



INTERNAL REFERRAL

Date: February 2, 2017

To	Craig Walker – Planning Officer
cc	Brian Hartman – Manager, Engineering Services Clayton Kittlitz - Manager, Current Planning & Development Services
From	Chris Krath – Senior Engineering Officer
Re:	Rivers Gate OP & Land Use Bylaw Amendment Application Eng. Comments Rivers Gate Stage 2 Settlement River Lot 57

The following comments on behalf of Engineering Services are in response to the above noted application:

- 1) Engineering Services concurs with the analysis and determination outlined in the Access review completed by Bunt in August 2016. The existing geometry and traffic controls at the rivers gate / sturgeon road intersection will appropriately accommodate traffic generated assuming full build out of 107 dwellings. As no additional analysis is currently required however, prior to any further development (i.e. stage 3) the need for an update TIA would be re-evaluated on a phased basis.
- 2) It was noted that the Traffic Impact Assessment completed by Bunt and Associates dated August 2008 was left in "DRAFT" format. In addition, a revised Traffic Impact Assessment by the same author was completed in 2009 which took into consideration the 127 Street Functional planning study was also left in "DRAFT" format. Sturgeon County requires the TIA be prepared, signed and sealed by a Professional Engineer registered in the Province of Alberta and shall be stamped with a Permit to Practice seal.
- 3) IBI submitted sanitary collection calculations in support of a revised ASP in August, 2016. The additional lots were determined to generate an additional 0.0009 cubic meters per second. In comparing the original ASP sanitary calculations to the revised anticipated loading, the additional 12 lots were

determined to be acceptable for the system. No further analysis is currently required.

- 4) Please be advised that for this proposed stage of construction in conjunction with the existing Rivers Gate development, a sanitary gravity main shall be constructed to flow southeast and tie directly into the future sanitary lift station which is currently under construction and near completion.
- 5) The outline plan submitted by Beaverbrook in August 2016 has been revised as per the previously approved engineering drawings. The minor system is to be conveyed via gravity south-west to an outfall in Lot 42 PUL and into the pond. A storm main connected to the outfall shall be constructed with this stage within the Riverview Court W right of way to accommodate the anticipated runoff for this proposed stage of development and to be size appropriately for the future lands.
- 6) As agreed upon during the meeting on August 16 2016, separate water and sanitary service connections shall be provided for each separately titled lot.
- 7) Prior concerns the County had in regards to upgrading the water distribution system to support this development were acknowledged in the revised OP. The Allin Ridge Water Reservoir expansion is currently under construction, and anticipated to be completed in 2017. Once completed, the distribution system will provide appropriate water service for this development, timing of reservoir commissioning is anticipated to be completed prior to issuance of CCC for Rivers Gate Stage 2.
- 8) Water models results were provided for both the max day plus fire flow and peak demand scenarios. Upon review, most of the design parameters meet or exceed County standards, including: population density; minimum pressures; maximum velocities; and, minimum pipe sizes. The average daily demand used for the modeling was determined to be less than the County's required 320L/person/day. The County requires IBI to re-run the analysis using our minimum requirement. This would have to be addressed prior to advancing with detailed design for this stage. The following outlines IBI's criteria of the average daily demand used for their analysis:

County Standard	IBI Report criteria
Average Day Demand = 320 Lpcd	Average Day Demand = 320 Lpcd
Maximum Day Demand = 640 Lcpd	Maximum Day Demand = 425 Lcpd
Peak Hour Demand = 1280 Lcpd	Peak Hour Demand = 750 Lcpd

Please contact myself if you have any questions regarding this matter.

Kind Regards,



Chris Krath, C.E.T.
Senior Engineering Officer