Memorandum

To: City of Laramie Stormwater Focus Group

From: WSP Environment and Infrastructure

CC: City of Laramie Public Works and Engineering

Date: December 1, 2023

Ref: Stormwater Funding Feasibility Study
Background on City's Stormwater Services

Historically, the City's responsibilities for management of stormwater originates within the Public Works Department, Streets and Engineering Divisions, and Parks Department. This responsibility aligns with the operation and management of the street network which requires the safe removal of stormwater runoff to provide effective performance of the transportation network.

The roles for maintenance of the publicly owned drainage network are handled primarily by the Streets Division and the Parks Department with technical support provided by the Engineering Division. Prior to the adoption of the 1% Specific Purpose Excise Tax in 2018, which included general obligation bonds for specific storm drainage projects, the ongoing and routine stormwater management services have received limited budget within the General Fund. Stormwater operations and maintenance services and capital projects for drainage improvements must compete with all other priorities of the Public Works Streets Division and Parks Department.

Stormwater system maintenance is typically focused on known problem areas and often driven on a complaint basis. This is a reactive program of services with little or no staff time available for inspection and routine maintenance on the system. In 2019, a Routine Maintenance Plan was developed, and it identifies the primary focus for street sweeping, cleaning and inspection of inlets, cleaning of lateral and main lines, and flushing of system components when working on problem areas during cleaning of inlets. The Plan provides an understanding of the cost of operation for these four areas of focus in 2019 dollars. In addition, the Streets Division tested the use of Gutter Bins, installed in the summer of 2020, to reduce pollutant discharges to the Laramie River by capturing and removing trash and other debris that is carried by the storm drain system during periods of runoff. Installation of bins has continued since original unit testing. Routine inspection and semi-annual cleaning of the Gutter Bin is critical to ensure that the inlets function optimally.

Engineering Division staff are responsible for technical support in the planning, design, and execution of projects and studies that support the stormwater system operation. For City stormwater project engineering analysis and capital project design, staff take into consideration performance elements such as environmental impacts, master plan compliance, and system performance including downstream impacts. On-site stormwater management for private development is reviewed and approved by Engineering Division staff. There are currently no formally approved drainage criteria for the City, so stormwater management requirements are administered on a case-by-case basis. There are no requirements for maintenance of private stormwater infrastructure.

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The Wyoming Department of Environmental Quality (WDEQ) is the responsible agent for erosion and sediment management during construction activities. WDEQ staffing is limited, so inspections by WDEQ staff of construction activities for compliance with construction stormwater discharge permits are rare.

The Parks Department maintains the drainage infrastructure on each site/facility that they manage. There are not dedicated programs within the Parks Department for ongoing/routine maintenance. Problems are identified and addressed as resources allow.

Water quality of the stormwater runoff, in the past, has not been a key focus for management of the drainage system within the City. Federal mandates that result in the issuance of a National Pollutant Discharge Elimination System (NPDES) permit are managed by the WDEQ and two urbanized areas within the state are covered by the General Wyoming Pollutant Discharge Elimination System (WYPDES) permit (MS4 Permit 08-0867). The permit is mandated for Cheyenne and Casper including the towns of Mills and Evansville and the counties of Laramie and Natrona. F.E. Warren Air Force Base is also included in the urbanized area boundaries for permitting. Population density within a designated urbanized area is the trigger for inclusion in the WYPDES program. Currently, Laramie, with a population under 50,000, has not been designated as an urbanized area that meets the qualification standards for WYPDES permitting.

Though not currently mandated for Laramie, protection of the natural systems that receive stormwater runoff is important to address environmental protection of the City's natural water resources, whether infiltrated into groundwater or received in streams and creeks. The WDEQ has stated that a stormwater permit could be required for Laramie and similar communities with populations under 50,000 people if local water bodies become impaired due to urban stormwater runoff, with sediment as the most likely pollutant of concern.

Current Services:
The City's stormwater system consists of 1,672 inlets, 668 manholes, and approximately 52 miles of storm pipe.

Engineering: Stormwater technical support is provided by the PW/Engineering Division. The Division responsibilities include:

- managing the design and construction of most capital improvement projects along with development reviews,
- inspections of system issues,
- assistance to the Streets Division and Parks Department, as needed,
- technical consultation when requested,
- handling flood-related problems,
- managing engineering studies,
- floodplain administration, and
- storm drain engineering.

Minimal in-house design of system improvements or projects is provided, with most Capital Improvement Plan projects designed through contracted services. Code Administration may assist in handling concerns for individual homes with assistance from Engineering staff.

The current Engineering Division staff has a capacity to manage the design and construction of $10-$12M in capital projects (includes water, sewer, stormwater, street, and other improvements) in addition to all other responsibilities.

Complaints: Most maintenance is initiated through a complaint that is reported to the Streets or Engineering Division. The Streets Division has a staff member on call, with a targeted response time of 30 minutes. The objective is to identify the nature of the issue and its cause. There are no specific crews assigned to maintain the drainage network, but all staff can be assigned to address an issue depending on the nature of the problem. There are 10 staff who may respond to an identified problem area. Once an issue is addressed, the Streets Division will continue with the Maintenance Plan on cleaning the system.

Maintenance: The Routine Maintenance Plan addresses Street Sweeping, Cleaning and Inspection of Inlets, Cleaning of Lateral and Mainlines and Flushing.

Street Sweeping: The Street Sweeping operation is completed routinely with each street swept a minimum of twice a year. The initial spring sweep is important to remove dust and debris from the winter and the fall sweep targets the removal of leaves from the curb line to prevent clogging of inlets, gutters and pipe flows. Sweeping may be done in between primary sweeping times to address a specific condition along a corridor.

Cleaning and Inspecting Inlets: Inlets are a key component of the storm drain network, moving runoff into the collection system, protecting transportation infrastructure by channelling flow away from the street surface. The optimal time to inspect an inlet is during a rain event, providing a visual acknowledgment of the build-up of debris, leaves, and/or trash that reduces the efficient flow of runoff into the collection network. The Streets Division is testing Gutter Bins to reduce pollutant discharges from the drainage system by collecting debris and trash in the Bin. Bins must be inspected and cleaned at least twice a year.

Cleaning of Lateral and Mainlines: Laterals and mainlines of the collection system cannot function at capacity unless there is a routine program for cleaning the lines. This is done using a sewer jet which cleans and extracts debris. A line is cleaned from the upstream branch to the outfall.

Flushing: After a sewer jet has established proper flow, a water truck is used to pour water down a known problem inlet or segment to verify that an issue has been solved and the system components are working properly. With additional funding and implementation of a routine maintenance program, this step in the process can be eliminated.

Inspection of Lateral and Mainlines: Storm sewer pipes are not regularly inspected for clogging, damage, or other signs of aging lines. If inlet cleaning and sewer jetting does not allow water flow, then a Closed Circuit TV camera is used to inspect and determine the reason. Upon identification of the cause, crews work to remove the impediment.

Capital Improvement Planning: Analysis has been completed in major subwatersheds within the City, and in 2022, the City developed a City-Wide Storm Drainage Master Plan to integrate the previous studies and create a prioritized list of capital improvement projects. Approximately $135M in stormwater capital improvement projects were identified based on 2022-dollars. It is anticipated

that the estimated value has increased since that time considering inflationary pressures on construction costs.

With Federal enactment of financial relief from the impacts of the COVID-19 pandemic, resources provided have created an opportunity to fund critical infrastructure projects that otherwise could not be addressed with existing resources. The addition of a penny on the 2018 Special Purpose Tax (SPT) provides over $22 millon for street and storm drainage capital construction projects. The City can issue up to $4.2 million in bonds. The SPT pays the principal and interest for those bonds. Upon repayment of the debt, the City could request the support of the voters to support additional bonded debt that could be paid by another SPT.