

**Keystone Ridge Surface Water Management Project****Report Purpose**

To seek Council approval on the proposed water diversion project in Keystone Ridge and Gillis Estates

**Recommendation**

THAT Administration proceed with engineering design and public engagement related to the Keystone Ridge Surface water management project and report back to Council by the fourth quarter of 2020.

**Our Prioritized Strategic Goals**

Goal 1 - Build strong communities to support the diverse needs of residents

Goal 4 - Ensure effective stewardship of water, land, air and energy resources

**Report**

Over the past 10 years, residents of Keystone Ridge and the County have had ongoing drainage concerns with the Gillis Estates subdivision storm pond. The subdivision, when developed, matched the standards at that time which did not require detailed surface water engineering plans. The standard led to the principle of following natural drainage courses as development occurred. The natural drainage course had water that was released from the storm pond, flowing north through an existing parcel (Lot 26) in Keystone Ridge, down the subdivision ditch and then north west through a drainage easement to Range Road 225.

Keystone Ridge residents have had increased water issues and infiltration of water into their properties from the water heading through the subdivision. Lot 26 does not have an easement placed on the property for this key water course that runs from the storm pond through the property. The residents of Keystone Ridge have requested that the County look for alternatives as they will not support the ongoing issues they have faced since the subdivision was constructed.

The County obtained a Temporary Water Diversion Permit from Alberta Environment and recently drained the Gillis pond. This provided relief for the ongoing water issues while we have commenced our review of options for water diversion.

In developing the options, our key objectives were to divert water to existing County ditches and drainage courses with capacity, while not impacting further locations or residents. The review of options explored three key routes that could be utilized for diversion. These three options have differing costs, pros/cons and resident level of acceptance.

**Option One**

To take the storm water down a proposed drainage easement from the storm pond, NW along the property line of Lot 26 and Lot 14 in Keystone Ridge. This would provide a ditch which conveys the water within an easement out to the front roadway ditch in Keystone Ridge and head through the subdivision to the drainage easement. This option is the most direct route, but still brings the Gillis storm water through Keystone Ridge. This also would require approval to run an easement through the properties. This option has mixed reactions as early conversations from Keystone Ridge Residents was to take water away from the subdivision. The high-level estimate for this option is around \$175,000.

### Option Two

To take the storm water down an existing easement for a water line between Lot 62 and Lot 50 in Gillis Estates. The water would then discharge into Barry Hill subdivision and follow a natural course north out to Township Road 530. This option introduces the Gillis storm water into Barry Hill and would add water to the existing drainage course which may not have the capacity to handle it. This may also increase private property issues with additional storm water backing up. Further, the water line easement would require additional land to allow a 3 to 4-meter-deep ditch to be dug, completely changing the two impacted properties. This would require approval for additional easement land. We believe this route will have non support from the residents of Barry Hill and the two land owners who would need to give more easement and have a large drainage channel through their properties. The high-level estimate for this option is around \$275,000.

### Option Three

Is proposed to bring the storm water from the Gillis Estates pond down the north subdivisions ditch to Range Road 225. Water would then flow north on Range Road 225 to the north side of Keystone Ridge subdivision entrance. This route requires regrading of the ditch, including dropping the existing ditches by 1-3 meters and will include a large section of storm pipe along the ditch line. This option brings the storm water through existing County drainage ditches and does not impact private property for land or required easements. This option is the least impactful to private property and would see the deepening of existing roadway ditches. We believe there would be mixed support for the ditch size but balanced with very little impacts for the adjacent residents. This option is very supported by the resident of Keystone Ridge. The high-level estimate for this option is \$450,000.

The options reviewed and cost estimates are based on very preliminary review, there are many factors still unknown until engineering design is completed which may impact the overall project costs. We would need to have detailed engagement with the landowners impacted and review the options with Alberta Environment and Parks to seek potential design elements required. The proposed preliminary design work will provide details and potential impacts and costs of the option.

Reviewing the proposed options, the County believes that Option One and Option Three will best address correcting the storm water issues facing Keystone Ridge residents and will not negatively affect any further landowners by bringing storm water to an area that has not been impacted before. The County proposes to proceed with preliminary design, further engagement and Alberta Environment and Parks review as next steps. Upon completion of that step acceptable option will be selected, and the County will bring back to Council a budget request for Councils consideration.

### **Council and Committee History**

July 21, 2020	THAT Administration prepare a report, for Council's consideration at the next available Council meeting (September 8, 2020) on options for diverting water from the outfall of Gillis Estates to prevent impact of this water on Keystone Ridge properties; such report to include the amount required and possible source of funds for a Capital Budget Amendment for the purpose of completing the required actions; and THAT Administration implement temporary diversion solutions on the necessary private property immediately while the long-term solution is
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worked on.

**Other Impacts**

**Policy: n/a**

**Legislative/Legal: n/a**

**Interdepartmental: n/a**

**Master Plan/Framework: n/a**

**Enclosure**

1                      Keystone Ridge and Gillis Estates Drainage Study Map.pdf