Element #5 – Measuring Success

The City is committed to measuring the success of this plan. The City has documented conditions as they exist today and will assess the effectiveness of the work going forward. The City will continue to monitor CSO frequency and volumes, the quantity and quality of wastewater at the RPWRF, and provide monitoring and modeling of stormwater and green infrastructure projects. This information will help determine regulatory compliance and actions that might be needed in the future.

Element #6

Adapting for the Future

This Integrated Clean Water Plan allows the City to adapt to changing conditions and changing information. The City has committed to removing stormwater from combined sewers and separated storm sewers when reconstructing streets and other infrastructure. The goal is to reduce the amount of water in our system and lessen overflows to the river. Green infrastructure is a likely method to accomplish this.

This adaptive management approach allowed the City to size facilities based on current information and still accommodate for growth and varying weather patterns as a result of climate change.

The City will codify this integrated approach to infrastructure planning through an update to its Comprehensive Plan, called Link Spokane. Rather than just considering the surface transportation uses for streets, the City is taking a three-dimensional view of its streets that includes connectivity for pipes and conduit and management of stormwater, along with multi-modal connections.

Questions or Comments on this Integrated Plan?

City Integrated Clean Water Plan Contact:

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The City of Spokane (City) is proud to introduce its Integrated Clean Water Plan—a plan that meets the City’s strategic objective of delivering a cleaner Spokane River faster in a financially responsible way.

Facing significant costs, an aggressive timeline, and a changing regulatory environment, the City decided to take a new look at its plans to improve water quality in the Spokane River and meet Clean Water Act mandates, adopting an integrated approach to its planning. The City used the U.S. Environmental Protection Agency’s Integrated Planning Framework as a guide and collaborated with the Eastern Region of the Washington State Department of Ecology. An integrated approach requires the City to study all flows that bring pollutants to the river, consider all viable technologies and options to manage those flows, and develop a comprehensive solution that delivers the best value for the investment. Essentially, this approach is designed to get enhanced results more quickly at a more affordable price. The City included flows from its Riverside Park Water Reclamation Facility (RPWRF) along with discharges to the river from combined sanitary and stormwater sewers (CSOs) and separated storm sewers in this integrated approach.

The City established three primary objectives:

• To achieve a cleaner river faster, prioritizing work with the greatest potential to reduce pollution going into the river. The City is working to reduce phosphorus, PCBs, heavy metals, bacteria from sewage, and others.

• To implement cost-effective and innovative approaches. The City will spend dollars wisely and include “green” technologies as they make sense.

• To opportunistically address other critical infrastructure needs with Integrated Clean Water Plan projects. City staff probed actual rainfall and overflow data, in addition to computer models, and maximized the use of the existing piping system. They considered the result of significant wastewater changes in our community, like the addition of Spokane County’s Water Reclamation Facility, which frees up capacity in our main downtown sewer interceptor.

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The Plan Elements

Following the EPAs integrated planning framework, the City of Spokane’s Integrated Clean Water Plan includes six major elements: a discussion of regulatory requirements, a description of the existing system, a public involvement process, a selection of projects with implementation plans, a way to measure success, and a way to adapt the plan for the future. Below is a summary of each of these elements.

ELEMENT #1 Regulatory Requirements

This Integrated Clean Water Plan allows the City to meet its regulatory requirements related to water quality in the Spokane River and Lake Spokane. The City is subject to regulatory requirements across its range of stormwater, CSO, and municipal wastewater treatment services. All these requirements come from the Clean Water Act and are regulated through a National Pollutant Discharge Elimination System (NPDES) permit for both CSOs and municipal wastewater treatment, existing and potential future total maximum daily load (TMDL) limits, and the Eastern Washington Phase II NPDES Municipal Stormwater Permit. Other regulations also apply. The regulations specify:

• A performance standard for controlled CSOs as not more than one discharge event per year on a 20-year moving average. The City is required to achieve this standard by the end of 2017.
• The implementation of an additional level of treatment, focused on reducing phosphorus and other pollutants going to the Spokane River and Lake Spokane at the RPWRF, with regulatory compliance by March 2021. The projects in this Integrated Clean Water Plan also go beyond the City’s current regulatory requirements. For example, the City has identified the Cochran stormwater basin as the largest point source contributor of stormwater to the Spokane River and has included a project to treat and infiltrate flows from the Cochran Basin in this plan. Although not specifically required, this project is expected to reduce the total amount of suspended solids by about 34,000 pounds a year.

ELEMENT #2 The Existing System

The City operates an extensive wastewater collection and treatment system that serves about 251,000 people in the Spokane metropolitan area. The system includes the RPWRF, which processes about 34 million gallons of wastewater daily, along with nearly 900 miles of sewer pipe, a variety of pumps and pump stations, and 22 combined sewer discharge points to the River. This Integrated Clean Water Plan includes a comprehensive look at all the City’s discharges to the Spokane River, including those from CSOs, separated storm sewers, and the City’s RPWRF. With this plan, the City is building on a long history of stewardship of the River and other surface waters. The City built the community’s first sewage collection system and wastewater treatment plant making significant and ongoing upgrades and improvements over the years. From 2000 through 2012, the City spent $220 million on clean water improvements. Projects to reduce overflows from combined sewers began in the early 1980s, with the City reducing those overflows by 86 percent to date.

ELEMENT #3 Public Involvement Process

Throughout the development of this Integrated Clean Water Plan, the City has worked diligently to open and maintain communication channels with the public, interested stakeholders, and regulatory agencies. The City developed and implemented a communications action plan that relied on multiple communication approaches—from in-person presentations and meetings, to outreach to local media, to use of internet resources and social media—to reach more people in ways that are convenient for them. The City reached out to specialized and interested stakeholders, including environmental advocates, users of the Spokane River, owners of property along the river’s shores, and neighborhoods that would experience construction projects. In all, the City made more than 40 presentations to stakeholder and citizen groups, reaching nearly 1,400 people. The City also partnered with The Lands Council to provide door-to-door outreach and completed dozens of other communications. In parallel efforts, the City also kept staff from regulatory agencies and the Spokane Tribe engaged and informed. The City held about 30 meetings with regulators, elected officials, and Tribal leaders.

Why Integrated Planning?

This Integrated Clean Water Plan seeks to improve water quality of the Spokane River and achieve regulatory compliance. The City is focused both on implementing cost-effective and innovative technologies, and on addressing other critical infrastructure needs while developing Integrated Plan projects. Applying an Integrated Planning Framework to address CSOs, stormwater, and municipal wastewater treatment comprehensively maximizes the benefits provided by the City’s clean water investments.

Focus on Water Quality

A number of entities and mechanisms regulate water quality in the Spokane River and Long Lake. The overall goal of the regulations is attainment of designated uses, including aquatic life, recreational, and cultural uses. Also, there are less tangible (for example, spiritual) uses of the River and its resources that also depend on the quality of its waters. The Spokane River and Lake Spokane are on the state’s 303(d) list of impaired water bodies for polychlorinated biphenyls (PCBs) and bacteria (Category A), and total phosphorus, zinc, lead, and dissolved oxygen (Category 4A). A TMDL is in place for dissolved oxygen (related to phosphorus), and additional TMDLs are being developed for dissolved cadmium, nickel, lead, and dissolved zinc. For PCBs, the City is working with Ecology and others on a toxics control task force to establish performance-based PCB limits. The City considered a number of pollutants to regulate the projects, including fecal coliform bacteria, total suspended solids, total phosphorus, total zinc, dissolved zinc, and PCBs.

ELEMENT #4 Selecting Projects & Plans for Implementation

This Integrated Clean Water Plan details a significant amount of work to be completed over four to five years, including:

• A series of projects to control overflows from combined sewers and meet current regulations.
• Management of stormwater coming from what’s called the Cochran Basin on Spokane’s North Side, where the City separated storm sewers in the 1980s. About half the volume of stormwater runoff that reaches the river comes from this single stormwater outfall.
• Construction of tertiary treatment at the RPWRF and plans to operate it year-round to get additional pollution reduction benefits. The City only is required to run tertiary treatment during the “critical” 8-month season.

The projects use different technologies—including storage and/or conveyance of CSOs, treatment and infiltration of stormwater with green infrastructure, and treatment of municipal wastewater at the RPWRF—to reduce pollutant loading to the Spokane River. This combination of projects achieves greater pollution reduction than would have been possible if these clean water investments were implemented just to meet regulatory requirements.

The projects were selected using a set of criteria designed to ensure value for the dollars that will be spent and maximize benefits. The criteria included environmental outcomes, community benefits like improved streets and economic development, operations and maintenance considerations, ability to meet regulatory requirements, and life-cycle costs. The City has:

• Re-sized tanks to manage overflows from combined sewers based on actual rainfall and overflow data to meet current regulations.
• Optimized the use of the overall piping system for storage during storms and accounted for the addition of a new wastewater treatment plant built by Spokane County that reduces the amount of wastewater in our system.
• Incorporated stormwater removal from City piping systems during street construction.

Overall, the projects total about $319 million, plus $41 million for incorporating stormwater removal in conjunction with other infrastructure improvements. Although they represent a significant cost savings from previous plans, these investments still require a significant financial investment by the citizens of the City of Spokane. The EPA’s integrated planning framework addresses communities’ financial capabilities, and the City of Spokane’s median household income is $39,000 and other aspects. The City is seeking a partnership that would include an investment by the state equal to approximately 20 percent of the overall project cost, or $70 million.