Welcome to the
Ottawa-Trussler Area
Sewage Facility
Class Environmental Assessment
Public Open House

May 7, 2013
Study Area

KITCHENER ZONING MAP

PROPOSED DEVELOPMENT

FARM OFFSET ZONE

EXISTING MANNHEIM ESTATES

EXISTING PUMPING STATION

ADDITIONAL LANDS WITHIN THE CATCHMENT

CONESTOGA

PARKWAY

PUMPING STATION CATCHMENT AREA

OTTAWA ST S

PROPOSED DEVELOPMENT

REGIONAL LANDS (UNDEVELOPED)

INSTITUTIONAL LANDS

STUDY AREA

KITCHENER ZONING MAP

PUMPING STATION CATCHMENT AREA

STUDY AREA

PUMPING STATION CATCHMENT AREA

STUDY AREA
Problem/Opportunity Statement

To support development of the Laurentian West Phase 3b Community and surrounding area, sanitary sewage servicing is being planned. Servicing may require a pumping station, forcemain, and downstream upgrades to convey the flow.
Project Objectives

• This study will:
  – Identify alternatives for wastewater collection and pumping.
  – Identify alternatives for forcemain and routing.
  – Review the downstream capacity of existing sanitary collection system and the Borden Trunk.
  – Recommend collection, pumping capacity, pumping station location and forcemain route, and any upgrades required in the existing downstream collection system.

• Key Project Objectives include:
  – Protection of the environment, as defined in the Environmental Assessment Act, through the wise management of resources. This objective will be met through monitoring, mitigation, and extensive consultation with all affected and interested parties.
  – Participation of a broad range of stakeholders in the study process to allow for sharing of ideas, testing of creative solutions, and development of alternatives.
Class EA Process

Under current provincial legislation, the planning and design of municipal water and wastewater projects must be in accordance with Ontario Environmental Assessment Act. The Municipal Class EA describes the process that proponents (in this case, City of Kitchener) must follow to meet the requirements of the Act, which includes public consultation. This project is identified as a ‘Schedule B project’ and will include two Public Information Centres. This process reflects the following key principles:

• Consideration of a reasonable number of alternatives, including the "do nothing" alternative.
• Consultation with all affected parties, including the public, relevant governmental review agencies, other affected municipalities and utility companies.
• Identification and consideration of the effects of each alternative on all aspects of the environment, i.e. the impact on the natural, social, cultural, technical and economic/financial environment.
• Systematic evaluation of alternatives in terms of their advantages and disadvantages with respect to all aspects of the environment.
• Provision of clear and complete documentation of the planning process followed, to allow "traceability" of decision-making with respect to the project.
EA Phases

Class EA Phase 1

- Identify Problem or Opportunity
  - Identify Need
  - Initiate Consultation
  - Community
  - Agencies
- Background Review
  - Obtain and review background documentation and initiate agency contact
  - Identify data gaps to be addressed during the site inventory / investigations

Project Initiation

Class EA Phase 2

- Site Inventory / Investigation
  - Undertake natural heritage investigation
  - Undertake geotechnical / hydrological investigation
  - Undertake hydraulics investigation
  - Aquatic habitat assessment
  - Incidental wildlife surveys
  - Fluvial geomorphology
  - Identify opportunities and constraints
- Evaluation of Alternatives
  - Identify alternatives
  - Public Information Centre (PIC) #1
  - Evaluate alternatives
  - Complete impact assessment
  - Select preferred alternative
- Preliminary Design / Project File Report
  - Implementation Plan
  - Preliminary design of preferred alternative
  - Recommendations on further study if required
  - PIC #2
  - Develop a monitoring, maintenance and mitigation plan

Documentation

- Project File Report (PFR)
  - Prepare first draft PFR
  - Revise and prepare second draft PFR
  - Finalize PFR
  - Notice of Completion
  - 30 day Public Review
  - Approval by council

WE ARE HERE

- Field Inventory
- Opportunities / Constraints
  - PIC #1
  - Evaluation & Selection
  - PIC #2

Finalize EA

Ottawa-Trussler Sewage Facility Class Environmental Assessment

MM group
In accordance with Kitchener Growth Management Plan the relative priority for developments.
Background Information

Development

DRAFT PLAN
Plan may change through approval process
Background Information

Development

Laurentian West
Phase 3b

STUDY AREA

APPROVED PLAN
Background Information
Development

DRAFT PLAN
Plan may change through approval process
Study Area Characteristics

Location:
- Bound by:
  - City limit along Trussler Road to the West
  - Highway 7/8 to the North
  - Bleams Road to the South
  - Region of Waterloo Mannheim Water Treatment Plant (WTP) property and associated water transmission and storage facilities and Laurentian Village Subdivision to the East.

Study Area:
- Approximately 151 ha

Watersheds
- Largest portion of developable land lying within the Alder Creek watershed
- Remaining land to the east within the Voisin Greenway watershed
Study Area Characteristics

Land Division

Undevelopable lands:

- Land owned by the Regional Municipality of Waterloo

Developable lands:

- Proposed Residential:
  - Development 13 - 962662 Ontario Inc. (Bosika and Weinhardt) (11.7 ha)
  - Development 128 - Deerfield Homes Ltd. (4.3 ha)
  - Development 117 – Activa Holdings Inc. (29.0 ha)

- Additional Lands within the Catchment
  - Approximately 11.6 ha – it is assumed some of these areas may be developed at an approximate population density of 60 persons/ha
  - Significant portions of these lands have significant environmental constraints and may not be developable

Servicing

- Lands within the study area are generally characterized as partially serviceable by gravity sewers with a large portion of lands within the potential sewer catchment area being designated undevelopable due to environmental constraints, well head protection areas and dedicated Regional Municipality of Waterloo lands.
- These lands are subject to conditions within the Laurentian West Master Drainage Plan, and fall within the Laurentian West Community Plan.
Surrounding Area Characteristics

Lands adjacent to the Study Area are generally characterized as follows:

- **North**
  - Conestoga Parkway

- **East**:  
  - Existing City sewer collection system services in area  
  - System is routed through gravity sewers to the Borden Trunk  
  - A portion of the system is routed via a temporary pumping station on Bleams Road to the Borden Trunk  
  - City plans to redirect sewage flow from the temporary pumping station on Bleams Road to the proposed Middle Strasburg Trunk to offload some flow from the Borden Trunk  
  - Finally discharges to the Kitchener Wastewater Treatment Plant

- **South of Bleams Road**  
  - Lands to be serviced by proposed Middle Strasburg Trunk

- **South (Wilmot Township)**:  
  - Existing residential properties within the wellhead protection zone on septic systems  
  - This area could be serviced with a gravity sewer which would likely require a separate pumping station due to the topography of the area. This area and any future pumping station is outside of our study area and would require a separate servicing strategy and EA (Township decision).

- **West (Wilmot Township)**:  
  - Lands slope away from Trussler Road and will require pumping  
  - Existing Mannheim Estates development is collected by gravity sewers  
  - System is routed via Mannheim Estates Pumping Station to the Borden Trunk  
    - Rated at about 7L/s  
    - Discharges through a 1.7km long by 150mm diameter forcemain to Ottawa Street South  
  - Finally discharges to the Kitchener Wastewater Treatment Plant
Environmental Considerations
Environmental Features

- Wetlands (both evaluated and unevaluated wetlands in the general study area)
- Wellhead Protection Areas
- Groundwater Recharge Areas
- Surface water/aquatic habitat
- Core Environmental Features (RMOW)
- Potential Species at Risk habitat (to be reviewed with MNR)
- Other Areas of Environmental Significance
Heritage Properties

Properties of cultural heritage interest:
Properties valued for the important contribution they make to our understanding of the history of a place, an event, or a people.

- 632 Trussler Road
- 2220 Ottawa Street South
- 2219 Ottawa Street South

Properties of natural heritage interest:
Properties involving a grouping(s) of individual heritage features such as structures, spaces, archaeological sites and natural elements, which together form a significant type of heritage form, distinctive from that of its constituent elements or parts.

- 2219 Ottawa Street South
- 808 Trussler Road
- Wood Lands
Preliminary Alternatives

Design Consideration

- Pumping Station location
- Forcemain Routing
- Upgrades to Existing Mannheim Estates pumping station & forcemain

1. Do Nothing
2. New Pumping Station & Forcemain – Activa Subdivision
3. New Pumping Station & Forcemain – Trussler Road
4. New Sewer & Upgrade Mannheim Estates Pumping Station & Forcemain
5. New Pumping Station – Activa Subdivision & Upgrade Mannheim Estates Pumping Station & Forcemain
6. New Pumping Station – Trussler Road & Upgrade Mannheim Estates Pumping Station & Forcemain
Preliminary Alternatives

Alternative 1:

Do Nothing

- No servicing to support future development
- Existing servicing would remain as is
Preliminary Alternatives

Alternative 2

- New pumping station within Activa Trussler North Subdivision
- Existing Mannheim Estates Pumping Station and Forcemain remain unchanged

Alternative 2-A

- New forcemain through Activa Trussler North Subdivision

Alternative 2-B

- New forcemain along Trussler Rd and Ottawa St
Preliminary Alternatives

Alternative 3
- New pumping station located along Trussler Rd
- Existing Mannheim Estates Pumping Station and Forcemain remain unchanged

Alternative 3-A
- New forcemain through Activa Trussler North Subdivision

Alternative 3-B
- New forcemain along Trussler Rd and Ottawa St
Preliminary Alternatives

Alternative 4

- New gravity sewer from Activa Trussler North Subdivision and other serviceable lands along Trussler to Existing Mannheim Estates system
- Existing Mannheim Estates Pumping Station to be upgraded to accept the additional flows

Alternative 4-A

- New forcemain through Activa Trussler North Subdivision and abandon forcemain along Ottawa St

Alternative 4-B

- New forcemain along Trussler Rd and Ottawa St
Preliminary Alternatives

Alternative 5

- New pumping station within Activa Trussler North Subdivision
- Existing Mannheim Estates Pumping Station and Forcemain to be upgraded to pump to new pumping station and abandon forcemain along Ottawa St

Alternative 5-A

- New forcemain through Activa Trussler North Subdivision

Alternative 5-B

- New forcemain along Trussler Rd and Ottawa St
Preliminary Alternatives

Alternative 6

- New pumping station located along Trussler Rd
- Existing Mannheim Estates Pumping Station and Forcemain to be upgraded to pump to new pumping station and abandon forcemain along Ottawa St

Alternative 6-A

- New forcemain through Activa Trussler North Subdivision

Alternative 6-B

- New forcemain along Trussler Rd and Ottawa St
Sewer Collection System Analysis

Downstream Sewer Evaluation:

- **Borden Trunk Sanitary Sewer**
  - Based on modelling analysis, the Borden Trunk Sanitary Sewer has sufficient capacity to support flow from the proposed developments.

- **Sanitary Collection System**
  - The flow modelling identified sections of the existing collection system that do not have adequate capacity to support proposed developments and flow inputs.
  - The proposed forcemain will extend along Ottawa Street South to a discharge point on David Bergey Drive. The downstream sewers will be evaluated, and any upgrades required in the existing downstream collection system will be identified.

Example of modelling results showing a section of sewer.
Detailed Evaluation Criteria

Natural Environment
- Impact on designated natural areas (e.g. environmentally significant policy areas (ESPAs) and provincially significant wetlands (PSWs))
- Impact on natural heritage features (e.g. wetlands, woodlands, valleylands, wildlife, wildlife habitat)
- Impact on fisheries and aquatic habitat
- Impact on Species at Risk (SAR) or SAR habitat

Socio-Cultural
- Potential for disruption / inconvenience to adjacent properties and buildings during construction and operation
- Impact on local businesses during construction and operation
- Potential for loss or disruption to community / recreational features
- Change in community character
- Consistency with current land use designations and development plans
- Ability to blend site into surrounding landscape
- Impact on heritage resources (archaeological, built heritage and cultural heritage landscape)
- Impact on agricultural and rural areas

Construction
- Ease of excavation and need for dewatering during construction
- Potential for disruption to local traffic and safety during construction
- Potential for noise, dust and vibration during construction
- Construction constraints (permitting requirements, land acquisition)
- Impact on existing utilities and services (highways, rail crossings)

Financial
- Capital costs (pumping station, forcemains & sewers)
- Operations and maintenance costs
- Property acquisition costs
- Restoration costs

Technical
- Forcemain and sewer – length, depth
- Physical limitations of the site
- Operations impact
- Soil conditions and groundwater table
- Zero leakage, containment
- Construction technique and technologies
Next Steps

• Revise alternatives based on comments received
• Evaluate alternatives
• Select preferred alternative
• Host second Public Information Centre (PIC) in September, 2013
• Presentation to City Council preferred alternative solution in fall, 2013
• File ESR (Project File) with Ministry of the Environment (MOE) in fall, 2013
Contact Info

Should you have any questions or wish to forward comments please contact:

Mr. Trevor Jacobs, C.E.T.
Project Manager
Development Engineering
City of Kitchener
200 King Street W, PO Box 1118
Kitchener, ON N2G 4G7
Telephone: 519-741-2200 x7133
Email: trevor.jacobs@kitchener.ca

Mr. Mani Ruprai, P.Eng.
Manager, Infrastructure & Environment
MMM Group Limited

Contact:
Mr. James Jarrett, MSci, MCIP, RPP
Environmental Planner
Planning & Environmental Design
MMM Group Limited
100 Commerce Valley Drive West
Thornhill, ON L3T 1A0
Telephone: 905-882-4211 x6113
Email: jarretj@mmm.ca

THANK YOU FOR ATTENDING