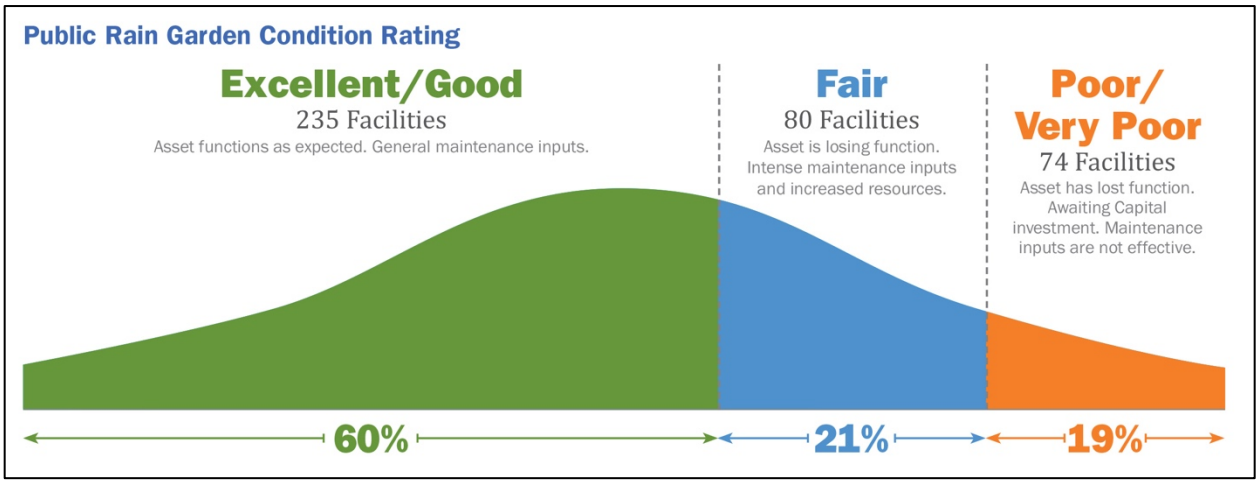
Throughout this project, the project team has identified limited funding for ongoing O&M of existing, and potentially future, GSI facilities as a key constraint on the City's GSI program. Operation and maintenance of GSI facilities on public property is currently the responsibility of the Parks and Open Space Division (Parks). Parks is also responsible for conducting oversight of the more than 1,200 private property facilities. The City currently has one full-time employee dedicated to this private facility O&M oversight.

As of November 2021, the estimated gap in funding for O&M totals $310,000 annually; this is not a finite amount, however. As more GSI facilities come online, the O&M funding shortfall may continue to grow. Eugene's 2022 stormwater fee administrative order summarized the issue:

Additionally, there is a growing inventory of green infrastructure such as rain gardens and swales that are required for new development. The maintenance and upkeep for these public facilities is the responsibility of the City's parks and open space staff. These additional maintenance requirements will burden an already constrained budget. Parks and Open Space staff currently maintain over 420 public vegetated stormwater facilities such as rain gardens and swales with nearly 20% rated in poor condition. With current resources, 70% of the system needs are being met. Facilities are estimated to increase another 44% over the next two years.[2]

The below charts shows this growing gap, and the condition ratings for the City's public rain gardens.





Further, oversight for O&M of voluntary retrofit GSI facilities is done by the Long Tom Watershed Council for the first 5 years. Many of these installations are reaching the end of this 5

year period, and it remains an open question as to who will conduct ongoing oversight. At present, the project team indicated that it is unlikely for the City to take on this responsibility.

These O&M needs present challenges, as well as opportunities. It is WaterNow's understanding that a review of the stormwater fund is underway and will better align budget with revenue and focus on the highest priority program activities, including maintenance and oversight of public GSI facilities and private facilities constructed in compliance with Eugene Code. In addition, the accompanying analysis provided by American Rivers and Corona Environmental in the Incentives Report[3] is focused on strategies the City could pursue to reduce O&M costs or, perhaps more fruitfully, share the responsibility for meeting them with partner organizations. Additional opportunities, and the focus of WaterNow's below analysis, are the options to increase stormwater fees and/or co-fund GSI operation and maintenance needs with other revenues from other City utilities that also benefit from GSI facilities.

Options for Meeting GSI Operations & Maintenance Needs

WaterNow has explored two options for meeting Eugene's green infrastructure O&M needs: (1) increased stormwater fees, and (2) co-funding O&M with other revenues. The first option will be of no surprise to the City. The second may be a more novel approach.

Increased Stormwater Fees

To gain a historical perspective of Eugene's stormwater fee rate increases, WaterNow reviewed the City's administrative fee orders for rates in 2016 to 2022. The below table outlines rate increases for this range of years.

Year	Percent Increase
2016	6.4%
2017	7.5%
2018	4.0%
2019	4.0%
2020	0.0%
2021	0.0%
2022	3.0%

For 2020, the Public Works Stormwater Policy team did not recommend a rate increase given an ongoing internal review of program needs. The pause on stormwater fee increase in 2021 was due to the impacts of the COVID-19 pandemic. The City determined as a matter of policy that it would not increase rates during the pandemic given the overwhelming economic and social upheaval it caused. The 3% increase approved for 2022 is not expected to close the GSI operations and maintenance gap. However, "it will stabilize City programs and keep current green infrastructure treating the polluted stormwater." [4] Per the City's FY22 approved budget:

> For fiscal years beyond FY22: The current forecast period (FY22-FY27) indicates that with an overall annual rate increase of 2-3%, expenses still outpace revenue. Balance available is expected to drop below the target of two months operating expenses during the

forecast period, even with these forecasted rate increases. Maintaining an adequate fund balance, investments in the City's inventory of green infrastructure, and maintaining the existing infrastructure will most likely require rate adjustments in years beyond FY22.[5]

To close the estimated $310,000 annual O&M funding gap, an additional fee increase of 1.5% would be needed. This level of increase would be in addition to regular rate increases to maintain the City's level of stormwater services generally and keep pace with inflation. This combined increase would be within the historical. For example, if the level of service rate increase in 2023 was consistent with 2022 and added a 1.5% increase needed to close the O&M gap, the total percentage increase of 4.5% would be slightly higher than the City's median percentage increases since 2016. Additional rate impacts of GSI investments are explored in the Putting it All Together: A Eugene Hypothetical section, below.

Whether, and by how much, to increase stormwater fees is, of course, a complex matter. WaterNow provides this summary for informational purposes only to aid in the City's evaluation of options. Additional options for co-funding GSI operations and maintenance are explored in the next section.

Co-Funding O&M

GSI facilities provide multiple benefits in addition to water quality improvement. These multiple benefits include:

- reduce inflow and infiltration into the sanitary sewer system helping prevent sewer overflows and basement backups,
- reduced wastewater treatment costs,
- increased traffic safety, and
- reduced commuter stress.

> "Street trees provide great stormwater benefits. Increasing road funding for urban forestry planning and proactive care is directly relevant."
>
> City staff, October 12 Workshop

Additional resources and bases for multiple benefits of GSI can be found here, Green Cities: Good Health—an online resource developed by the University of Washington and federal agency partners to provide an overview of the scientific evidence of human health and well-being benefits provided by urban forestry and urban greening.

Given these added benefits of GSI facilities, the City may have the option to bolster its GSI funding sources by taking a portfolio approach combining several sources of revenue. Namely, by co-funding GSI operation and maintenance with the road fund and/or wastewater user fees. While WaterNow recognizes that these revenue sources face their own constraints, this section offers these two additional revenue sources to provide the City with several options as they consider how to fund GSI operations and maintenance.

Road Fund

The purpose of the road fund is to pay for the operations and maintenance of the City's street transportation system.[6] Activities paid for from the road fund include street surface repair, street lighting, signing and striping, traffic signal maintenance, transportation planning and engineering, and street tree maintenance. Resources are provided from Eugene's share of State Highway Fund allocations, revenues from the utility systems for the use and occupancy of the City's right-of-way, and other miscellaneous grants, fees, and permits.[7] Per the FY22 approved budget, "Revenues from the State Highway Fund are legally restricted by ORS 366.785-366.820, 366.514, and Article IX Section 3a of the Oregon Constitution to use for public roads, streets, and bridges. Use of other revenue is limited by terms of grants, ordinance, or Council policy."

As this summary states, the City's urban forestry program, a type of public property GSI, is currently partially funded by the road fund. The City could arguably expand the categories of GSI facilities, and the operation and maintenance of those facilities, included in the road fund. Oregon state law governing the use of road funds provides that those funds:

> shall be used exclusively for the construction, reconstruction, improvement, repair, maintenance, operation and use of public highways, roads, streets and roadside rest areas.[8]

GSI facilities in the public-right-of-way on City streets provide stormwater management. They can also improve, repair, and aid in the safe use of public streets. For example, a Texas study found a 46% decrease in crash rates across urban arterial and highway sites after landscape improvements were installed.[9] Thus, if GSI facilities were part of the public roads system,[10] it may be possible to use road funds to pay for the portion of GSI operations and maintenance related to public roads.

WaterNow's initial horizon scan did not identify any potential legal barriers[ii] to using road funds to support operation and maintenance of GSI facilities that improve, maintain and help with operation and use of public roads. However, if Eugene were to consider accessing these revenues to help close the green infrastructure O&M gap, Eugene's legal counsel would need to conduct an in-depth legal review and analysis.

Wastewater User Fees

Wastewater user fees support planning, construction, and operation of the wastewater system.[11] Eugene municipal code section 6.411(1) provides that wastewater user fee revenue be primarily based upon, and used for, costs of operation of wastewater services.[12] Eugene defines "wastewater service," as the "use of the city wastewater system including, but not limited to, collecting of wastewater discharged from property and its deposit directly or indirectly into the city wastewater system…."[13]

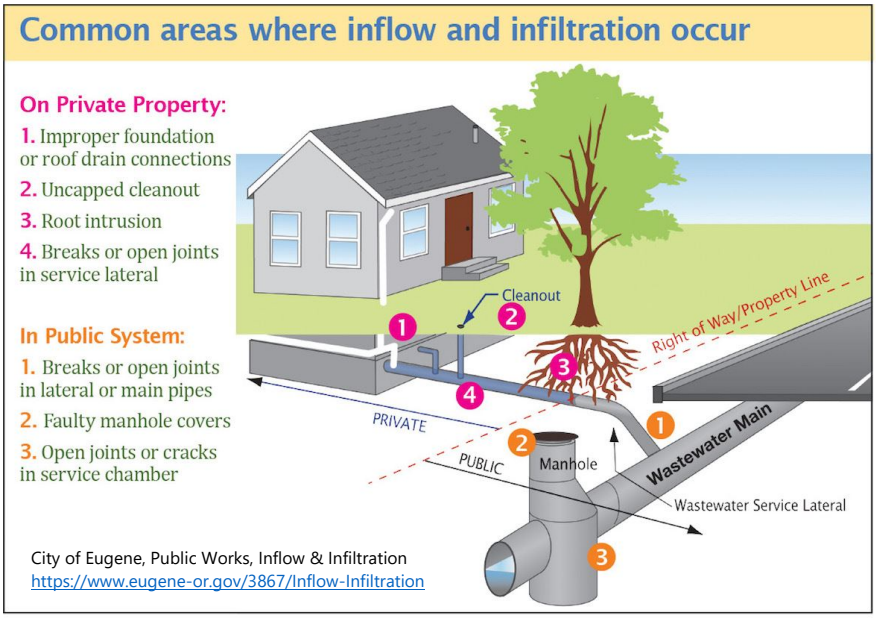
Further, as the City recognizes the impacts of stormwater on the wastewater system, "Stormwater seepage can strain the wastewater system and affect [customer's] utility bill."[14]

[ii] This includes WaterNow's review of the Oregon Constitution, state statures, and local City ordinances.

These stormwater impacts on the wastewater system are further explained as potentially:

(1) overloading the wastewater treatment plant, requiring a release of untreated overflow into local rivers;
(2) increasing treatment costs by taking up capacity in the sewer pipes requiring treatment along with sewage;
(3) requiring costly expansion of the wastewater treatment plant and collection system to handle more flow.

Given the definition of wastewater system and the impacts of stormwater on that system, the City could arguably co-fund GSI operation and maintenance with wastewater user fees because GSI can provide wastewater management benefits by keeping stormwater out of a maxed-out sewer system. And, in particular, this could extend to private property GSI facilities. As shown in the diagram to the right, provided on the City's inflow and infiltration website, stormwater runoff from private properties is a common source of inflow and infiltration.



WaterNow's initial horizon scan did not identify any potential legal barriers to using wastewater user fee revenues to support operation and maintenance of GSI facilities that benefit the wastewater system.[iii] However, if Eugene were to consider accessing these revenues to help close the green infrastructure O&M gap, Eugene's legal counsel would need to conduct an in-depth legal review and analysis.

Eugene's challenges with the rising cost of ongoing operation and maintenance of public GSI facilities and oversight of maintenance of private facilities have no easy answer. The above analysis provides a few potential options available to the City to close the funding gap. Pursuing any one or a combination of these options would, however, likely require increased rates on Eugene residents of some kind. As recognized in discussions with the project team, robust public outreach and education about these needed rate increases would be an essential component of this work. Detailed exploration about this outreach is beyond the scope of this report, but City decisionmakers and staff may find WaterNow's Communicating with Ratepayers workshop materials useful as a preliminary step.

[iii] This includes WaterNow's review of state statutes and local ordinances.

Operation and maintenance constraints notwithstanding, the project team also used this exercise as an opportunity to envision how Eugene could potentially finance enhanced investments in GSI capital projects while taking ongoing O&M needs into consideration. This hopeful, forward-looking exploration is the focus of the remainder of this report.

Financing Options for Enhanced GSI Investments

GSI serves as a vital stormwater management solution. As detailed above, Eugene has a growing portfolio of GSI facilities that manage runoff from the vast majority of new and re-development sites, and significant amount of existing developed sites through public and private retrofits.

To maximize the stormwater management benefits of GSI, cities like Eugene will need to be positioned to make significant investments in GSI—just as they would for other stormwater management projects. These investments will need to extend to GSI facilities on publicly owned property, as well as private property because a great deal of stormwater runoff is generated from private property. GSI investments on public property are fairly straightforward. (Eugene has already installed 420 public property GSI projects.) However, private property investments can be more complex. There are, of course, mandatory approaches for requiring GSI, particularly for new and redevelopment. (Eugene's new and redevelopment standards have resulted in over 1,200 GSI facilities on private property.) In addition, there are ways to incentivize GSI retrofits on private property that is not undergoing new or redevelopment. Strategies for these retrofit incentives are detailed in American Rivers and Corona Environmental Consulting's Incentives Report.

In most instances, the level of investment needed to achieve maximum benefits of GSI is far in excess of what most cities and utilities can afford to divert from their annual operating budgets without imposing significant rate increases or even experiencing rate shock. To mitigate these rate impacts, GSI facilities on public and private property can be financed as long-term capital projects. Municipal bonds and other forms of debt have long been the financing vehicle of choice for cities, water utilities, and other public agencies to pay for long-term capital projects such as pipes, tunnels, and treatment plants. As detailed below, this same debt-financing approach can be applied to GSI investments.

Debt-financing GSI can also be appropriate from an accounting-policy perspective. It matches the benefits with costs of GSI. Because GSI provides long-term stormwater management benefits, the costs of those projects are appropriately paid for over the long-term rather than as annual expenses. And it provides inter-generational equity ensuring that both current and future ratepayers bear the burden of the cost, because current and future ratepayers both enjoy the benefits.[15]

> "As a general rule, municipal bonds are a highly effective financing tool for building water infrastructure for several reasons: (1) they allow water systems to obtain sufficient funds to implement capital improvements; (2) they are highly liquid and therefore channel capital to public water systems at reasonable cost; and (3) they are often long-lived in their maturity, affording public water systems as much as 30 or 40 years to repay investors, and spreading costs across all customers who use the improvements."
>
> Sharlene Leurig, Ceres and Jeremy Brown, The University of Texas School of Law, Bond Financing Distributed Water Systems (2014)

Incurring debt is not without its risks. During the workshop held on October 12 City management and staff shared their views on the pros and cons of debt-financing GSI investments. The full set of comments from the brainstorming exercise are reflected in ***Appendix A* – *Brainstorming Pros & Cons of GSI Financing Options***. Key points are listed in the table below.

Pros	Cons
"Debt is uncomfortable, but creative approaches to incentives sound interesting."	"We lose span of control over private facilities, I worry about investing public dollars without also investing significantly more oversight in ongoing functionality."
"Cleaner water now, pay for it later!"	"Debt limits options for us down the road."
"Investing in GSI now will pay off in the future, potentially attracting people and businesses to Eugene and increasing the livability of our city."	"Don't want to saddle future generations with debt we (current generation) has accrued."

Whether and when to debt-finance GSI investments is a multifaceted decision that will depend on Eugene's unique needs and circumstances. The remainder of this section of the report is aimed at supporting future conversations about enhancing right-sized GSI investments in Eugene by providing City staff and decisionmakers a menu of available financing options, including: (1) municipal revenue bonds; (2) state revolving fund loans; and (3) Water Infrastructure Finance and Innovation Act (WIFIA) loans. This section also provides an overview of how Eugene can account for capital investments in GSI incentives.

Municipal Revenue Bonds

Revenue bonds are bonds issued by local governments, utilities, and special districts to raise funds for capital projects.[16] Often referred to as "municipal bonds," these debt instruments provide upfront capital that is paid back out of expected dedicated revenue streams, e.g., stormwater fees. Proceeds from revenue bonds can be used to pay for capital projects that provide a long-term benefit to the water system.

Revenue bonds can also be issued as "green" or "climate bonds." Green bonds are municipal bonds where the proceeds are used exclusively for projects and activities that serve environmental sustainability purposes. Similarly, climate bonds are municipal bonds where the proceeds are used for projects and activities that help mitigate or adapt to impacts of climate change. Green bonds and climate bonds can be certified by third parties to establish that the funded projects meet the stated objectives. Certification processes also include follow up reporting once the bonds have been issued and the projects are underway as an additional layer of verification to investors to show that the funds were used to as promised.

To inform how Eugene could issue revenue bonds to finance GSI investments, this section covers the City's legal authority to issue revenue bonds and the types of GSI investments eligible for revenue bond financing. In addition, given expressed interest in ways to shift risk from the public to private investors, this section details a particular type of municipal bond—Environmental Impact Bonds—that could be used to pay for GSI.

Eugene's Legal Authorities to Issue Municipal Revenue Bonds

Every state has its own rules about when and for what purposes public entities may issue revenue bonds. Oregon state law authorizes cities, counties, and other public bodies to issue revenue bonds to finance capital projects that serve "a public purpose."[17] Oregon state law does not define "public purpose."

The Oregon Supreme Court has considered what qualifies as a public purpose, however. In *Carruthers v. Astoria*, the Court considered whether the Port of Astoria's use of municipal revenue bonds to finance construction of a building, wharves, conveyors, and a plant to produce aluminum that a private company would operate was a valid public purpose.[18] The Court determined that this use of revenue bonds was a valid public purpose because the Port had shown that the project provided "general benefit to the economy of the community."[19] More generally, the Court also stated that a public purpose exists "if there is a substantial public benefit," and that the project "is not defeated if a private purpose is also served." [20] And the Court reasoned that it is more appropriate for legislative actions to decide whether a project would provide a substantial public benefit; "[t]he judiciary should invalidate expenditures only where reasonable [people] could not differ as to their lack of social utility."[21] Based on Oregon state law and this guidance from the Oregon Supreme Court, it appears that Eugene is authorized to issue revenue bonds to finance projects that provide substantial public benefit even if those projects also benefit private parties. And it is within the City's legislative authority to determine what type of project provides substantial public benefit.[22]

In addition, because revenue bonds are secured by a dedicated revenue source, a city's legal authority to issue revenue bonds also depends on rules defining how the revenue source used to secure the debt can be used. For purposes of this report, it is assumed that a revenue bond to finance GSI investments in Eugene would be secured by revenues from City's stormwater fee.[23] Thus, Eugene's legal authority to issue revenue bonds also depends on local rules defining how its stormwater fee revenues can be used. These local rules specify that the City may use its stormwater fee revenues to provide "stormwater services."[24] In the City's 2021 findings for stormwater service revenue needs, the City Manager stated, "Stormwater fees support a system of City services, permits, and pollution prevention that keeps local waterways and aquifers clean now and for future generations," and cites green infrastructure as part of this system.[25] And "stormwater service" is defined in the municipal code as, "The use of the city's stormwater system including, but not limited to, collection of stormwater discharged from property on which development exists and its deposit directly or indirectly into the city stormwater system."[26]

The next section details how this legal authority to issue revenue bonds secured by stormwater fees might apply to GSI investments on both public and private property.

Types of Green Infrastructure Investment Eligible for Revenue Bond Financing

Given Eugene's above-described legal authority to issue revenue bonds, there are two questions to consider to determine the types of GSI investments eligible for revenue bond financing:

(1) Do the GSI investments provide a substantial public benefit in connection with the City's stormwater system?
(2) Are there any legal barriers to using revenue bond proceeds for GSI facilities on private property?

This section offers potential answers to each of these questions.

GSI Provides a Substantial Public Benefit

If Eugene were to issue revenue bonds secured by stormwater fees to finance GSI facilities, the City would need to demonstrate that the GSI facilities provide substantial public benefit in connection with the City's operation of the stormwater system. In other words, the City would need to demonstrate that GSI facilities provide stormwater services. This can be accomplished in a number of ways:

- ✓ Establishing, and adopting, a GSI strategic or master plan, or similarly detailed programmatic outline of the types of distributed GSI that will be implemented and the benefits those strategies will provide the stormwater system;
- ✓ Citing National Pollutant Discharge Elimination Permit requirements for implementing green stormwater infrastructure and/or requirements to manage stormwater onsite;
- ✓ Citing state and local laws that authorize, or require, municipalities to manage stormwater and describe how GSI projects meet these legal authorities or requirements;

- ✓ Outlining the quantitative benefits of distributed GSI to make the technical case for how such projects manage stormwater and improve water quality.

Eugene can point to many, if not all, of these supporting documents and policies. For the past 20 years, the City's Stormwater Basin Master Plans have expressly cited GSI as a key stormwater management strategy for Eugene.[27] The City's MS4 Permit requires new and redevelopment to prioritize use of GSI facilities for stormwater management; as does the City's municipal development standards.[28] Further, when the City was in the process of establishing these local development standards, Eugene undertook an analysis of the cost of treating stormwater runoff with a centralized system versus requiring developed properties to manage their stormwater onsite.[29] The city found that distributed stormwater infrastructure was more cost-effective and had a broader set of benefits when compared to a centralized strategy.[30] This was among the reasons Eugene chose to implement green infrastructure as part of its overall stormwater management program.[iv]

Given these established public benefits GSI provides, the City can likely build a case for using revenue bond proceeds to pay for GSI facilities. Further, because Eugene defines the establishment phase of GSI facilities as capital costs, the City could use revenue bond proceeds to finance the first 1-3 years of GSI facilities installation. This approach would likely help keep the impacts of ongoing O&M on annual revenues lower.

Barriers to Investing in GSI on Private Property

As discussed above, GSI facilities can be installed on both public and privately owned property. Using the proceeds from a revenue bond for GSI facilities on public property is fairly straightforward consideration; as described above, the City already recognizes that publicly owned GSI provide a substantial public benefit and are part of the stormwater system. An additional consideration is whether there are any legal barriers to the use of bond proceeds in connection with GSI facilities that are situated on private land. Some jurisdictions around the nation limit the use of bond proceeds and require some level of ownership or control of the asset that is the subject of the investment. So the question is whether Oregon law and City rules require that Eugene have an ownership interest in the property where GSI is installed.

Oregon law appears to impose no requirements for ownership or control over GSI facilities on private property. The applicable statute broadly authorizes revenue bonds for a "public purpose" with no mention of the types of projects that can be financed or whether those projects should be located on public property.[31] As with public property facilities, it is well-established in Eugene that GSI facilities on private property serve public purposes.

Eugene local rules may be less broad, however. The City's municipal code defines the stormwater system as, "Those stormwater facilities located on city-owned property, city right-of-

[iv] In addition, the program supports local, green jobs. Eugene and local partners developed a stormwater maintenance training for landscape contractors, and in March 2018, the first training was held. Twenty-five local contractors attended the two-day training and passed an exam allowing them to be put on a list of trained maintenance contractors distributed to the public.

way, city easements and any stormwater facility the city is contractually or legally obligated to operate and maintain…."[32] This definition may mean that to use revenue bonds to finance GSI incentives for retrofits on private property the City would need to obtain an easement on the private property where the GSI facility is installed. This is not an insurmountable barrier. The Milwaukee Metropolitan Sewerage District (MMSD) faced this ownership and control issue when debt-financing its GSI incentive program.[33] To navigate this legal requirement, MMSD enters into conservation easements with private property owners that install GSI and receive a reimbursement from MMSD for doing so.[34] Eugene could use a similar approach that may pave the way for bond financing a GSI retrofit incentive program.

An additional potential legal barrier to the use of bond proceeds for private property installations is Oregon's prohibition against the gift of public funds to private parties. Article 11, Section 9 of the Oregon Constitution prohibits municipalities from raising money for or loaning their credit to private companies, corporations, or associations.[35] The fact that a public expenditure incidentally benefits a private party is not constitutionally fatal. First, GSI facilities on private residential properties do not fall within this constitutional limitation; homeowners are not private companies, corporations, or associations. Second, in order to pass constitutional muster, a city's use of revenue bond proceeds to finance projects that provide benefit to private companies, corporations, or associations must ensure that the city's general taxing authority can in no way be used to repay the bond.[36] If bond proceeds were used to pay for GSI facilities on commercial properties, Eugene could meet the constitutional requirement by clearly specifying that the only revenues available for repayment of the debt are stormwater fee revenues.

In sum, traditional revenue bonds appear to be a viable option for Eugene to finance enhanced GSI investments on both public property, as well as on private property that is not undergoing new or redevelopment. To explore a financing option that would help shift risk of GSI performance from the City to private investors, the next section details an innovative approach—Environmental Impact Bonds.

Shifting Risk: Environmental Impact Bonds

While Eugene is likely well acquainted with traditional revenue bonds, Environmental Impact Bonds (EIB)—an innovative financing tool that leverages private investment to support high-impact environmental programs—may be less familiar. EIBs use an outcomes-based approach where Environmental, Social, and Governance (ESG) investors provide upfront capital for environmental projects and the beneficiary—e.g., a public entity—repays the investors based on the achievement of the agreed-upon project outcomes. A special kind of municipal bond, an EIB focuses on the delivery of successful environmental outcomes and can include investor payments and penalties attached to the achievement, or non-achievement, of those outcomes.

As with traditional municipal bonds, EIBs are a type of municipal bond that can be used to pay for a wide variety of capital projects. Eugene's legal authority to issue an EIB is defined by the same statutory authorities outlined above that govern the City's ability to issue revenue bonds. As detailed above, the authority to issue revenue bonds to pay for projects that provide stormwater services may include investments in GSI facilities on public and private property. Accordingly, it may be possible to issue an EIB to finance these GSI investments.

In addition, to issue an EIB, several conditions are needed. First, a government agency or municipality has a project with specific outcomes, e.g., improved stormwater quality or reduced localized flooding, in mind that needs funding, but may be higher risk. Second, the project can be implemented either by the agency or third parties. Third, there are impact investors who are willing to take on the risk of the particular project not performing as expected and bring down the risks on the public agency. An underwriter then brings these participants together to form the outcomes-based financing structure, which includes:

- ✓ Establishing performance metrics,
- ✓ Developing the outcomes-based payment structure,
- ✓ Aligning and coordinating partners, and
- ✓ Finding and delivering new sources of capital.

With this model, a municipality's repayment of the bond depends on the project outcomes. Performance is determined by verified third-party evaluations on whether key stated environmental goals are achieved by bond-financed projects. If the projects perform as expected, the bond would be paid back as planned or as traditional bonds are repaid. If the projects underperform as benchmarked against the established performance metrics, investors may be obligated to repay the bond amount—known as "clawback"—allowing the municipality to assess whether to continue the projects. If the projects overperform, the municipality may agree to pay investors an additional amount over the bond interest and principal payments to incentivize the investors to take on the risk of the innovative projects. This payment structure differentiates EIBs from green and climate bonds. EIBs can qualify as green or climate bonds, however.

A number of communities around the nation have issued EIBs including Washington DC, Atlanta, GA and Buffalo, NY to finance investments in green infrastructure. Performance metrics established for the EIBs issued in these communities included, for example, volume of stormwater flow reduced, volume of stormwater stored, and amount of impervious area managed. These are metrics Eugene could use for its GSI program.

First EIB to Finance Consumer Incentives

In February 2020, Buffalo, NY, was the first municipality to issue an EIB to capitalize investments in a consumer incentive program. The $30 million bond financed Buffalo's "Rain Check 2.0 Grant Program," a green infrastructure incentive that targets private properties with large amounts of impervious area to be converted to pervious surfaces. In announcing the EIB, Buffalo's Mayor emphasized, "My administration does not view individual projects as activities in isolation, and instead views them as part of a network that functions as a system-wide improvement to our city's water system."

EIBs also require post-issuance reporting and disclosure of the project outcomes to investors. These disclosures and reporting are more rigorous as compared to green or climate bonds, as they provide the basis for determining whether the

finance projects are performing as expected, underperforming, or overperforming and whether the agreed upon payment structures are triggered.

An EIB can be an attractive financing mechanism for decisionmakers looking for ways to maximize the stormwater management benefits of GSI while minimizing the public risk of taking on this new strategy. With a growing portfolio of EIBs across the nation, this financing vehicle appears to be gaining traction with investors willing to take on the project risks to advance environmentally sustainable solutions.

Revenue bonds are only one form of debt-financing that is available to Eugene to finance an enhanced GSI program, however. State and federal loan programs are also options the City could leverage to finance GSI investments on public and private property. These loan options are described in the next two sections.

State Revolving Fund Loans

The Clean Water Act established state revolving funds (SRFs) to assist communities with upfront cash to build water infrastructure.[37] EPA allocates SRF funding to each state that administers the Clean Water Act. The states then contribute an additional 20% to match federal SRF capitalization grants, and also administer the program according to state-specific eligibility criteria. The American Recovery Act of 2009, and subsequent appropriations bills, require all Clean Water SRF programs to use at least 10% of their federal capitalization grant for green infrastructure, water and energy efficiency projects, or other environmentally innovative activities. This requirement is commonly referred to as the Green Project Reserve.

The below sections provide: (1) an overview of Oregon's CWSRF program; (2) an outline of the entities eligible for CWSRF loans; (3) analysis on how SRF loans might be leveraged to pay for regional- and parcel-scale GSI; (4) a summary of the CWSRF application process; and (5) examples of Green Project Reserve projects financed by the Oregon CWSRF.

Overview: Oregon's CWSRF Program

Through its CWSRF program Oregon finances projects that improve water quality and environmental outcomes for the state. According to Oregon Department of Environmental Quality (DEQ), "The program is dedicated to working with small communities and on water quality projects that increase financial and environmental sustainability, climate resiliency, and water and energy efficiency."[38] There are four primary goals of Oregon's CWSRF program:

(1) Assist communities in restoring, maintaining and enhancing water quality by offering financial assistance for water pollution control, water quality improvement and protection projects;
(2) Administer the Clean Water State Revolving Fund to ensure programmatic compliance with regulatory requirements, financial integrity, fund viability and perpetuity;
(3) Assist communities with the loan application and loan management process to meet regulatory requirements with federal and state requirements, water quality standards, utility and financial management; and

(4) Coordinate and collaborate with other state and federal programs to provide financial solutions for water quality improvements to Oregon public agencies.

To achieve these goals, the CWSRF program offers direct project financing—(1) loans, (2) bond purchase agreements, and (3) principal forgiveness.[39] In addition, DEQ also offers the Local Community Loan program as part of the CWSRF, which enables public agencies to establish a local loan program to finance eligible nonpoint source water quality projects.[40] Via the local loan program, a city could create its own local revolving loan fund acting as the lender for local borrowers, such as landowners or homeowners associations, who will implement eligible nonpoint source water quality projects.[41] (See below for eligibility details.)

In 2021, DEQ reported that "[s]ince the program began in 1988, communities all over Oregon have benefited from more than $1 billion in water infrastructure investments," and the average interest rate for loans was 1.11%.[42]

Entities Eligible for CWSRF Loans

Borrowers eligible for CWSRF loans include, but are not limited to, public agencies such as incorporated cities, counties, sanitary districts, and certain special districts.[43] As an incorporated city,[44] Eugene is a public agency eligible for CWSRF loans.

To be eligible for the Local Community Loan program, public agencies must also have statutory authority to take on debt, statutory authority to lend, and a reserve account to set aside funds to ensure repayment.[45] The City's authority to take on debt is described above. Whether Eugene has authority to lend funds and establish a reserve account requires additional research beyond the scope of this report.

Leveraging CWSRF Loans for GSI Investment

CWSRF loans can be used to finance 100% of the cost of a variety of projects including, but not limited to:

- Planning and design
- Stormwater management
- Green infrastructure
- Nonpoint source control activities
- Protection or restoration of riparian habitat
- Wastewater treatment facilities
- Overflow correction and collector sewers
- Sewer replacement/rehabilitation.[46]

In addition, to meet the Green Project Reserve requirements, Oregon has established guidance for determining project eligibility. This DEQ guidance expressly cites green infrastructure as eligible projects including green streets; wet weather management systems for parking areas including: permeable pavement, bioretention, trees, green roofs, and other practices such as constructed wetlands that can be designed to mimic natural hydrology and reduce effective

imperviousness at one or more scales; comprehensive street tree or urban forestry programs; stormwater harvesting and reuse projects; and comprehensive retrofit programs designed to keep wet weather discharges out of all types of sewer systems using, e.g., green roofs, green walls, trees and urban reforestation, permeable pavements and bioretention cells, and turf removal and replacement with native vegetation or trees that improve permeability.[47] Given these authorized uses, there is likely a path for seeking CWSRF loans to finance green infrastructure of all scales in Eugene.

Further, Green Project Reserve eligible green infrastructure projects may score better as compared to other CWSRF eligible projects. As part of the loan application process, DEQ scores and ranks each eligible application. If the CWSRF does not have sufficient funds available to finance all eligible projects that are ready to proceed, DEQ awards funding to projects in ranked order based on project score. Scoring is based on project type, i.e., planning and non-planning, and includes criteria such as water quality improvement, habitat improvement, whether the project includes green infrastructure, and whether the project includes outreach and education components.[48] Because DEQ's scoring criteria expressly cite green infrastructure as an element of eligible CWSRF projects on which DEQ will rank projects, and because green infrastructure often include outreach and education components and meet all other scoring criteria, it may be possible that green infrastructure projects will score well as compared to other project types.

And a green infrastructure project may be eligible for CWSRF principal forgiveness loans. "Principal forgiveness" is a form of additional subsidization that allows a borrower to repay only a specified portion of the loan principal.[49] Among other categories, public agency borrowers may, upon DEQ determination, receive principal forgiveness for projects that address water-efficiency goals, energy-efficiency goals, mitigates stormwater runoff, or to encourages sustainable project planning, design, and construction.[50] Green infrastructure can meet these categories, as GI mitigates stormwater runoff and encourages sustainable project planning, design, and construction.

Summary of CWSRF Application Process

DEQ describes applying for a CWSRF loan as a six step process that is initiated by a potential borrower connecting with the applicable regional officer, which for Eugene is the Western Region Office Project Officer, Alexis Cooley.[51] Next, applicants will determine whether their project is eligible and what type of funding applies, e.g., point source or nonpoint source. Once eligibility is established, DEQ recommends determining whether the project qualifies for Green Project Reserve funding—which a green infrastructure project would.

The next step includes consideration of other possible funding options through a DEQ coordinated process with other state and federal agencies that might also provide funding and a "one stop" meeting that brings together relevant financing agencies. Following this meeting, potential borrowers are required to submit an application and related supporting documents detailing the project and providing certain financial information. Applications then go through environmental review process, as determined by DEQ depending on the type of project proposed.

DEQ also scores the application per the scoring criteria set out in the Oregon Administrative Code (and summarized above). After scoring and ranking, DEQ lists projects in an Intended Use Plan and provides an opportunity for public comment. Once a project is included in an Intended Use Plan, the applicant is required to complete any remaining application materials.

DEQ accepts applications for CWSRF loans at any time and received applications are reviewed three times during the year. Upcoming deadlines are: April 8, 2022; August 12, 2022; and December 9, 2022.

Examples of Oregon Green Project Reserve Projects

According to the past three Intended Use Plans, there are at least four SRF-funded green infrastructure projects:

- Redmond – wetlands for wastewater treatment, among other improvements;
- Sandy – inflow and infiltration improvements with GSI for wastewater treatment plan permit compliance;
- Hood River – stormwater outfall relocation and improvement with bioswales and vegetated treatment methods;
- Water Environment Services – stream restoration, constructed wetlands, wetlands restoration.

While these projects include GSI features, they each appear to be located on publicly owned property. WaterNow's research did not find any examples of private property GSI projects that received SRF funding; this result is not surprising.

Water Infrastructure Finance and Innovation Act Loans

The Water Infrastructure Finance and Innovation Act (WIFIA) was enacted in 2014 to accelerate investment in local water and wastewater infrastructure. It supplements the SRF loan programs by providing long-term, low-cost supplemental credit assistance to broad range of borrowers. This program is separate from, but implemented in coordination with, the SRF programs to provide subsidized financing for large dollar-value projects. The WIFIA program offers loans with low, fixed interest rates that are set at loan closing based on the U.S. Treasury rate of similar maturity and flexible financial terms.[52] As of October 2021, EPA has closed 59 WIFIA loans for $11.5 in total financing.

Entities Eligible for WIFIA Loans

Borrowers eligible for WIFIA loans include, but are not limited to:

- Local, state, tribal, and federal government entities;
- Partnerships and joint ventures; and
- Corporations and trusts.[53]

As a local governmental entity, Eugene is eligible for WIFIA loans. And eligible entities can submit joint loan applications for a bundle of projects.[54]

In addition, there are certain important program features that borrowers interested in applying for WIFIA funding should consider, including:

- Minimum project size for large communities is $20 million;
- Minimum project size for small communities (population of 25,000 or less) is $5 million;
- WIFIA funds can be used to pay for a maximum of 49% of eligible project costs;
- Total federal assistance may not exceed 80% of eligible project costs;
- The term of the loan may be no more than 35 years following substantial completion of the project;
- Repayment may be deferred for a maximum of 5 years following substantial project completion;
- Projects must be creditworthy and have a dedicated source of revenue.

Further, WIFIA loan dollars can be used for development-phase activities such as design and planning as well as construction, reconstruction, rehabilitation, and replacement costs.[55]

Leveraging WIFIA Loans for GSI Investments

Borrowers eligible to receive WIFIA funding, including local governmental entities, can use the funds to pay for many types of infrastructure projects, including those aimed at:

- Drought prevention, reduction, or mitigation;
- Aquifer recharge;
- Water reuse; and
- Alternative water sources.[56]

Green infrastructure can likely meet these eligibilities, as GSI projects can serve each of these purposes.

Summary of WIFIA Application Process

Applying for WIFIA funding is a two-phase process. In phase 1, EPA announces the amount of funding that will be available for eligible projects and issues a Notice of Funding Availability (NOFA) to solicit letters of interest from prospective borrowers seeking financing from EPA. The most recent NOFA was issued in April 2021 with that round of funding closing July 2021.[57] Future NOFAs will be published in the Federal Register and interested parties can sign up for EPA's WIFIA mailing list to be notified on new funding rounds.[58]

In phase 2, EPA invites selected prospective borrowers to apply a loan. These invitees will then undergo EPA's detailed financial and engineering project review, which provides the basis for EPA's proposed terms and conditions for the project and loan. The applicant and EPA work together to come to a mutually agreeable loan agreement and term sheet. Upon approval by the EPA Administrator and the Office of Management and Budget, the borrower will execute a

credit agreement–the legally binding document that allows the borrower to receive WIFIA funds.[59]

Examples of WIFIA Loans

To date, WIFIA has closed 59 loans totaling $11.5 billion in credit assistance to help finance over $24 billion for water infrastructure projects. This includes 4 projects in Oregon for drinking water treatment, water supply, advanced metering infrastructure, and seismic retrofits.[60] However, to date there have been no WIFIA loans issued to finance investments in green infrastructure.

As detailed in this section, options for debt-financing enhanced GSI investments span municipal bonds and SRF and WIFIA loans. The availability of these options depends not only on the City's legal authorities to access these financing mechanisms to pay for GSI, but also on Eugene's ability to capitalize these investments from an accounting perspective. The next section provides initial guidance on two accounting approaches available to Eugene for capitalizing investments in GSI on both public and privately owned property deployed via a consumer incentive program.

Accounting for GSI

Generally Accepted Accounting Principles (GAAP) that apply to local government and public utilities allow "capital expenditures"—expenditures for fixed or capital assets—to be debt financed. For GSI expenditures to be capital expenditures under GAAP, the expenditure must, among other things, result in the acquisition, improvement or creation of an "asset" of the utility. There are two methods for creating this asset: (1) the Regulated Operations approach, and (2) by establishing ownership or control. These are detailed below.

GASB 62: The Regulated Operations Approach

GSI on public property not owned or controlled by the utility and private property may constitute an asset of the utility if the distributed GSI expenditure creates a "regulatory asset" under Governmental Accounting Standards Board Statement No. 62 (GASB 62).

GASB Statement 62 allows public agencies to book the cost of "business-type activities" as assets instead of annual expenses—a Regulated Operations accounting approach. These are called "regulatory assets" and can be capitalized by cities and public water utilities. The Regulated Operations approach is a complete alternative to traditional public agency accounting for capital assets. To use Regulated Operations accounting and access debt-financing for distributed GSI, local water providers need to have a governing board that:

- Is empowered to set rates;
- Can set those rates at levels to cover the cost of the specific programs to be financed; and
- Can commit to setting rates in the future to pay for the cost of these programs.

As a municipality empowered to set rates the City meets these requirements.

Electricity utilities have been bond financing distributed energy conservation programs on private properties for many years using GASB 62 accounting. However, this is not an approach that has been widely embraced by the public water resource sector and many water utility chief financial officers questioned whether it truly could apply to investments in consumer incentives for localized water strategies.

Doesn't My Utility Need to Control an Asset Before We Can Capitalize the Cost?

Not always—this is the basic difference between GASB Concepts Statement 4 and GASB Statement 62. Standard accounting for public entities is generally done in conformity with Governmental Accounting Standards Board (GASB) Concept 4 which reflects the GAAP rule that only assets controlled by the entity can be financed with debt, i.e., capitalized.
However, GASB Statement 62 authorizes public agencies to book these expenditures as "regulatory assets" that can be capitalized (see below). Statement 62 accounting does not require that the utility own or control the asset in order to capitalize the cost; the asset is the binding promise to repay the loan, not the items procured or produced with the loan.

There are, however, examples of utilities using Regulated Operations accounting to capitalize investments in distributed infrastructure, including GSI. Los Angeles Department of Water and Power (LADWP) has been using municipal bond proceeds to fund consumer rebate programs for a variety of water efficiency and stormwater capture programs, including rebates for water-efficient installations, high-efficiency washing machines, permeable pavement, rain barrels, cisterns, and replacement of turf with low-water landscaping using the GASB 62 accounting approach. As of 2020, LADWP reported $160 million in distributed water conservation and stormwater regulatory assets. By using the upfront capital provided by bond sales, LADWP can promote "water use efficiency as a permanent way of life" and work toward achieving the city's long-term conservation goals. Since 2010, LADWP's conservation program has reduced water use by roughly 25,000 acre-feet of water per year.

Similarly, Seattle Public Utilities finances its RainWise program[61] with municipal bond proceeds using the GASB 62 Regulated Operations accounting approach. By investing in these programs at scale, as of September 2020, Seattle has been able to finance GSI projects that manage 410 million gallons of stormwater per year, bringing the city closer to meeting its goal of managing 700 million gallons of runoff per year with green infrastructure by 2025.

The Regulated Operations accounting approach has the added benefit that the city or utility financing investments on private property need not have ownership or control over the financed project. This helps streamline implementation of consumer incentive programs because it obviates the need for cities like Eugene to obtain an interest in private property. If, however, for legal requirements do specify an ownership interest in needed. There is another accounting option, which is detailed below.

GASB 4: Establishing Ownership or Control

GSI expenditures can also qualify as capital expenditures if the municipality or utility exercises "control" over the asset sufficient to satisfy the requirement of GASB Concepts Statement No. 4—the traditional accounting treatment for debt financing capital assets. As a general matter, control results from the city or utility's ability to determine the nature and manner of use of the investment. Easements or contracts can usually establish the needed level of control.

A small but important set of water utilities are finding that they can invest municipal bond proceeds in distributed infrastructure and comply with GASB Concepts Statement No. 4. For example, over the last two decades, the Southern Nevada Water Authority has bond financed more than $250 million (as of 2020) in incentive programs such as private property turf replacements generating approximately 430,000 acre feet in water supply for the Las Vegas region. Similarly, the Milwaukee Metropolitan Sewerage District (MMSD) capitalizes and bond finances GSI investments on property it does not own by requiring recipients of GSI grants to enter into a conservation easement with MMSD. In 2019, MMSD invested $1.9 million in private property GSI. In February 2020, MMSD issued a certified Climate Bond to finance $20 million in "community based" GSI.

Putting It All Together: A Eugene Hypothetical

To provide a hypothetical example of an enhanced GSI program in Eugene, WaterNow's municipal finance expert developed a hypothetical capital and O&M spending plan. The hypothetical plan reflects investments in 15 regional-scale GSI projects on public property as well as an annual investment of $100,000 in parcel-scale GSI facilities on private property over a 10 year timeline. The capital and O&M cost estimates were based on discussions with the project team, which are consistent with the costs summarized in American Rivers and Corona Environmental's companion *Exploration of Green Stormwater Infrastructure Incentives in Eugene, Oregon* report. The full spending plan is available in ***Appendix B*** **– *Financing Scenarios Summary Worksheet***.

Because the spending plan is a hypothetical example, it is based on several assumptions discussed with the project team, which are:

- Fifteen regional-scale public projects were estimated to cost $1.24 million each with two projects to be completed each year from year 2 through year 8, and only one project completed in year 9. Capital costs for regional-scale projects total $18.58 million.
- Parcel-scale private GSI facilities capital costs total $1 million.
- Additional maintenance costs for new public regional-scale installations were estimated to be 2% of the construction costs per year for each major project for a total of $840,000 during the 10-year timeline of the hypothetical plan.
- Maintenance costs for private property GSI facilities were assumed be the sole responsibility of the private property owner and oversight of these private property facilities assumed to be conducted by a party other than the City.
- Closing the O&M gap for existing GSI facilities was assumed to cost $300,000 annually, or a 1.5% increase on 2022 rates.

In sum, the enhanced spending plan would cost a total of approximately $20.42 million over 10 years. With this spending plan in place, WaterNow next examined three options on how Eugene could fund and finance this level of GSI program.

Option 1 – Continue with the Current GSI Program

This option assumes no changes to the City's current program and that $300,000 to cover O&M would be transferred from the capital to operating budget. There would be no rate impact under Option 1. Serves as a baseline for Options 2 and 3.

Option 2 – Fund a $20M Enhanced Program

The second scenario assumes a $20 million enhanced program would be implemented over 10 years, and the City would then return to its baseline program. WaterNow's expert examined two options for paying for this scenario, cash and debt.

As Option 2A, the City would cash fund an enhanced GSI program by raising stormwater rates for first eight years and then reduce rates once the capital improvements were completed; the reduced rates would, however, still reflect needed O&M to pay for the new GSI facilities. Under this Option 2A, in the first year rates would increase by 4% and by 10% in the second year. No rate increase would be needed in year 3 or year 4. An increase of 0.2% would be needed in years 5-8, reflecting the enhanced program ongoing O&M. Rates would then be reduced by 8.5% in year 9 and by 2.5% in year 10.

Alternatively as Option 2B, the City would debt-finance the enhanced program splitting the capital investments between year 1 and year 5 and ending the enhanced capital program in year 9. Under Option 2B, in year 1 rates would increase 3.75%; in year 5 rate would increase 2.45%. There would be no rate increase in year 3 or year 4, and increases in years 6-10 would be 0.2% for continuing O&M of the enhanced program.

Option 3 – Scale an Enhanced GSI Program Indefinitely

The third scenario assumes a $20 million enhanced program would be implemented over 10 years, and that the City would then keep that level of capital spending indefinitely into future years. WaterNow's expert examined four options for paying for this scenario, cash and debt.

As Option 3A, the City would cash fund the enhanced program by raising rates and maintaining the increase for future spending at the enhanced program on both capital and O&M. This option would duplicate Option 2A, but the rates would not be reduced.

Alternatively, as Option 3B, the City would debt-finance the enhanced program in year 1 then build up annual revenue to cash fund the enhanced program. Under Option 3B, rates would increase by 4% in year 1 and by 2.5% years 2-5. An increase of 0.2% would then be needed in years 6-10, reflecting enhanced program ongoing O&M.

As Option 3C, the City would debt-finance the enhanced program as under Option 3B, but spread the cost of closing the current O&M gap over the first three years of the plan rather than transferring funds from the capital budget. Under Option 3C, rates would increase by 3% in years 1-3; by 2.5% in years 4-5; and by 0.2% in years 6-10.

As Option 3D, the City would close the current O&M gap in year 1 by increasing rates rather than transferring funds from the capital budget . It would 1 then debt-finance the enhanced program in years 2-6. Under Option 3D, a rate increase of 1.5% would be needed in year 1. Rates would increase by 2.5% in years 2-5; by 2.7% in year 6; and by 0.2% in years 7-10.

It should be noted that these estimated rate increases would be in addition to any increases needed to operate and maintain the City's stormwater system generally, as well as increases to keep pace with inflation. WaterNow's review of Eugene's past rate increases from 2016-2022 shows that increases have ranged from 3% in 2022 to 7.5% in 2017;[v] the median increase since 2016 was 4%; and there were no increases in 2020 or 2021. Thus, the rate impact of several of the options explored in the hypothetical plan, including, in particular, the debt-financed options, would theoretically keep the City's rate increases to pay for an enhanced GSI program within the upper bounds of this historical range.

In addition, WaterNow's review included a preliminary examination of the cost of debt-financing. Incurring $10 million in debt for 30 years at 2.0% would have an ultimate total cost of $13.4 million. If the annual inflation rate is 2% over that 30-year time period, given the time value of money, the cost of the debt would essentially be the same as if the money that would be used to service the debt were kept in the bank.

These scenarios are meant to show how Eugene could leverage debt-financing to theoretically make an upfront capital investment $20 million GSI and maintain those new facilities while mitigating rate increases. Such an upfront infusion of funding could help the City accelerate the environmental benefits of GSI, meeting its twin goals of addressing rising cost of GSI facility maintenance and enhancing investment in GSI facilities on public and private property. This hypothetical mix of projects also provides a framework for decision making going forward. In that process, decisionmakers will need to consider:

1. What is the appropriate level of green infrastructure spending?
2. Is it possible to raise the revenue needed to meet the level of spending?
3. What is the appropriate and feasible mix of revenues?

Additional considerations raised during the October 12 workshop include concern that debt would limit the City's ability to respond to current economic conditions by creating a fixed cost, i.e., debt service, and that other City programs are under resourced so adding GSI expenditures on these revenues would exacerbate existing funding constraints. As positive considerations, it was noted that removing the limit on funding for projects on private property would give the City flexibility to site projects within the stormwater system where they can have the biggest

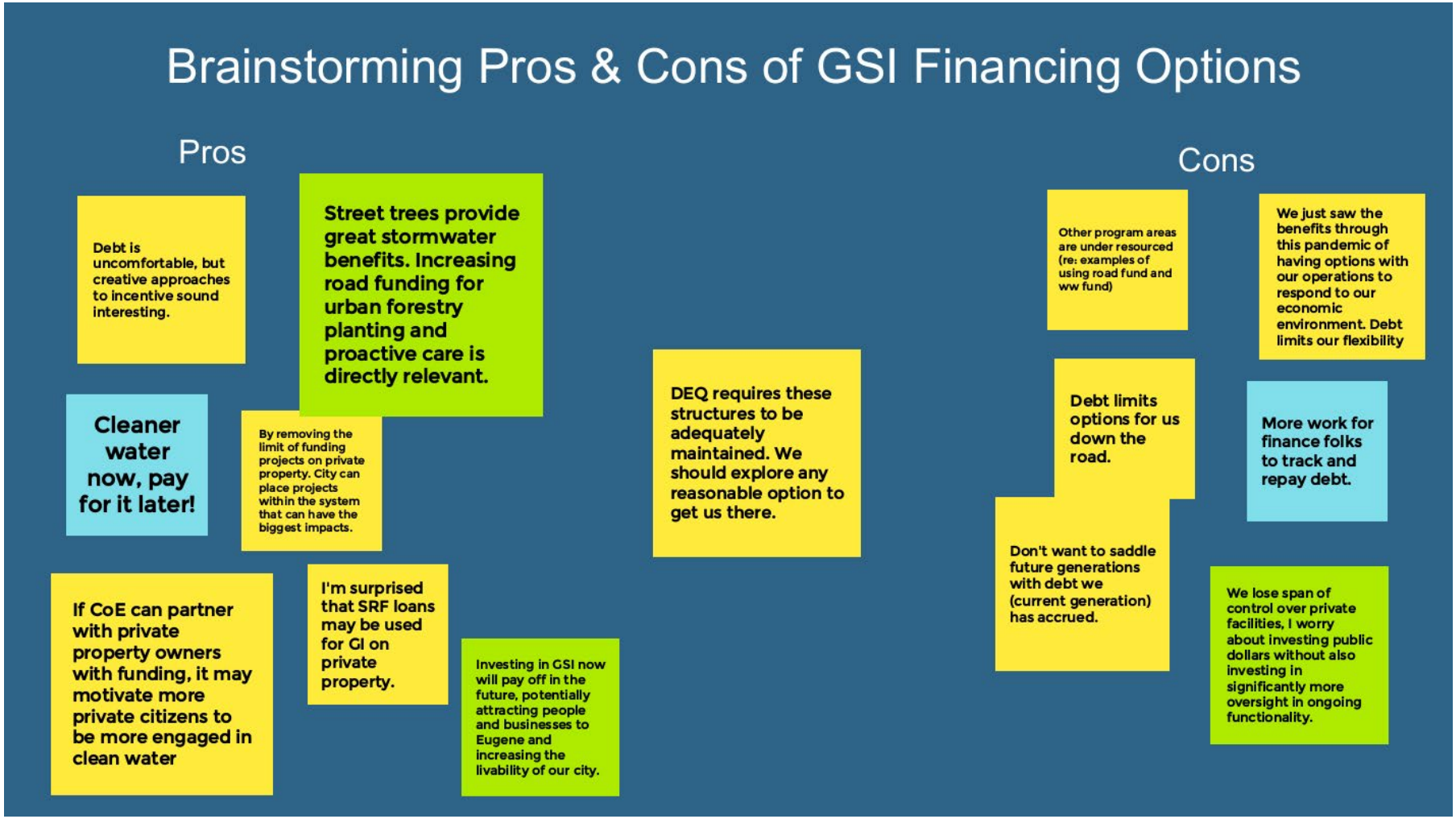
[v] This 2017 rate increase was approved in September 2016.

stormwater impacts, and that partnering with private property owners may motivate more citizens to engage with stormwater management.

Conclusion

There are no silver bullets to answering the questions and weighing the considerations explored over the course of this project. There are, however, a variety of funding and financing pathways available to Eugene to support the City's efforts to build green infrastructure throughout the community while meeting operation and maintenance needs. Many of the legal and accounting requirements that are often perceived as barriers to enhanced investments in GSI can likely be resolved, offering the City options for building GSI not only on public property within its control, but also on private property through consumer incentive programs that encourage GSI retrofits. With this wide range of options in hand, Eugene planners and decisionmakers may have more flexibility in their future evaluation of a right-sized GSI program for the City.

Appendix A – Brainstorming Pros & Cons of GSI Financing Options



Appendix B – Financing Scenarios Summary Worksheet

Hypothetical Funding/Financing Goals and Options–plus add $300,000 current maintenance shortfall (1.5% increase)

	Rate Impact										
	y1	y2	y3	y4	y5	y6	y7	y8	y9	y10	Totals
Option 1 Continue with current program (status quo)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
transfer $300,000 from capital to O&M											
No rate impact											
Option 2 - Fund a $20 M capital program enhancement and											
add future associated maintenance costs											
2A - Cash fund enhanced program by raising rates	4.00%	10.00%	0.00%	0.00%	0.20%	0.20%	0.20%	0.20%	-8.50%	-2.50%	
for 9 years then reduce rates, except for										-	
increased maintenance											
2B- Debt Fund the enhanced program	3.75%	0.00%	0.00%	0.00%	2.45%	0.20%	0.20%	0.20%	0.20%	0.20%	
splitting $20 M debt in half- y1 and y5											
ending enhanced capital program in year 9											
while retaining increased maintenance											
Option 3 - Scale up program immediately and											
keep the higher level in the future, plus maintenance											
3A - Cash fund enhanced program by raising rates and	4.00%	10.00%	0.00%	0.00%	0.20%	0.20%	0.20%	0.20%	0.20%	0.20%	
leave them in place for future spending at the											
higher level, plus associated maintenance											
3B - Issue $10M debt in year 1, then build up	4.00%	2.50%	2.50%	2.50%	2.50%	0.20%	0.20%	0.20%	0.20%	0.20%	
annual revenue to continue to fund enhanced											
program level in the future, plus associated maint.											
3C - 3B but phase in O&M over three years	3.00%	3.00%	3.00%	2.50%	2.50%	0.20%	0.20%	0.20%	0.20%	0.20%	
3D- 3B stretch out rate increases to 6 years	1.50%	2.50%	2.50%	2.50%	2.50%	2.70%	0.20%	0.20%	0.20%	0.20%	
by funding O&M in yr 1 and program in years 2-6.											

	Financial Impact										
Revenue base	$21,000,000										
Revenue compounding	y1	y2	y3	y4	y5	y6	y7	y8	y9	y10	
Option 2A	$21,840,000	$24,024,000	$24,024,000	$24,024,000	$24,072,048	$24,120,192	$24,168,432	$24,216,769	$22,158,344	$21,604,385	
Increase over base year	$840,000	$3,024,000	$3,024,000	$3,024,000	$3,072,048	$3,120,192	$3,168,432	$3,216,769	$1,158,344	$604,385	$24,252,171
Increase over prior year	$840,000	$2,184,000	$0	$0	$48,048	$48,144	$48,240	$48,337	-$2,058,425	-$553,959	
Option 2B	$21,787,500	$21,787,500	$21,787,500	$21,787,500	$22,321,294	$22,365,936	$22,410,668	$22,455,490	$22,500,401	$22,545,401	
Increase over base year	$787,500	$787,500	$787,500	$787,500	$1,321,294	$1,365,936	$1,410,668	$1,455,490	$1,500,401	$1,545,401	$11,749,190
Increase over prior year	$787,500	$0	$0	$0	$533,794	$44,643	$44,732	$44,821	$44,911	$45,001	
Option 3A	$21,840,000	$24,024,000	$24,024,000	$24,024,000	$24,072,048	$24,120,192	$24,168,432	$24,216,769	$24,265,203	$24,313,733	
Increase over base year	$840,000	$3,024,000	$3,024,000	$3,024,000	$3,072,048	$3,120,192	$3,168,432	$3,216,769	$3,265,203	$3,313,733	$29,068,378
Increase over prior year	$840,000	$2,184,000	$0	$0	$48,048	$48,144	$48,240	$48,337	$48,434	$48,530	
Option 3B	$21,840,000	$22,386,000	$22,945,650	$23,519,291	$24,107,274	$24,155,488	$24,203,799	$24,252,207	$24,300,711	$24,349,312	
Increase over base year	$840,000	$1,386,000	$1,945,650	$2,519,291	$3,107,274	$3,155,488	$3,203,799	$3,252,207	$3,300,711	$3,349,312	$26,059,732
Increase over prior year	$840,000	$546,000	$559,650	$573,641	$587,982	$48,215	$48,311	$48,408	$48,504	$48,601	
Option 3C	$21,630,000	$22,278,900	$22,947,267	$23,520,949	$24,108,972	$24,157,190	$24,205,505	$24,253,916	$24,302,424	$24,351,028	
Increase over base year	$630,000	$1,278,900	$1,947,267	$2,520,949	$3,108,972	$3,157,190	$3,205,505	$3,253,916	$3,302,424	$3,351,028	$25,756,151
Increase over prior year	$630,000	$648,900	$668,367	$573,682	$588,024	$48,218	$48,314	$48,411	$48,508	$48,605	
Option 3D	$21,315,000	$21,847,875	$22,394,072	$22,953,924	$23,527,772	$24,163,022	$24,211,348	$24,259,770	$24,308,290	$24,356,906	
Increase over base year	$315,000	$847,875	$1,394,072	$1,953,924	$2,527,772	$3,163,022	$3,211,348	$3,259,770	$3,308,290	$3,356,906	$23,337,978
Increase over prior year	$315,000	$532,875	$546,197	$559,852	$573,848	$635,250	$48,326	$48,423	$48,520	$48,617	

Note1: If you issue $10 million in debt for 30 years at 2.0% you will ultimately pay $13.4 million. If the annual inflation rate is 2% over that time, given the time value of money you will essentially break even.

Note2: While there may be other sources of revenue to fund this program (e.g. water rates, transportation grants, etc.) we base this spreadsheet on stormwater fees. Other revenues can be substituted as they become available.

Appendix C – Funding & Financing Matrix

Funding/Financing Type	Capital Investments	Ongoing Operation & Maintenance
Stormwater fees	✓	✓
Wastewater user fees	✓	✓
Road Fund revenues	✓	✓
Revenue bonds	✓	
Clean Water SRF Loans	✓	
WIFIA Loans	✓	

Endnotes

[1] GSI practices include green roofs, rain gardens, permeable pavement, trees, cisterns, and other natural approaches that infiltrate, evapotranspirate, or reuse stormwater onsite. These approaches can help reduce the need for large-scale gray infrastructure systems and can serve as an important component of a community's stormwater management portfolio. In addition to proven effectiveness in meeting water quality goals, GSI practices can yield many important co-benefits, including beautifying neighborhoods, avoiding flood damages, improving air quality, reducing respiratory and heat-related illnesses, creating "green-collar" jobs, and more.
[2] Eugene Admin. Order No. 58-21-05-F.
[3] WaterNow notes that the Incentives Report includes a typographical error that states that WaterNow's analysis of options for closing the O&M gap will focus on general obligation bonds. WaterNow's O&M analysis does not include general obligation bonds, as bond dollars are not available for O&M costs.
[4] Eugene Admin. Order No. 58-21-05-F; see also FY22 Approved Budget. https://city-eugene-or-budget-book.cleargov.com/fy22-adopted-budget/2022/fund-summaries/stormwater-utility-fund-539. ("For FY22: The FY22 budget includes a 3% rate increase in stormwater user fees, after two years of no rate increases (FY19-FY21). This year's rate increase was partnered with a $1.75 million underspending target, which was needed to offset increasing expenses and two years of flat revenue. In addition to expenses outpacing revenue, the FY22 Adopted Budget does not include necessary investments for increasing the City's inventory of green infrastructure and for maintenance of existing infrastructure.")
[5] FY22 Approved Budget. 2021. https://www.eugene-or.gov/DocumentCenter/View/63758/FY22-Adopted-Budget-PDF-231-MB.
[6] FY22 Approved Budget. 2021. https://www.eugene-or.gov/DocumentCenter/View/63758/FY22-Adopted-Budget-PDF-231-MB.
[7] "For FY22: An immediate challenge for this fund is the reduction of revenue during the COVID-19 pandemic. Although demand for fuel is increasing, which helps to slow the revenue loss, revenue remains below pre-pandemic levels. Keep Oregon Moving (Oregon HB2017), which includes a two-cent fuel increase, will likely be implemented in January 2022." FY22 Approved Budget. 2021. https://www.eugene-or.gov/DocumentCenter/View/63758/FY22-Adopted-Budget-PDF-231-MB.
[8] Oregon Constitution, Article IX, § 3a.
[9] Mok, J.-H., H.C. Landphair, and J.R. Naderi. 2006. Landscape Improvement Impacts on Roadside Safety in Texas. Landscape and Urban Planning 78:263-274; see also Green Cities: Good Health, Safe Streets. http://depts.washington.edu/hhwb/Thm_SafeStreets.html.
[10] The Oregon Supreme Court has held that projects must be "for the highway *itself*" to be eligible for road funds. *In re Legality of an Intergovernmental Agreement between Lane Cty. & City of Eugene* , 91 Or. App. 579, 582 (1988) (emphasis original) (citing 35 Op Att'y Gen 198 (1970).)
[11] "For FY22: The Public Works Wastewater Policy Team implemented a 4% rate increase for FY22 and an underspending target to balance revenues with expenditures. This rate increase does not address growing operations and maintenance needs for the future. For example, in 2017 the City took ownership of private service laterals, which included 43 miles of pipe. The additional infrastructure puts increased demands on the existing operations and maintenance program." FY22 Approved Budget. 2021. https://www.eugene-or.gov/DocumentCenter/View/63758/FY22-Adopted-Budget-PDF-231-MB.
[12] See also Or. Rev. Stat. § 224.510 (authorizing cities to impose sewer charges on water users for "paying, in whole or in part, the cost of planning, constructing or operating a sewage disposal system.")
[13] Eugene Muni. Code § 6.406.
[14] Eugene Public Works, Maintenance, Wastewater Collections, Smoke Testing, Inflow & Infiltration. https://www.eugene-or.gov/3867/Inflow-Infiltration.
[15] For more information about how debt-financing can bring turf replacement, and other sustainable water solution, investments to scale see, *Debt: What Is It Good for and Can It Be Good for You?* https://youtu.be/Ihh1KZYFFI0
[16] WaterNow Alliance. 2021. Tap into Resilience Toolkit *What are My Financing Options, Types of Bonds, Municipal/Revenue Bonds*. https://bit.ly/2ZPMDqK. See also WaterNow Alliance. 2019. *Innovation in Action: 21st Century Water Infrastructure Solutions*. https://tapin.waternow.org/resources/innovation-in-action-21st-century-water-infrastructure-solutions
[17] Or. Rev. Stat. § 287A.150(1).
[18] Carruthers v. Port of Astoria, 249 Ore. 329, 341 (1968).
[19] Carruthers v. Port of Astoria, 249 Ore. 329, 341 (1968).
[20] Carruthers v. Port of Astoria, 249 Ore. 329, 341 (1968).
[21] Carruthers v. Port of Astoria, 249 Ore. 329, 341 (1968).
[22] To issue a revenue bond, the City would also need to satisfy the administrative and procedural requirements set out in Oregon Revised Statute Section 287A.150(2)-(6). Detailing these requirements is beyond the scope of this report.
[23] Additional sources of dedicated revenue to secure a bond may include Eugene's System Development Charges. Preliminary analysis suggests no legal barriers to use these revenues for a bond, but detailed analysis of this issue is beyond the scope of this report.
[24] Eugene Muni. Code § 6.411; see also Eugene Admin. Order No. 58-21-05-F.
[25] Eugene Admin. Order No. 58-21-05-F.
[26] Eugene Muni. Code § 6.406.
[27] Eugene Stormwater Basin Master Plan. 1993. https://www.eugene-or.gov/DocumentCenter/Index/1322.

[28] NPDES Permit No. 101244. 2021. https://www.eugene-or.gov/DocumentCenter/View/63510/ms4EugPermit?bidId=; Eugene Muni. Code § 9.6790.
[29] WaterNow Alliance. Eugene Public Works: City-wide green infrastructure. 2019. https://waternow.org/2019/10/01/eugene-public-works-city-wide-green-infrastructure/.
[30] WaterNow Alliance. Eugene Public Works: City-wide green infrastructure. 2019. https://waternow.org/2019/10/01/eugene-public-works-city-wide-green-infrastructure/.
[31] Or. Rev. Stat. § 287A.150(1).
[32] Eugene Muni. Code § 6.406.
[33] Foley & Lardner LLP. Memorandum Costs for Green Infrastructure: Treatment as Capital Costs and Financing with Borrowing Obligations. 2013. https://tapin.waternow.org/wp-content/uploads/sites/2/2019/05/MMSD-Bond-Counsel-Opinion.pdf.
[34] MMSD. Limited Term Conservation Easement (Example). 2018. https://tapin.waternow.org/wp-content/uploads/sites/2/2019/05/MMSD-Conservation-Easement.pdf
[35] Oregon Constitution, Article XI, § 9.
[36] Carruthers v. Port of Astoria, 249 Ore. 329, 332-340 (1968).
[37] Because this report is focused on options for financing distributed GSI discussion of the SRF established under the Safe Drinking Water Act is outside the scope of the report.
[38] Oregon DEQ, Oregon Clean Water State Revolving Fund Loan Program, Intended Use Plan State Fiscal Year 2022, 4 (May 2021), https://www.oregon.gov/deq/wq/Documents/cwsrfProp2022iup.pdf.
[39] Oregon DEQ, Oregon Clean Water State Revolving Fund Loan Program, Intended Use Plan State Fiscal Year 2022, 4 (May 2021), https://www.oregon.gov/deq/wq/Documents/cwsrfProp2022iup.pdf.
[40] Oregon DEQ, Local Community Loan, Clean Water State Revolving Fund, https://www.oregon.gov/deq/FilterDocs/cwsrf-commloan.pdf.
[41] Oregon DEQ, Local Community Loan, Clean Water State Revolving Fund, https://www.oregon.gov/deq/FilterDocs/cwsrf-commloan.pdf.
[42] Oregon DEQ, Clean Water State Revolving Fund Annual Report, 2 (September 2021), https://www.oregon.gov/deq/wq/Documents/cwsrfAnnualReport.pdf.
[43] ORS § 468.423(4).
[44] https://sos.oregon.gov/blue-book/Pages/local/cities/e-k/eugene.aspx
[45] Oregon DEQ, Local Community Loan, Clean Water State Revolving Fund, https://www.oregon.gov/deq/FilterDocs/cwsrf-commloan.pdf.
[46] See Or. Admin. R. 340-054-0015; see also https://www.oregon.gov/deq/FilterDocs/cwsrfloans.pdf.
[47] Oregon DEQ, Appendix A, Green Project Reserve: Green Infrastructure, https://www.oregon.gov/deq/FilterDocs/srfgprappa.pdf.
[48] Or. Admin. R. 340-054-0026.
[49] Or. Admin. R. 340-054-0010(29).
[50] Or. Admin. R. 340-054-0065(12)(a)(B).
[51] https://www.oregon.gov/deq/wq/cwsrf/Pages/CWSRF-Contacts.aspx
[52] https://www.epa.gov/sites/default/files/2021-03/documents/wifia_benefits_factsheet.pdf
[53] 33 U.S.C. § 3904; see also, https://www.epa.gov/wifia/what-wifia.
[54] Environmental Protection Agency, WIFIA Program Handbook, 11 (2019), https://tapin.waternow.org/wp-content/uploads/sites/2/2019/11/program_handbook_fy2019_mar_2019.pdf.
[55] 33 U.S.C. § 3906.
[56] 33 U.S.C. § 3905; see also, https://www.epa.gov/wifia/what-wifia.
[57] 86 Fed. Reg. 22612-22617.
[58] https://www.epa.gov/wifia/wifia-funding-currently-available
[59] More information about WIFIA loans can be found here: https://youtu.be/Z6K4mNbbxmg.
[60] https://www.epa.gov/wifia/wifia-closed-loans
[61] The RainWise program provides residential customers rebates that cover up to 100% of the costs to install rain barrels and rain gardens to address stormwater runoff and combined sewer overflows. https://www.kingcounty.gov/services/environment/wastewater/cso/rainwise.aspx.