

5.7.6 Impervious Cover/Water Quality Protection

The City of San Marcos and Texas State University will implement a program to protect water quality and reduce the impacts of urbanization based upon the LID/BMP practices. Urban land development tends to increase the intensity of storm water flows and the amount of nonpoint source (NPS) pollution reaching local water resources. Buildings, roads, and other impervious surfaces shed rain more rapidly than areas covered by vegetation, and most typical urban land uses require rapid drainage of storm water. The very rapid, direct connection of developed land across paved surfaces and through drainage conveyances to waterways tends to carry more pollutants more quickly from the land surface to water resources. A number of water quality problems and impairments in Texas are attributed in full or in part to such urban storm water runoff carried through storm sewers and channelized streams. The science committee stated this measure was one of great importance to the success of the EAHCP for listed species protection (May 9, 2013). Addressing water quality is critical to protection of the listed species in a rapidly developing environment.

Long-term Objective:

Implement a program that minimizes the impacts associated with urbanization and changes in land use/cover in the Upper San Marcos watershed, manages stormwater as close to its source as possible, treats stormwater as a resource rather than a waste product, emphasizes conservation and the use of on-site features to protect water quality, and increases infiltration to groundwater and aquifer recharge for the protection of riverine integrity.

The goal of the AMP is to analyze how to reduce sediment loading at the source. An extensive list of best management practices (BMPs) have been identified through the COSM Water Quality Protection Plan (WQPP) process. Funds from the COSM and the EPA 319 grant will be leveraged along with the remaining EAHCP Sediment Removal and Impervious Cover/Water Quality Protection measure funds to successfully implement these projects.

The removal of sediment in support of native aquatic planting activities has proved to be both unnecessary and overly expensive. From 2013 to 2015, three of the six required sites have received only 158 m³ of sediment removal costing approximately \$555,000.

This process will depend upon a successful resolution through the EAHCP AMP and proper Amendments to USFWS.

Target for 2017:

The COSM and TXSTATE plan to combine the Sediment Removal and Impervious Cover/Water Quality Protection into one conservation measure that includes a prioritized list of BMPs within the upper San Marcos River watershed that will help control sediment and other contaminated runoff. Sessom Creek is a highly urbanized steep watershed that contributes a heavy load of sediment during rain events; in the 2015 October flood, Sessom Creek dumped sediment on TWR stands and other native plant stands down to City Park.

The COSM and TXSTATE will utilize a subcommittee of the EAHCP Science Committee to prioritize the list of projects in the Watershed Protection Plan (WPP) and WQPP.

The EAHCP commitment for the combined effort (Sediment Removal and Impervious Cover/Water Quality Protection) will not exceed \$1,500,000. This will include (1) design of Sessom BMPs in 2018; (2) construction of Sessom BMPs starting spring of 2019; and (3) potential purchase of Sessom property or conservation easement.

For 2017 the EAHCP will fund the Preliminary Engineering Report (PER) and a portion of the official engineering designs for the Sessom Creek projects. This work will be necessary in accumulating important information regarding the sites of primary interest in the Sessom Creek watershed, as well as enable staff to begin assessing what state and federal permits would be necessary in order to begin construction on time.

The COSM and TXSTATE commitment includes approximately \$2,000,000 to provide; (1) design of wastewater relocation and erosion/sediment control; (2) Sessom wastewater line rehab and relocation Spring 2019; and (3) construction of BMPs that control erosion, minimize sedimentation and reduce pollutants. The COSM staff engineer will participate in the prioritization of BMPs.

Additionally, TxState has received 319 funds from the TCEQ. These funds, will be accessed as available for design in 2018 for the prioritized BMPs. The Meadows Center for Water and the Environment is assisting in implementation of the EPA 319 funds and will participate in the prioritization of BMPs.

Methods:

The AMP will require:

1. Data gathering and scenario development by validating the work done by Gleason and Associates and Alan Plummer and Associates from 2014-2016.
2. A peer review process with the Upper San Marcos River WPP Stakeholder group and selected Engineering Consultants.
3. EAHCP Committee information process which includes conceptual meetings with the Implementing Committee in February and Stakeholders in March.
4. **Begin the Preliminary Engineering Report (PER)**
5. Technical committee review by an appointed Science Committee Work Group to prioritize the identified BMPs in the summer of 2017.
6. Regular briefings with USFWS starting in February.
7. Official Submission of the Adaptive Management Proposal by July 31st, 2017.
8. Endorsement by the Science Committee on August 7th, 2017.
9. Stakeholder and Implementing Committee approval on September 21st, 2017.
10. EAHCP amendment process to USFWS Fall 2017.
11. Implementation:
 - a. **2017 – PER and initial design**
 - b. 2018 – Design
 - c. 2019 – Start construction

The process described is contingent on the approvals and endorsement of all groups, committees, and internal/external processes.

The COSM/TXSTATE and their selected contractor(s) will produce the following

1. Presentation to a subcommittee of the EAHCP Science Committee
2. Provide information and dates for the AMP that supports the prioritization of projects in the Sessom Creek Watershed.

Budget:

Table 7.1:

\$200,000

Estimated 2017 budget:

\$239,500

*Note thatto complete the designs of City Park & Downtown Ponds (in fulfillment of the Minimizing Contaminated Runoff measure) and begin Sessom Creek BMP design, \$119,500 from the 2018 LID/BMP Management measure was transferred to 2017.