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REGIONAL CONTRIBUTION TO SERVICING CACHET ESTATES AND JENNINGS GATE – 16TH AVENUE TRUNK SEWER WELL MITIGATION PROGRAM TOWN OF MARKHAM, PROJECT 74030

The Transportation and Works Committee recommends the adoption of the recommendations contained in the following report, June 11, 2004, from the Commissioner of Transportation and Works:

1. RECOMMENDATIONS

It is recommended that:

1. Regional Council approve a financial contribution to the Town of Markham of \$320,000 to the Jennings Gate Municipal Water System Project as outlined in this report, subject to the Region receiving the necessary approvals from the Ministry of Environment (MOE) and the Town of Markham securing releases from all residents.
2. Regional Council approve in principle a financial contribution to the Town of Markham of \$1,650,000 based on similar principles and conditions for the Cachet Estates Municipal Water System Project and that staff report back to the Transportation and Works Committee in this regard.

2. PURPOSE

This report is in response to the May 18, 2004 Town of Markham Development Services Committee report on “Cachet Estates/Glenbourne Park – Municipal Water System” (*see Attachment 1*) and provides a rationale used in developing the costs for the financial contribution to the Cachet Estates and Jennings Gate Municipal Water System Projects.

As well, this report is a follow-up to a report on this issue that was submitted on January 7, 2004 to the Transportation and Works Committee.

3. BACKGROUND

Regional Council committed to the proactive mitigation plan in 2003 to affect an enhanced mitigation process with proactive mitigation for potential well impacts of the 16th Avenue Phase 2 project. Proactive mitigation means the mitigation is provided prior to the wells being affected by the dewatering program anticipated for the construction of the 16th Avenue Phase 2 Sewer.

As part of the proactive mitigation plan, it was determined that well interference could be expected in the Cachet Estates and Jennings Gate areas. The preferred option for the

mitigation was determined as the connection of the affected residents to a local watermain service into these areas.

There are 287 wells in the Cachet Estates area. Of these wells, 97% have MOE well records. In addition, as part of the well mitigation program, 66% of the wells were surveyed.

There are 61 wells in the Jennings Gate area. Of these wells, 84% have MOE well records and as part of the well mitigation program, just as in Cachet Estates, 66% of the wells were surveyed.

The analysis of the MOE water well records and door-to-door well survey information undertaken at both locations was used to assess potential interference during the 16th Avenue Phase 2 Trunk Sewer construction. Inspec-Sol/CRA who conducted this analysis, utilized a geographical information system to identify wells within the confined aquifer (Thornccliffe Formation), in the construction dewatering zone. Using the well data gathered, it was determined that there would be wells susceptible to the dewatering activity associated with the project at both Cachet Estates and Jennings Gate.

4. ANALYSIS

Based on the analysis, it was determined that 43 wells would need to be proactively mitigated in Cachet Estates; correspondingly, three wells would need to be addressed in Jennings Gate. However, as only 66% of the wells were surveyed due to accessibility issues beyond the control of the Region, there is the probability of unforeseen wells requiring mitigation as part of a reactive mitigation program during the construction of the Phase 2 sewer.

In order to effectively mitigate the wells in the Cachet Estates and Jennings Gate areas, it must be carried out in a timely and cost effective manner without undue hardship to the residents. Due to the length of the project, there are three possible options towards well mitigation; drill a deeper well, lower the pump in the existing well or connect to a local watermain. As the Town of Markham will be implementing a watermain system in both these areas, connecting to this watermain proves to be the most reasonable course of action.

4.1 Well Mitigation Implementation Options

The Region, as part of the proactive mitigation plan can address the wells that have been identified and react to the unforeseen well issues as the construction progresses. On the other hand, the Region can contribute to the project cost such that all residents in both Cachet Estates and Jennings Gate connect to the watermain that the Town of Markham is constructing. This approach will alleviate the issues faced by the option of addressing the identified wells individually and reacting to the unforeseen well issues as it arises. It is also the most expedient and effective method of providing proactive mitigation as it will:

- Decrease the timeline to the proactive well mitigation program implementation. In turn, this will contribute to accelerating the overall project timeline, as dewatering for Phase 2 construction can commence sooner.
- Proactively manage the public relations in both these areas and eliminate issues with unexpected well problems.
- Provide an approach that will undoubtedly contribute to a less onerous well mitigation implementation strategy in the Cachet Estates and Jennings Gate areas.

4.2 Financing Strategy

There are two possible options under which the financing can be provided to mitigate the well impacts in the Cachet Estates and Jennings Gate areas. The Region can contribute the funds necessary for the complete hook up of the affected residents in both Cachet Estates and Jennings Gate and the funds for dealing with the unforeseen well impacts as part of the reactive mitigation phase (Option A) or, the Region can contribute a lump sum contribution to the Town of Markham based on contributing \$10,000 toward the connection cost of residences identified to be impacted by the dewatering activity and \$5,000 toward the connection cost of residences not identified to be impacted by the dewatering impact. Under this option, all residences must make connections to the watermain and releases would be secured from all residents (Option B).

4.2.1 Option A

The Region could provide the Town of Markham a total of \$1,540,000 for Cachet Estates and \$147,000 for Jennings Gate. These funds are based on the original estimated cost to provide new wells or lower pumps for the affected residents in both areas, as previously reported in January 7, 2004. Any unforeseen well impacts will then have to be handled as part of the reactive mitigation phase. Since only 66% of the residents at both areas have been surveyed, there is the uncertainty associated with any unforeseen well mitigation costs in both areas. Based on current experience, it is costing the Region approximately \$5,000 per well investigation. This includes the 24-hour Call Centre Management, temporary water supply and investigation costs. The residents will then be provided with a connection to the watermain if affected by the dewatering activity. As the residential connections will not be mandatory, the Region may be faced with significant connection costs even after the contribution to the watermain distribution projects.

4.2.2 Option B

In order to develop the financial contribution, the following rationale was used:

- \$10,000 would be contributed to the Town of Markham for each of the estimated number of residences identified to be impacted by the dewatering activity. This amount is based on the average estimated cost of the connection to the watermain.
- \$5,000 would be contributed to the Town of Markham for each of the estimated number of residences not identified to be impacted, but could potentially be impacted by the dewatering activity. This amount is based on the average cost to address

complaints through the 24-hour Call Centre and includes investigation and resolution of the complaint.

Based on the aforementioned rationale, it was determined that Cachet Estates would qualify for \$1,650,000 and Jennings Gate would qualify for \$320,000.

This option is based on the premise that all affected wells will require mitigation and those deemed unaffected could still be susceptible due to the dewatering activity, as only 66% of the wells in the area were surveyed. The financial contribution under this option would then reduce the servicing project cost equally for all residents within each servicing project. In addition, under this option, all residents must make connections to the watermain and releases would be secured from all residents.

4.2.3 Evaluation of Options

Of the two options, Option B manages the risks in both Cachet Estates and Jennings Gate more effectively. On the Regional front, the possibility of additional unforeseen well mitigation required and eventual risks to project schedule and public relations is managed. In addition, any possibility of legal claims against the Region and the Town of Markham for disruption to the water supply can be avoided by acquiring full releases from residents, by the Town of Markham prior to the connection to the watermain.

Accordingly Option B, under the financing strategy, provides adequate protection against unforeseen well interference issues during construction. This option will ensure that all residents affected by the construction will be fairly compensated for their potential well disruption.

Based on this, the Region would provide the Town of Markham:

- Financial contribution of \$1,650,000 for the Cachet Estates watermain project.
- Financial contribution of \$320,000 for the Jennings Gate watermain project.

This contribution is contingent on the Region receiving the permits from the MOE and the TRCA and the Town of Markham securing full releases from all the residents. Furthermore, the residents must make the connection to the watermain to receive any subsidy from the Town of Markham.

Discussions are underway with Jennings Gate community representatives in this regard. Further discussion with Cachet area representatives will take place and staff will report back to the Transportation and Works Committee when appropriate.

5. FINANCIAL IMPLICATIONS

It is noted that there are sufficient funds in the 2004 Budget and Business Plan to provide the financial contribution for both Cachet Estates and Jennings Gate in 2004, from 16th Avenue Trunk Sewer Project 74030, once the permits are received. Adjustments to the overall project budget will be made as part of the 2005 capital program review.

The cost will be funded from development charges (80%) and wastewater user rates (20%).

6. LOCAL MUNICIPAL IMPACT

The proposed well mitigation plan will work in concert with the proposed municipal water servicing of Cachet Estates and Jennings Gate by the Town of Markham.

7. CONCLUSION

The most effective strategy towards providing well mitigation in both Cachet Estates and Jennings Gate is to connect the residents to the Town of Markham watermain. The proposed funding takes into account the current costs of providing well mitigation and manages the risks associated with project schedule, public relations, and legal claims against residential water supply interruptions as a result of construction. The Senior Management Group has reviewed this report.