



**COMMITTEE MEETING DATE: OCTOBER 15, 2024**

## **REQUEST FOR DECISION - TO COMMITTEE**

### **SUBJECT**

**OCTOBER 2024 BLACKFOOT LAGOON UPDATE**

### **RECOMMENDATION**

THAT the County of Vermilion River Policy and Priorities Committee recommend that the County of Vermilion River select the \_\_\_\_\_ discharge method for Administration to complete detailed design and move to construction phases of the project.

### **DETAILS**

Background:

From the April 4, 2024 Policies and Priorities Committee meeting, administration in conjunction with the consulting engineers MPE, have completed the first phase of study of the irrigation and evaporation pond investigation for the two quarter sections of land.

Phase 1 to be a desktop review of each option to see if it is possible at the preliminary level with considerations given to land size required, evaporation rates, and general area required for effective irrigation. If the desktop exercise shows that the option is viable, then Phase 2 would commence. The Phase 1 completion is aimed for June 12, 2024.

Phase 2 was to look at each option in more detail by completing environmental studies, soil sampling, and preliminary design to establish a Class D cost estimate.

This approach allows for efficient and effective use of funds while investigating these two options. Expected completion of the study is third week of September. However, this time frame can be shortened if the quantity of work is narrowed down from Phase 1.

At the end of Phase 1, it was established that the quarter that the current lagoon is being discharged to is not feasible for irrigation or evaporation. The quarter directly east of the existing lagoon appears to be possible for both options. Council decided to investigate both options for the quarter east of the lagoon.



Discussion:

Phase 2 has been completed with studies regarding the wetlands, and the soil conditions of the quarter section. Both Evaporation Pond and the Irrigation options are possible.

The evaporation pond size requires approximately 44 acres of land. The final size will be determined during detailed design phase. The benefits to the evaporation pond are that it is all gravity fed, which is simpler to maintain and operate. If there are samples that are taken that do not meet a standard, it is also simpler to handle this method of discharge. The negative to this solution is the large land mass that is lost to the pond as well as the additional land setbacks that limits potential development. The other negative is the higher capital cost to the project as compared to irrigation.

The irrigation method is possible and would not require wetland disturbance. The soils are conducive for this. This method would require movable water sprinklers/cannons to irrigate. Depending on the application rate it could take 20 to 50 days to discharge the water. This would need to be monitored closely and moved manually by staff to achieve the discharge. The benefits to this method is that it promotes the agricultural component for the County of Vermilion River, and is a lower cost capitally. The negatives is that it also takes up a significant amount of land mass for the discharge, and creates a much higher operational cost and challenge. For instance, for the County of Vermilion River to continue to graze the property or if a crop was desired, more procedures and testing would be required. The other negative to this option is if there is a sample taken before discharge that does not meet the requirements, that it will require a higher operational cost to discharge or it may not be possible to discharge in this method. Further investigation into emergency discharge protocols is to be completed regarding this issue.

The third option is one that has been discussed with Council prior and that is the force main discharge to the creek. This was brought back for the wholesome review of the most recent discharge solutions for the lagoon.



Public Works does not recommend the Irrigation Option as there are more operational, higher standards required for this option, and more external variable that will dictate the success of this discharge method.

Relevant Policy/Legislation Practices:

Municipal Government Act

Water Act and Regulation

Environmental and Protection Act and Regulations

Desired Outcome (s):

To provide direction to Administration on direction of the project.

To select irrigation method.

To select evaporation method.

To select force main method.

Response Options:

THAT the County of Vermilion River Policy and Priorities Committee recommend that the County of Vermilion River select the \_\_\_\_\_ discharge method for Administration to complete detailed design and move to construction phases of the project.

## IMPLICATIONS OF RECOMMENDATION

Organizational: N/A

Financial: Requires review of grant implications.

Communication Required: Communication to grants is required.

Implementation: Upon Council approval.

## ATTACHMENTS

Enviromak report (wetlands assessments)



Irrigation Feasibility Study

Image of Wetland delineation

MPE Summary report

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DATE: October 9, 2024