

COUNCIL ACTION FORM

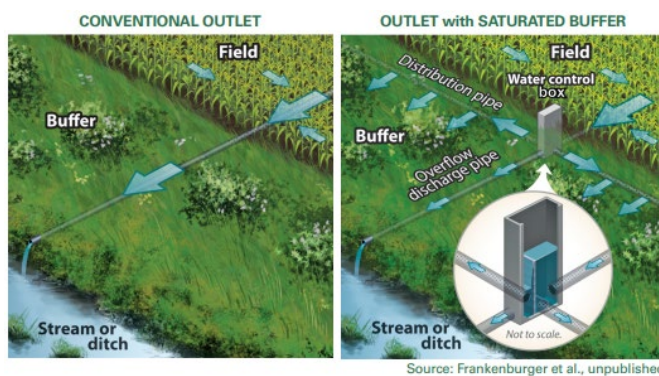
SUBJECT: PRELIMINARY APPROVAL OF PLANS AND SPECIFICATIONS AND NOTICE TO BIDDERS FOR STORY COUNTY EDGE OF FIELD PROJECT

BACKGROUND:

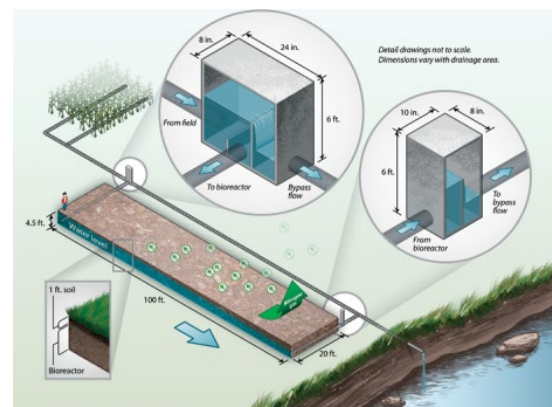
The Water Pollution Control (WPC) Facility is being converted to implement nutrient removal treatment technology over a period of 20 years. Separate from the work that will occur at the treatment plant, watershed-based improvements performed by the City can be “banked” as credit toward any future, more stringent nutrient reduction regulations imposed on the WPC Facility. On February 24, 2021, staff executed a Memorandum of Understanding (MOU) with the Iowa Department of Natural Resources to allow these off-site nutrient reductions to be banked with the Iowa Nutrient Reduction Exchange.

Over the past year, staff has been developing a partnership with multiple entities to bundle together multiple Edge-of-Field (EOF) practices that can be bid as a single bid package. This project will construct EOF practices in Story County, consisting of four saturated buffers and five bioreactors that will treat 20 agricultural tile outlets. These practices allow for the natural removal of nitrogen from subsurface drainage before it enters a stream or other surface waters. Additional information about these practices is shown below.

Saturated Buffers



Bioreactors



A saturated buffer is an area of perennial vegetation between agricultural fields and waterways where tile outlets drain. Tile lines connect to a control structure, which distributes water laterally along the buffer. As water drains into the buffer, the living roots of perennial vegetation absorb water and nutrients, like nitrogen. According to the Iowa Nutrient Reduction Strategy, a saturated buffer has the potential to remove 50% of nitrogen from water that is diverted through the buffer.

A bioreactor is a buried trench on the edge of a farm field that is traditionally filled with woodchips. Drainage tiles outlet into the woodchips where bacteria convert nitrogen in tile water into nitrogen gas. According to the Iowa Nutrient Reduction Strategy, a bioreactor, on average, removes 43% of nitrogen from water diverted through it.

In addition to the nutrient reduction benefits provided by these practices, they also provide a small measure of mitigation against both droughts and floods by holding water on the landscape longer.

On January 11, 2022, City Council approved two separate agreements that outlined the funding arrangements and project management duties for the EOF project. The City of Ames is acting as the fiscal agent for the project and the Iowa Department of Agricultural and Land Stewardship (IDALS) and Story County/Story County Conservation are acting as funding agents for the project. The funding for this project consists of 75% from IDALS and 25% split between the City and Story County. The City's share of the project cost will come from the Watershed Based Nutrient Reduction capital improvements project.

The final design is complete, and all landowners included with the project have completed the necessary paperwork. Staff is ready to issue a Notice to Bidders for the EOF project. The engineer's estimate of probable construction costs is \$217,105. The estimated cost for the City's share is \$27,150.

ALTERNATIVES:

1. Approve the preliminary plans and specifications and issue a Notice to Bidders for a project to install four saturated buffers and five bioreactors, and establish July 13, 2022, as the bid due date and July 26, 2022, as the date of public hearing and award.
2. Do not approve the plans and specifications and a Notice to Bidders thereby delaying the completion of this project.

CITY MANAGER'S RECOMMENDED ACTION:

The Ames Water Pollution Control Facility will be converted to a nutrient removal treatment technology over a period of 20 years. To mitigate future investment beyond what is already planned for, watershed-based projects can be performed, and the resulting nutrient reduction credits can be banked. Following project completion, the City will register each of these practices and receive annual nutrient reduction credit for the lifespan of each practice.

Therefore, it is the recommendation of the City Manager that the City Council adopt Alternative No. 1, as described above.