The Corporation of the Town of Mississippi Mills

Environmental Advisory Committee

May 13, 2013 at 6:30 p.m.
Council Chambers, Town Hall

Members:
Paul Frigon           Theresa Peluso           Councillor Bernard Cameron
Glen Briscoe          Mary Lou Souter         Norman Newman
Heidi Scott           James Coupland

A. APPROVAL OF AGENDA:
Seeking approval of this agenda.

B. DISCLOSURE OF PECUNIARY INTEREST:
Standard statement for members to declare pecuniary interest.

C. APPROVAL OF MINUTES:
March 11, 2013

D. DELEGATIONS AND PRESENTATIONS:
None

E. BUSINESS ARISING OUT OF MINUTES:
1. Residential Curbside Bag Tag Allotment
2. Municipal Water Supply Review
   a. Review of scope of works laid out by EAC
   b. Presentation of the Mississippi Mills Water and Waste Water Master Plan

F. ACTION CORRESPONDENCE:
None

G. OTHER/NEW BUSINESS:
1. Review of key achievements by the EAC in this term.
H. **MEETING ANNOUNCEMENTS:**

Environmental Advisory Meeting

Monday June 10, 2012 6:30pm
Municipal Centre, 3131 Old Perth Road

I. **ADJOURNMENT:**
The Corporation of the Town of Mississippi Mills
ENVIRONMENTAL ADVISORY COMMITTEE MINUTES

A regular meeting of the Environmental Advisory Committee was held on March 11, 2013 at 6:30 p.m. in the Council Chambers

Present: Paul Frigon
Norman Newman
Theresa Peluso
Councillor Bernard Cameron
Glen Briscoe

Absent: Mary Lou Souter, regrets

Staff: Cory Smith, Technologist (Recording Secretary)

Acting Chair, Paul Frigon called the meeting to order at 6:35 p.m.

A. **APPROVAL OF AGENDA**
   Moved by: Bernard Cameron
   Seconded by: Glen Briscoe

   THAT the agenda be approved as presented.

CARRIED

B. **DISCLOSURE OF PECUNIARY INTEREST:**

None

C. **APPROVAL OF MINUTES:**

Moved by: Norman Newman
Seconded by: Theresa Peluso

THAT the Minutes of the EAC meeting of February 11, 2013 be approved as presented.

CARRIED

D. **DELEGATIONS/PRESENTATIONS:**

None

E. **BUSINESS ARISING OUT OF MINUTES:**

1. **Environmental Advisory Committee Work Plan for 2013**

   In order to work more effectively, the EAC is to develop a work plan for 2013.

   **Moved By: Theresa Peluso**
   **Seconded By: Norman Newman**

   THAT the Environmental Advisory Committee include a municipal water supply review in the 2013 EAC work plan;
   **AND FURTHERMORE THAT** that the Scope of the Work Plan be defined as follows;

   1. Does the Town have adequate water supply for current and future use;
2. Are there appropriate controls in place to ensure the safety of the water supply for both quantity and quality under normal operations and under extreme operations.

CARRIED

2. Updated Datacall Information

A review of the Datacall information occurred. The Committee provided suggestions as to how staff could incorporate this information into promotion and education materials.

F. ACTION CORRESPONDENCE

1. Email from Theresa Peluso on behalf of Peter Moller

Moved By: Theresa Peluso
Seconded By: Norm Newman

THAT the Environmental Advisory Committee receive the email as information

CARRIED

G. OTHER/NEW BUSINESS

1. Residential Curbside Allotment/Bag Tags

The EAC has reviewed the report prepared by public works staff. While it is recognized that some concern regarding inconvenience to residents may occur, the EAC supports staff recommendations in the report.

Moved by Norman Newman
Seconded by Theresa Peluso

THAT the Environmental Advisory Committee recommends to Council that the set out limit for household waste be reduced to 1 free container per week for residential collection;
AND FURTHERMORE THAT any additional containers of household waste set out require that a household waste tag be placed on the container as per the Waste By-Law;
AND FURTHERMORE THAT household waste tags be purchased directly on a user pay basis;
AND FURTHERMORE THAT this change take effect June 1, 2013.

CARRIED

H. MEETING ANNOUNCEMENTS:

Monday, April 8, 2012 at 6:30pm
Council Chambers
Municipal Centre

I. ADJOURNMENT:

Moved by Glen Briscoe
Seconded by Bernard Cameron
The meeting was adjourned at 8:20 p.m.

CARRIED
Town of Mississippi Mills, Almonte Ward
Water and Wastewater Infrastructure Master Plan
Project Team

Town of Mississippi Mills

Mr. W. Troy Dunlop, C.E.T.  Director of Roads and Public Works
Mr. Steve Sterling, MCIP, RPP  Town Planner

J.L. Richards & Associates Limited:  Prime Consultant

Ms. Sarah Gore, P.Eng.  Senior Project Engineer, Project Manager
sgore@jlrichards.ca, Tel: 613-728-3571
Mr. Brian Hein, P.Eng.  Senior Project Engineer, Director
bhein@jlrichards.ca, Tel: 613-728-3571
Mr. Marc Rivet, MCIP, RPP  Planner
mrivet@jlrichards.ca, Tel: 613-728-3571

Golder Associates Ltd.:  Environmental/Hydrogeological

Mr. Stephen Wilson, P.Geo.  Senior Hydrogeologist, Project Manager
srwilson@golder.com, Tel: 613-592-9600
Summary of Previous Presentation
March 6, 2012

• Objectives and Class EA/Master Planning Process
• Work Plan for the Town of Mississippi Mills, Almonte Ward Water and Wastewater Master Plan
• Problem and Opportunity Statement
• Study Area and Population Projections
• Water Condition and Capacity Constraints: Supply/Treatment, Storage, Distribution
• Wastewater Constraints Condition and Capacity: Treatment, Pumping, Collection
• Preliminary Water and Wastewater Servicing Strategies for the Short-Term (next 0 to 5 years), Mid-Term (next 5 to 10 years), Long-Term (next 10 to 20 years) and Build-Out
Objectives of Presentation
June 12, 2012

• Update on Public Consultation Activities
• Brief overview of Water and Wastewater System Condition and Capacity Constraints
• Review Final Water and Wastewater Servicing Strategies for the planning periods
• Present the associated Opinions of Probable Costs
• Discuss Benchmarking Review and Policy Gap Analysis
Public Consultation

• A project mailing list was developed subsequent to the Project Initiation Notice identifying stakeholders that required full documentation (e.g., Ministry of the Environment), partial documentation (e.g., Mississippi Valley Conservation Authority), declined participation and those that did not respond.

• Public Information Centre No.1 was held March 21, 2012 at the Town Hall.
  - One written comment received related to specific parameters used in the hydraulic sewer model. No further action required.

• Eight (8) Project Meetings were held over the course of the project including two (2) presentations to the Town’s Road and Public Works Committee.

• Notice of Completion will be issued to key stakeholders, posted on the Town website and published in local newspapers noting that a 30-day review period is initiated.
Water Constraints: Supply/Treatment

- Wells 3, 5, and 7 and 8 are not operating at their full demonstrated yield potential and could be considered for additional supply.

- Based on the proposed growth projections, the following water supply and treatment constraints were determined to service the future Almonte Ward maximum day demands:
  - Based on the existing supply scenario, a capacity deficit of 25 L/s is predicted within the mid-term planning period (i.e., 5 to 10 years).
  - If a full yield potential of Wells 3, 5, and 7 and 8 is realized, a capacity deficit of 9.2 L/s will occur within the long-term planning period (i.e., 10 to 20 years).

- Condition Constraints: Based on the Condition Assessment review, some infrastructure renewal including structural, mechanical and electrical upgrades is required at each well site.
Water Constraints: Storage

- Capacity constraints based on MOE Guideline that defines storage requirements by fire flows, equalization storage and emergency storage.

<table>
<thead>
<tr>
<th>YEAR</th>
<th>EXISTING STORAGE</th>
<th>REQUIRED STORAGE</th>
<th>DEFICIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing</td>
<td>3,119 m³</td>
<td>2,351 m³</td>
<td>No Deficit</td>
</tr>
<tr>
<td>0-5</td>
<td>3,119 m³</td>
<td>3,863 m³</td>
<td>745 m³</td>
</tr>
<tr>
<td>5-10 (10 year)</td>
<td>3,119 m³</td>
<td>4,856 m³</td>
<td>1,737 m³</td>
</tr>
<tr>
<td>10-20 (20 year)</td>
<td>3,119 m³</td>
<td>5,727 m³</td>
<td>2,608 m³</td>
</tr>
<tr>
<td>Build-out</td>
<td>3,119 m³</td>
<td>10,139 m³</td>
<td>7,020 m³</td>
</tr>
</tbody>
</table>

- Condition Constraints: Based on the Condition Assessment review, some infrastructure renewal including structural, mechanical and electrical upgrades is required. The Town is planning to rehabilitate the coating systems in the near future.
Water Constraints: Distribution

- The updated water system hydraulic model was configured to simulate peak hour and maximum day with fire flow demand scenarios for each planning period. The following observations were made:
  - Peak Hour: System pressures in the mid and long-term planning periods were found to be below minimum pressure requirements of 40 psi. Under build-out scenarios, the majority of the water distribution system was unable to achieve minimum system pressures.
  - Maximum Day with Fire Flow: The percentage of junctions capable of meeting select fire flows did not vary from the existing conditions over the long-term. Similarly as the peak hour scenario, maximum day with fire flow demands were not achieved for build-out conditions.

- Condition Constraints: Based on the Condition Assessment review, some infrastructure renewal will be required to address existing deficits and future requirements.
## Water Servicing Strategies: Supply/Treatment

<table>
<thead>
<tr>
<th>Area</th>
<th>Study Period</th>
<th>Description of Works</th>
<th>Opinion of Probable Costs (1) (Values Rounded)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Condition Upgrades</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condition Upgrades at Select Wells</td>
<td>$120,000 (2)</td>
</tr>
<tr>
<td><strong>Short Term</strong></td>
<td>(2011 - 2015)</td>
<td>Mid-Term Supply Option W1: Increase the Capacity of Wells 3 and 5 to Demonstrated Yield and/or</td>
<td>$1,000,000 (Supply W1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mid-Term Supply Option W2: Increase the Capacity of Wells 7 and 8 to Demonstrated Yield</td>
<td>$1,430,000 (Supply W2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Note</strong>: Well Rehabilitation Studies Required for Each Site</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Long-Term Supply Option W3: Increase the Capacity of Wells 7 and 8 Beyond Demonstrated Yield or</td>
<td>$212,500 (Supply W3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Long-Term Supply Option W4: Construct a New Well</td>
<td>$2,200,000 (Supply W4)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Note</strong>: Schedule ‘B’ Class EA Required to Finalize Preferred Solution</td>
</tr>
</tbody>
</table>

1. Based on Class ‘D’ Estimate and includes Engineering and Contingencies
2. Costs for condition upgrades at Well 6. Condition upgrades for Wells 3, 5, 7 and 8 carried in capacity upgrades
## Water Servicing Strategies: Storage

<table>
<thead>
<tr>
<th>Area</th>
<th>Study Period</th>
<th>Description of Works</th>
<th>Opinion of Probable Costs (1) (Values Rounded)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Condition Upgrades</td>
</tr>
<tr>
<td>Short Term</td>
<td>(2011 - 2015)</td>
<td>- Condition Upgrades</td>
<td>$400,000</td>
</tr>
<tr>
<td>Mid-Term Storage</td>
<td>(2016 - 2020)</td>
<td>- Mid-Term Storage Option W1: Construct a Reservoir at a New Site (Phased Approach) or</td>
<td>$3,000,000 (Storage W1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Mid-Term Storage Option W2: Construct a Reservoir at a New Site (Long-Term Approach) or</td>
<td>$4,000,000 (Storage W2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Mid-Term Storage Option W3: Construct an Elevated Storage Tank at a New site (Long Term Approach)</td>
<td>$5,500,000 (Storage W3)</td>
</tr>
<tr>
<td>Long-Term</td>
<td>(2021 - 2030)</td>
<td>- Long-Term Storage Option W4: Construct a Reservoir at a New Site (Phased Approach with Option Mid-Term Storage Option W1)</td>
<td>$2,900,000 (Storage W4)</td>
</tr>
</tbody>
</table>

1. Based on Class 'D' Estimate and includes Engineering and Contingencies

Note: Schedule 'B’ Class EA Required to Finalize Preferred Solution

*Values Rounded*
## Water Servicing Strategies: Distribution

<table>
<thead>
<tr>
<th>Area</th>
<th>Study Period</th>
<th>Description of Works</th>
<th>Opinion of Probable Costs (1) (Values Rounded)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Condition Upgrades</td>
</tr>
<tr>
<td>Distribution</td>
<td>Existing</td>
<td>• Condition Upgrades</td>
<td>$5,400,000(2)</td>
</tr>
<tr>
<td></td>
<td>Short Term (2011-2015)</td>
<td>• Adelaide Street and Martin Street Looping</td>
<td>Development Charges 2012 Capital Budget $300,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Bridge Street and High Street Upgrades</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Bridge Street Extension and County Road 29 Looping</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mid-Term (2016-2020)</td>
<td>• Ottawa Street and Sadler Estates Looping</td>
<td>$1,300,000(2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Martin Street Extension</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Long-Term (2021-2030)</td>
<td>• Optimize Pressure Zone Settings for Pressure Zone 2 (PZ-2)</td>
<td>$5,800,000(2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Create New Pressure Zone to Manage the Island Area (PZ-3)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Ottawa Street and Industrial Street Looping</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Ottawa Street Watermain (Long-Term Distribution Option W1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Victoria Street Watermain (Long-Term Distribution Option W2)</td>
<td></td>
</tr>
</tbody>
</table>

1. Based on Class ‘D’ Estimate and includes Engineering and Contingencies
2. Distribution condition upgrades based on typical life expectancy of pipes
Water: Servicing Strategies
Wastewater Constraints: Treatment

• The existing Lagoon based treatment system is being decommissioned and replaced with a new tertiary level wastewater treatment plant (WWTP).

• The capacity projections for the new WWTP for the long-term planning period were reviewed and it was predicted that the new WWTP will service the Almonte Ward over the long-term planning period (i.e., the next 20 years).

• An expansion will be required to service the build-out development.
Wastewater Constraints: Pumping

- Based on the assumed collection system infrastructure to service projected development areas within the Almonte Ward, the Gemmill’s Bay SPS and Spring Street SPS will be directly affected by growth.
  - Gemmill’s Bay SPS: Although the station is currently being upgraded as part of the new WWTP project, it is anticipated that the pumping station may require expansion in the long-term planning period (pending further review of actual future flows).
  - Spring Street SPS: A separate Class EA is currently being undertaken to address capacity concerns at the pumping station. A review of the proposed design flows outlined in the current study and the Master Plan determined that the project peak flows were adequate for the long-term planning period.

- The capacities of the remaining sewage pumping stations appear to be sufficient, pending final routing of wastewater servicing in the development areas. It is noted, however, that condition upgrades are required at these stations to maintain the reliability.
Wastewater Constraints: Collection

• In order to assess the capacity of the wastewater collection system, the hydraulic model was configured to simulate peak flow scenarios for each planning period. The following requirements were identified:

  - Existing and Short-Term Planning Periods: Select sewers downstream of the Spring Street SPS displayed insufficient conveyance capacities. These upgrades are necessary to support current approved development plans and the Town should commence engineering activities for these sewer upgrades this year, with consideration for construction in 2013 program.

  - Mid and Long-Term Planning Periods: Select sewers along Ottawa Street, Bridge Street and Union Street displayed insufficient conveyance capacities.

• Condition Constraints: Based on the Condition Assessment review, some infrastructure renewal will be required to address existing deficits and future requirements.
Wastewater Servicing Strategies: Treatment and Pumping

<table>
<thead>
<tr>
<th>Area</th>
<th>Study Period</th>
<th>Description of Works</th>
<th>Opinion of Probable Costs (Values Rounded)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Condition Upgrades</td>
</tr>
<tr>
<td>Treatment</td>
<td>Long Term (2021 - 2030)</td>
<td>• None: New WWTP to be commissioned in June/July 2012</td>
<td>-</td>
</tr>
</tbody>
</table>
|         | Short Term (2011 - 2015) | • Expand the Spring Street SPS  
• Condition Upgrades at Select SPS | $120,000 (2) | $500,000 (3) |
|         | Mid-Term (2016 - 2020) | • Condition Upgrades at Select SPS | $40,000 (2) |  |
|         | Long-Term (2021 - 2030) | • Expand the Gemmill’s Bay SPS  
• Condition Upgrades at Select SPS | $50,000 (2) |  |

1. Based on Class ‘D’ Estimate and includes Engineering and Contingencies
2. Condition upgrades costs do not include the Spring Street or Gemmill’s Bay SPSs (condition upgrade costs for these Stations are reflected in the capacity upgrades costs)
3. Costing based on the Town’s proportional share as established by others (Schedule B Class EA for the Spring Street SPS Expansion)

Note: Schedule ‘B’ Class EA Required to Finalize Preferred Solution

400,000
## Wastewater Servicing Strategies: Collection

<table>
<thead>
<tr>
<th>Area</th>
<th>Study Period</th>
<th>Description of Works</th>
<th>Opinion of Probable Costs (Values Rounded)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Condition Upgrades</td>
<td>Capacity Upgrades</td>
</tr>
<tr>
<td>Existing</td>
<td></td>
<td>▪ Condition Upgrades</td>
<td>$6,000,000 (2)</td>
<td>-</td>
</tr>
<tr>
<td>Short Term (2011 - 2015)</td>
<td></td>
<td>▪ Upgrade Sections of Sewers downstream of Spring Street SPS</td>
<td>$1,400,000 (2)</td>
<td>$400,000</td>
</tr>
<tr>
<td>Collection</td>
<td></td>
<td>▪ Condition Upgrades</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mid-Term (2016 - 2020)</td>
<td></td>
<td>▪ Ottawa Street Trunk Sewer (Mid-Term Wastewater Collection WW1) or Victoria Street Trunk Sewer (Mid-Term Wastewater Collection WW2)</td>
<td>$1,400,000 (2)</td>
<td>$775,000 (Collection WW1) $750,000 (Collection WW2)</td>
</tr>
<tr>
<td>Long-Term (2021 - 2030)</td>
<td></td>
<td>▪ Union Street Upgrades</td>
<td>$700,000 (2)</td>
<td>$200,000</td>
</tr>
</tbody>
</table>

1. Based on Class ‘D’ Estimate and includes Engineering and Contingencies
2. Collection System condition upgrades based on typical life expectancy of pipes
Wastewater: Servicing Strategies
Risk Assessments

Part of the Master Plan mandate is to conduct a risk assessment to better understand the impacts of critical link or system failures and the impacts on the implementation/timing of infrastructure upgrades.

Water

• There are two water crossings connecting the serviced areas to the east and west of the Mississippi River. The Queen Street crossing is approximately 30 years old and typical design life is 50 years.

• Additional storage on west side of the Mississippi River will further support the low production supply in the ‘west’ service area.

• A third crossing and storage facility on the west side of the Mississippi River may be required should Well No. 5 require decommissioning.

• **Recommendation**: Implementation of a third crossing prior to build-out will minimize risks associated with a crossing failure.

Wastewater

• Similarly as the water system, wastewater is conveyed through two water crossings. The Queen Street crossing is approximately 30 years old and typical design life is 50 to 70 years.
Benchmarking Survey

Just as growth and development pressures within the Almonte Ward will impact the available service capacity of the water and wastewater systems, it may impact the staffing requirements and duties of managers who operate these systems. A benchmarking survey was undertaken of Municipalities ranging in population from 4,000 to 14,500 persons. Notable findings include:

- Compared to other municipalities surveyed, the Town of Mississippi Mills appears to be on ‘par’ with their number of licensed operators
- The Overall Responsible Operator for the Town is a non-management position
- The Town was the only organization that enlists part-time operators
- The majority of the organizations surveyed have a designated water and wastewater manager or ‘lead hand’ for both water and wastewater operations, of which the Town has neither
- The majority of organizations have either a designated water and wastewater compliance officer or additional technologists, of which the Town has neither

**Recommendation:** As the Town’s communal water and wastewater systems expand, there will be a need to reassess the need for additional staff and/or lead hands for the respective systems.
Policy Gap Analysis

A policy gap analysis was conducted in consultation with the Town to determine key policies that may be affected by the findings of the Master Plan Report.

Recommendation: The following policies have been identified for further review and updating in context of the findings of the Master Plan to ensure consistencies with established programs:

- Official Plan (Town, 2006) and Zoning By-Law (Town, 2011)
- Development Charges By-Law
- Water and Wastewater Rate Study Updated (Watson, 2009)
- Water and Wastewater Financial Plan (per O.Reg. 453) (Watson, 2010)
- Various Water and Sewer Use By-Laws
Next Steps

• Finalize and file Master Plan Report (June 2012)
• Publish Notice of Project Completion and initiate 30-day public review period (June/July 2012)
• Update Action Plan annually and revisit Master Plan every 5 years (recommendation)