



The Regional  
Municipality  
of Durham

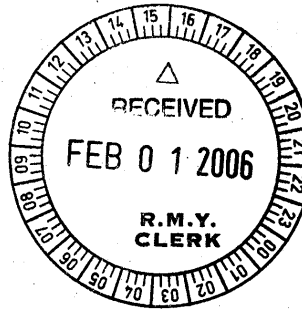
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Pat M. Madill, A.M.C.T., CMM I  
Regional Clerk

January 26, 2006



Mr. D. Kelly, Regional Clerk  
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REGION OF YORK  
CLERK'S OFFICE

FILE No. -

*118 P06  
T+W*

**RE: ADOPTION OF THE WELL INTERFERENCE PROTOCOL FOR  
THE SOUTHEAST COLLECTOR TRUNK SEWER INDIVIDUAL  
ENVIRONMENTAL ASSESSMENT (EA) (2006-W-1)  
(Our File: 009-00)**

Please be advised the Works Committee of Regional Council considered the above matter and at a meeting held on January 25, 2006, Council adopted the following recommendations of the Committee:

- "a) THAT the Region of Durham adopt the Well Interference Protocol for the Southeast Collector Trunk Sewer Individual Environmental Assessment (EA) as described in Attachment No. 2 to Report No. 2006-W-1; and
- b) THAT a copy of Report No. 2006-W-1 of the Commissioner of Works be sent to the City of Pickering and Region of York."

Enclosed as directed is a copy of Report #2006-W-1 of the Commissioner of Works.

Pat M. Madill, AMCT, CMM I  
Regional Clerk

PMM/cb

Encl.

- c: D. Bentley, Clerk, City of Pickering  
C. Curtis, Commissioner of Works, Region of Durham





Regional Municipality of Durham  
To: The Works Committee  
From: Commissioner of Works  
Report: 2006-W-1  
Date: January 11, 2006

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**SUBJECT:**

Adoption of the Well Interference Protocol for the Southeast Collector Trunk Sewer Individual Environmental Assessment

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**RECOMMENDATIONS:**

THAT the Works Committee recommends to Regional Council that:

- a) The Region of Durham adopt the Well Interference Protocol for the Southeast Collector Trunk Sewer Individual Environmental Assessment (EA) as described in Attachment No. 2; and
  - b) A copy of this report be sent to the City of Pickering and Region of York.
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**REPORT:**

- Attachment No. 1: Works Committee Report No. 2005-W-30  
Individual Environmental Assessment on the  
Southeast Collector Trunk Sewer for the York  
Durham Sewage System**
- Attachment No. 2: Protocol for Management and Settlement of Claims  
Related to Private Well Interference and Associated  
Damages Due To Construction Activities for York  
Region**

**1. BACKGROUND**

The southeast collector trunk sewer is part of the York Durham Sewage System (YDSS), conveying sewage flows through southeast Markham, northeast Toronto, and central Pickering (to the north of Finch Avenue).

In order to address capacity constraints in the southeast collector, Durham Region is currently a co-proponent with York Region for an Individual Environmental Assessment (EA) (Attachment No. 1). Since the capacity constraints in the southeast collector need to be resolved solely to accommodate additional growth in York Region, all costs for the Individual EA are being borne by York Region, including settlement of any well mitigation claims.

If the recommended method of resolving the capacity constraints in the southeast collector is found to include a new trunk sanitary sewer through Pickering, the resulting construction activities may involve trenching, tunneling and/or temporary dewatering. In order to identify the potential impact that the construction activities would have on private well supplies, comprehensive background studies are currently underway within the study area. This will ensure that if a new sewer is recommended through Pickering, all private well supplies potentially affected by construction activities will have mitigation measures implemented prior to construction.

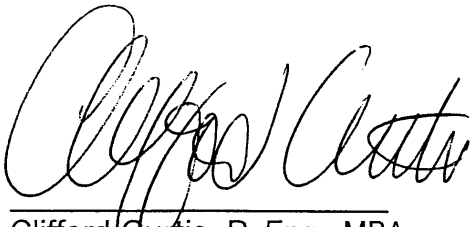
## **2. WELL INTERFERENCE PROTOCOL**

A well interference protocol has been developed to resolve any unforeseen claims that may arise on water and wastewater projects in York Region (Attachment No. 2). In order to provide a consistent means of resolving any well interference claims within the study area, and to facilitate funding from York Region for resolution of any impacts, it is recommended that the proposed well interference protocol be adopted for the purpose of resolving any well mitigation claims in Pickering that arise out of the southeast collector Individual EA. York Region would take the lead on administering any claims, and Durham Region Staff will be assigned to monitor any claims and provide assistance to the claimant as required.

The level of protection offered to private well owners by the project protocol is similar to that offered by Durham Region's well interference policy. To ensure that the well mitigation protocol is not specific to York Region's geologic or hydrogeologic conditions, Durham Region staff have reviewed the protocol with assistance from the hydrogeological consultant retained for the Individual EA. Staff are satisfied that the protocol's commitment to "provide alternative water supplies for all cases where the Region's construction projects have interfered with the quantity and/or quality of water supply" can successfully address conditions local to Pickering, including methane gas in the deep aquifer, and the impact of excavations on perched water tables and groundwater levels.

### 3. CONCLUSION

In order to provide a consistent means of resolving any well interference claims within the study area, and to facilitate funding from York Region for any well interference settlements, it is recommended that the well interference protocol for the southeast collector, described in Attachment No. 2, be adopted for the purpose of resolving any well mitigation claims in Pickering that may potentially arise from the southeast collector Individual EA project.



Clifford Curtis, P. Eng., MBA,  
Commissioner of Works

Recommended for Presentation to Committee



G. H. Cubitt, M.S.W.,  
Chief Administrative Officer

EPS3/cb/ps



Regional Municipality of Durham  
To: The Works Committee  
From: Commissioner of Works  
Report: 2005-W-30  
Date: March 30, 2005

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**SUBJECT:**

Individual Environmental Assessment (EA) on the Southeast Collector Trunk Sanitary Sewer Project for the York/Durham Sewerage System (YDSS)

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**RECOMMENDATION:**

THAT the Works Committee recommends to Regional Council that:

- a) The Region of Durham act as co-proponent with the Region of York on the Individual Environment Assessment (EA) on the Southeast Collector Trunk Sanitary Sewer Project for the York/Durham Sewerage System (YDSS); and
  - b) A copy of this report be sent to the City of Pickering, Region of York and Ministry of the Environment.
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**REPORT:**

**Attachment No. 1: Area Map showing the location of the Existing York/Durham Sewerage System (YDSS) Southeast Collector Sanitary Trunk Sewer**

**1. BACKGROUND**

The existing York/Durham Trunk Sanitary Sewer (YDSS) conveys sanitary sewage flows from the Region of York to the York/Durham Duffin Creek Water Pollution Control Plant (WPCP) in the City of Pickering (Attachment No. 1). Capacity deficiencies have been identified throughout sections of this trunk sanitary sewer.

The Region of York had initiated a Class Environmental Assessment (EA) to evaluate various options for dealing with deficiencies in trunk sanitary sewer capacity in the York/Durham Trunk Sanitary Sewer (YDSS) sections through the southeast corner of the Town of Markham and the City of Toronto, known as the Southeast Collector Sewer. The project was reviewed by the Ministry of the Environment (MOE) and the Minister of the Environment ordered that the project be completed as an Individual EA.

The scope of work for an Individual EA is more detailed and requires more time than the Class EA planning process. The work program for the southeast collector Individual EA includes an expanded review of potential trunk sanitary sewer alignments within the City of Pickering, in the Region of Durham, which will connect to the YDSS section co-owned by the Regions of York and Durham. The section of the trunk sanitary sewer located in Durham will be at or near capacity within the next ten (10) years and any twinning of the sewer will be part of the York/Durham Sanitary Sewer jointly owned by both Regions.

The Region of Durham currently operates and maintains the primary system of the YDSS, which includes the trunk sanitary sewer and associated works within the Region of Durham.

Based on the potential interconnection with the YDSS primary system jointly owned by York and Durham Regions, the Region of Durham will be a co-proponent with York Region for the Individual EA for the southeast collector sewer project. The first step in an Individual EA is to develop a Terms of Reference for the project and have it approved by the Minister of the Environment. The Regions of York and Durham will develop the Terms of Reference and plan to have them approved by the end of this summer. The schedule is to have the Individual EA completed and approved within two (2) years of the approval of the Terms of Reference, or by the end of summer 2007. Construction of the recommended infrastructure works are planned to begin in 2008 at the earliest.

The project will include developing an Advisory Committee for the project, comprised of interested stakeholders. This Committee will include members of the public, representatives of regulatory agencies, and representatives from municipalities including the City of Pickering. Staff from the Region of Durham Planning and Works Departments will also participate on the Committee. Representatives from the development community and the local Chambers of Commerce, in the Regions of York and Durham, will be invited to participate.

## 2. CONCLUSION

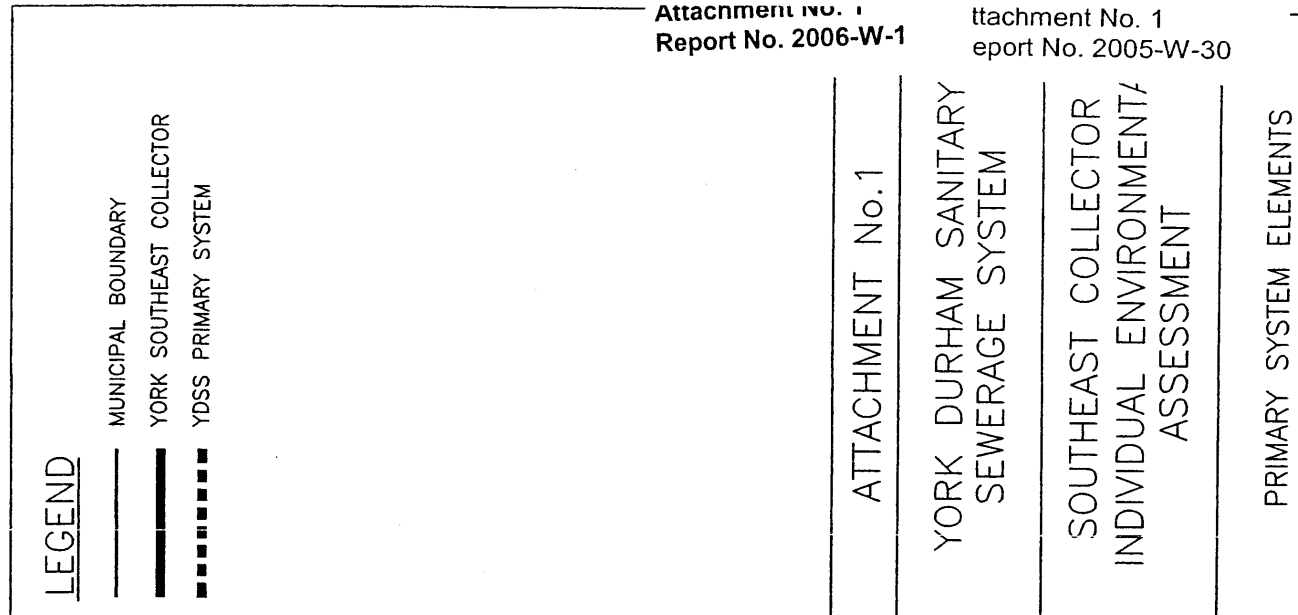
An Individual EA has been initiated for providing additional capacity in the Southeast Collector Sanitary Trunk Sewer. The Region of Durham will be a co-proponent of the Individual EA for the southeast collector sewer. If the potential alignment of the southeast collector sewer is built in Durham, then the sanitary sewer within Durham will be part of the jointly owned primary system. Region of Durham Works and Planning Departments staff will participate in the study and will report back to Works Committee as the project proceeds, with updates.

  
Clifford Curtis, P. Eng., MBA,  
Commissioner of Works

Recommended for Presentation to Committee

  
G. H. Cubitt, M.S.W.,  
Chief Administrative Officer

EPS1/ps





## THE REGIONAL MUNICIPALITY OF YORK

Transportation and Works Committee  
February 2, 2005  
Report of the  
Commissioner of Transportation and Works

### **PROTOCOL FOR MANAGEMENT AND SETTLEMENT OF CLAIMS RELATED TO PRIVATE WELL INTERFERENCE AND ASSOCIATED DAMAGES DUE TO CONSTRUCTION ACTIVITIES FOR YORK REGION**

#### **1. RECOMMENDATIONS**

It is recommended that:

1. Regional Council adopt the proposed well interference claims resolution protocol outlined in this report.
2. Regional Council delegate authority to the Chief Administrative Officer and the Commissioner of Transportation and Works to take all actions required giving effect to the management and settlement of all well interference claims for all water and wastewater projects as outlined in this report.
3. The Commissioner of Transportation and Works report to Regional Council on the use of the delegated authority on an annual basis.

#### **2. PURPOSE**

This report has been prepared pursuant to a request by Regional Council at its meeting on June 24, 2004 to submit a Regional protocol to manage well interference claims due to construction activity. It outlines the principles for the due consideration of valid claims and the mechanism for proper settlement of said claims.

#### **3. BACKGROUND**

The implementation of water and wastewater infrastructure within York Region sometimes requires temporary dewatering at strategic locations to facilitate construction activities. This dewatering activity, while kept to a reasonable minimum, may have a temporary effect on the private wells within the dewatering zone of influence. Consequently, there may be private well interference complaints during and for a specified period following completion of construction activities. These complaints may cover both water supply quantity and water quality issues. The Region is responsible for

**Protocol for Management and Settlement of Well Interference Claims  
for York Region**

- 38** ensuring all well interference confirmed to be caused by dewatering associated with the construction activity, is fairly and constantly remedied.

The Region is committed to the investigation of all complaints and will provide alternative water supplies for all cases where the Region's construction projects have interfered with the quantity and/or quality of water supply. This includes the reimbursement for direct costs incurred by impacted residents. As a result, the Region will implement a well mitigation program for construction of all Regional water and wastewater infrastructure.

#### **4. ANALYSIS AND OPTIONS**

The basis of addressing any claims related to impacts due to private well water quantity and quality issues was committed to by Regional Council on November 21, 2002 through the adoption of Clause No. 1, Report No. 9 of the Transportation and Works Committee meeting and the protocol established by the Well Mitigation Program under the 16<sup>th</sup> Avenue Trunk Sewer Project as approved by Regional Council on March 27, 2003. This program relies on the basis of establishing a valid well interference claim due to construction activity. (*see Attachment 1*).

##### **4.1 Regional Well Mitigation Program**

All well interference claims must withstand the scrutiny of an independent audit. Therefore, the claims must be quantifiable for a specified period of time and defensible through the use of Ministry of Environment (MOE) accepted water quality testing methods. In establishing the framework for the settlement of claims, the Region must implement the following components:

- An impact assessment program.
- A well mitigation program.
- Rigorous monitoring practices.
- A secondary review process.

##### **4.1.1 Impact Assessment**

In conducting a preconstruction impact assessment, Regional hydrogeologists will work with the regulatory agencies and the affected local municipalities towards establishing the predicted zone of influence due to the temporary construction dewatering activities. The assessment shall be made through; private well surveys in the area, MOE well records, pump tests and the use of the "YPD Groundwater Modelling Tool" which is accepted as the most current model in determining such impacts within the Greater Toronto Area by the regulatory agencies and the Geological Survey of Canada.

The well surveys are conducted to gather both quantitative and qualitative data. This information is a crucial step in helping the Region to determine in advance the resident's water supply risk due to dewatering activities.

The end product of a properly conducted impact assessment is a predicted zone of influence for potential residential well impacts.

#### **4.1.2 Well Mitigation**

The Region's well mitigation program is established to ensure that residents are not inconvenienced due to dewatering activities. The well mitigation program is classified under two categories; proactive and reactive mitigation.

##### **4.1.2.1 Proactive Well Mitigation**

The proactive well mitigation is the mitigation of wells identified to be impacted prior to construction dewatering activities. The implementation of the proactive measures will include one of the following:

- Lowering of the pumps in the existing wells.
- Providing a new deeper drilled well.
- Connecting to a local watermain where feasible.
- Provision of water in tanks for anticipated short-term impacts (shorter than 12 months).

##### **4.1.2.2 Reactive Well Mitigation**

The reactive well mitigation program implementation is available for any unforeseen well interference complaints that may arise during the construction dewatering activities. All residents who experience well issues will have their concerns addressed in the following sequence:

- A temporary tank and bottled water will be provided within 24 hours.
- The complaint will be investigated.

If the well issue is confirmed to be a result of the dewatering activity, the reactive implementation measures will be one of the following; lowering of the pumps in the existing wells, provision of a new deeper drilled well or a connection to a local watermain where feasible.

If the well issue is found not to be the result of the dewatering activity, the Region will provide a letter to the resident explaining the outcome of the well investigation complaint and the reason for the decision.

#### **4.1.3 Monitoring**

A rigorous well monitoring program is established to gauge the zone of influence during the construction period. This well monitoring program will provide an on-going assessment of the groundwater trends.

Integral to the monitoring activity is the monitoring of the groundwater recovery. Upon 80% recovery of the groundwater water levels, confirmation of an upward trend in the water level over the course of the following month and no ongoing negative impacts to the well, any temporary works provided to mitigate the well interference will be removed.

## **4.2 Complaint Review Committee Process**

York Regional Council approved the establishment of the Complaint Review Committee (CRC) on May 29, 2003.

The CRC exists to review the cases of residents who are not satisfied with the outcome of the Regional assessment of their well. Described simply, the CRC provides residents with an opportunity to present their case as to why the Region should implement an alternative alternate/permanent water supply solution for them. Thus, the mandate of the CRC is to provide dissatisfied residents with a forum to present their case.

The scope of the CRC is to review situations where the Region's project team has determined that the scientific evidence does not support a resident's claim of project-related well impact.

The CRC is authorized to recommend that the project team provide an alternate/permanent water supply to the resident, subject to ratification by Regional Council.

### **4.2.1. CRC Deliberation Criteria**

The deliberation criteria the CRC uses to make its decisions in reviewing the well mitigation response program includes:

- The protocol followed.
- The basis of the hydrogeologist's decision.
- The length of time the resident resided at the address.
- A determination if the problem existed before the project commenced.
- Well maintenance information and a review of the well maintenance records.
- An assessment of the condition of neighbouring wells.
- Any other pertinent influencing factors.

### **4.2.2 CRC Process**

The CRC process is outlined below:

- Resident calls the 24 call centre at 1-888-445-4418 to request a review by CRC.
- The Region contacts resident to gather information and provide options for review date.
- The CRC Review is held. Regional Council then reviews CRC recommendation and renders final decision.
- The decision is communicated to the resident within 3 days of the Regional Council decision.

Any decision to provide a permanent solution is implemented by the project team within 30 days of the Regional Council decision while any decisions to remove any temporary water supply is implemented after 30 days has passed since the Regional Council decision.

### **4.2.3. Independent Technical Advisory Support**

On October 1, 2004, the Minister of the Environment, conditioned the provision of an independent technical advisor for the individual property owners to facilitate well interference complaints.

Accordingly, the Region is proposing to provide the following enhancements to the CRC process.

The Region will set up a list of prequalified hydrogeologists who have expertise and experience as expert witnesses in this area. When the resident calls in for a CRC review, the Region will provide the resident with the contacts on this list and the resident can then choose one individual to review the assessment conducted by the Regional hydrogeologist and can have the technical advisor accompany them to the CRC to assist in presenting their case.

It is currently proposed that a fee of up to \$1,500 (GST exclusive) be dedicated for the independent technical advisor for each CRC request.

#### **4.3 Post Construction Claims**

For all construction projects with dewatering related well interference claims following completion of construction and where these construction projects did not have a well mitigation program, the following methodology is recommended towards addressing these claims (*see Attachment 2*).

The Region must ensure that all well interference related claims received following construction of the works are legitimate and represent the direct costs incurred by the resident in addressing any well interference as a result of any Regional water or wastewater construction project. In addition, these claims will only be entertained if they are submitted within two years of Total Performance of the constructed works. This timeframe is accepted by the regulatory agencies as being reasonable for evidence of well recovery due to construction impacts.

In order to ensure fairness and integrity of the process, when more than three post-construction claims are received relating to well interference, the local municipality shall advertise twice in the local newspaper. The residents within that particular community will be given 90 calendar days to submit any outstanding claims to the local municipality. The local municipality shall then receive, collate and submit all of these claims to the Region's Commissioner of Transportation and Works for review.

##### **4.3.1 Eligibility of Direct Costs for Post-Construction Well Claims**

Under normal circumstances, if any private well is deemed to be interfered with by virtue of the dewatering activity, all costs associated with potable water supply, bulk water supply, tank installation inclusive of heating during the winter season, well investigation, well system repairs, new well system installation and connection to a local watermain may be deemed to be eligible.

While most of the noted costs above may be paid directly to the resident upon determination that the well interference claim is legitimate, hydro costs associated with treatment enhancements such as Ultra Violet treatment and heat tracing of any temporary water supply will be compensated directly to the resident's account with the local electrical utility. The Region will work with the local electrical utility in determining the resident's normal consumption pattern and compare it to the usage during the claim

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for York Region**

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period. Any differences noted will be reviewed and the appropriate adjustments will be credited against the resident's electricity account.

As part of the well interference complaints, compensation may also be entertained for any damage to internal plumbing fixtures or clothes due to quality issues such as iron staining. In order for this type of claim to be entertained, the resident must provide water quality data from a MOE accredited laboratory demonstrating water quality data prior to construction being better than water quality data at the point of well interference. This approach will also be used to review claims relating to high salt content and microbial contamination (Coliform indicators). Any treatment system employed to address such changes in water quality will only be entertained with conclusive evidence that the water quality prior to construction was better than the water quality at the noted point of well interference.

**4.3.2 Review of Post-Construction Well Claims**

The Region shall review all claims submitted by the local municipality through the use of an independent certified hydrogeologist. In reviewing the claim, the Region will only entertain claims from residents within the zone of influence identified by the Hydrogeological assessment conducted for the project or a radius of one kilometre from the point(s) of dewatering, whichever is greater.

All claims received by the Region will then be reviewed by an independent hydrogeologist and a decision made within 90 calendar days of receiving the claims. For a claim to be deemed valid, it must satisfy all of the following conditions:

- The well must be located within the greater of the dewatering zone of influence or a one kilometre radius of the project.
- The well interference investigation satisfies a hydrogeological assessment based on the well monitoring program undertaken for the project. This monitoring program encompasses both water quantity and quality issues.
- The resident provides receipts for all direct costs borne to mitigate the well interference.
- The resident allows the on-site inspection of their well system by a Regional inspector for corroboration of work undertaken.

The decision of the independent hydrogeologist will then be reviewed and recommended to both the project manager of the Region and the Director of Engineering of the local municipality.

**4.3.3 Payment of Post-Construction Well Interference Claims**

Prior to settlement of any well interference claims submitted by residents, the Region must receive a signed release from the local municipality and a signed release from the resident.

Accordingly, once the claims have been approved for payment, the local municipality will then secure the necessary releases and submit them to the Region's Commissioner of Transportation and Works.

Upon receipt of the releases, the Region shall transfer the appropriate funds to the local municipality in order to compensate the approved well interference claims.

At the conclusion of the claims process or within two years of the total performance of the construction project, Regional staff will submit to Regional Council an update report of the well interference claims approved under the project.

## **5. FINANCIAL IMPLICATIONS**

All approved well interference claims will be funded from development charges (80%) and wastewater user rates (20%). It will be treated as the well mitigation program costs associated with the relevant water or wastewater project.

## **6. LOCAL MUNICIPAL IMPACT**

Addressing well interference complaints in a timely and consistent manner will undoubtedly lead to a more effective means of mitigating any inconveniences experienced by local residents due to Regional construction projects. It will ultimately lead to a fair and equitable means of identifying legitimate well interference claims and resolving these claims in a just manner.

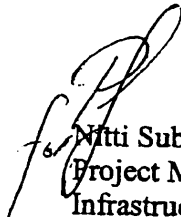
## **7. CONCLUSION**

This well interference claims resolution mechanism for claims received during and up to a period of two years following construction will facilitate a consistent, equitable and defensible approach.

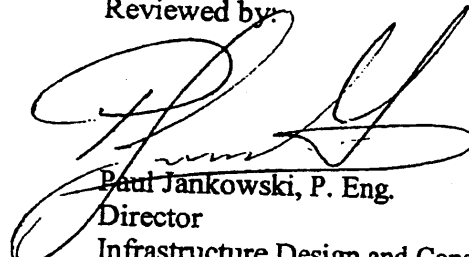
**44 Protocol for Management and Settlement of Well Interference Claims  
for York Region**

The Senior Management Group has reviewed this report.

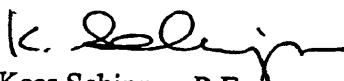
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Commissioner of Transportation and Works

Approved for Submission:

  
Michael R. Garrett  
Chief Administrative Officer

January 12, 2005

Attachments 2  
NS/ko/mh/ko/cp/ko

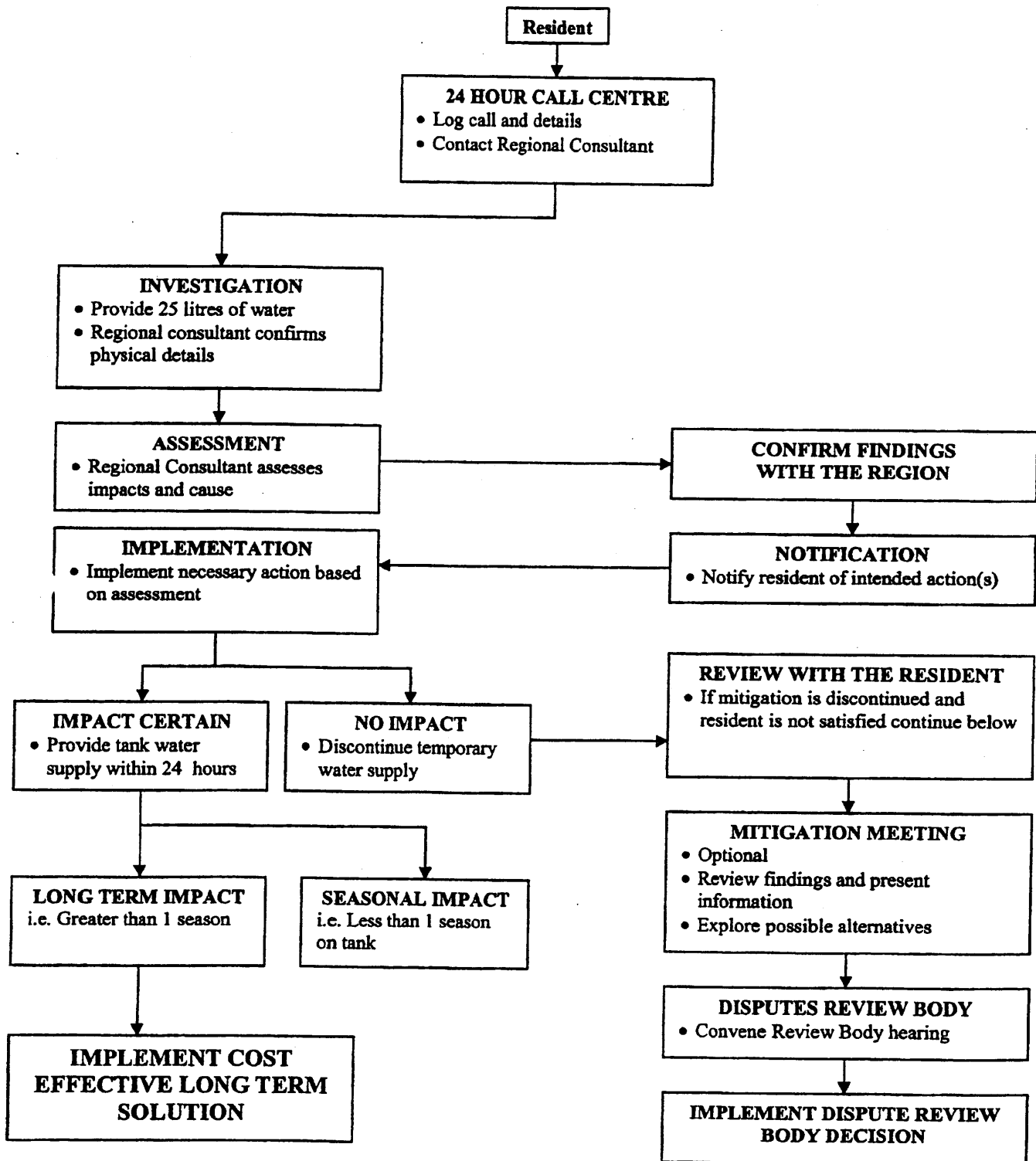
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COUNCIL ATTACHMENT 1

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WELL INTERFERENCE CLAIMS RESPONSE FLOW CHART

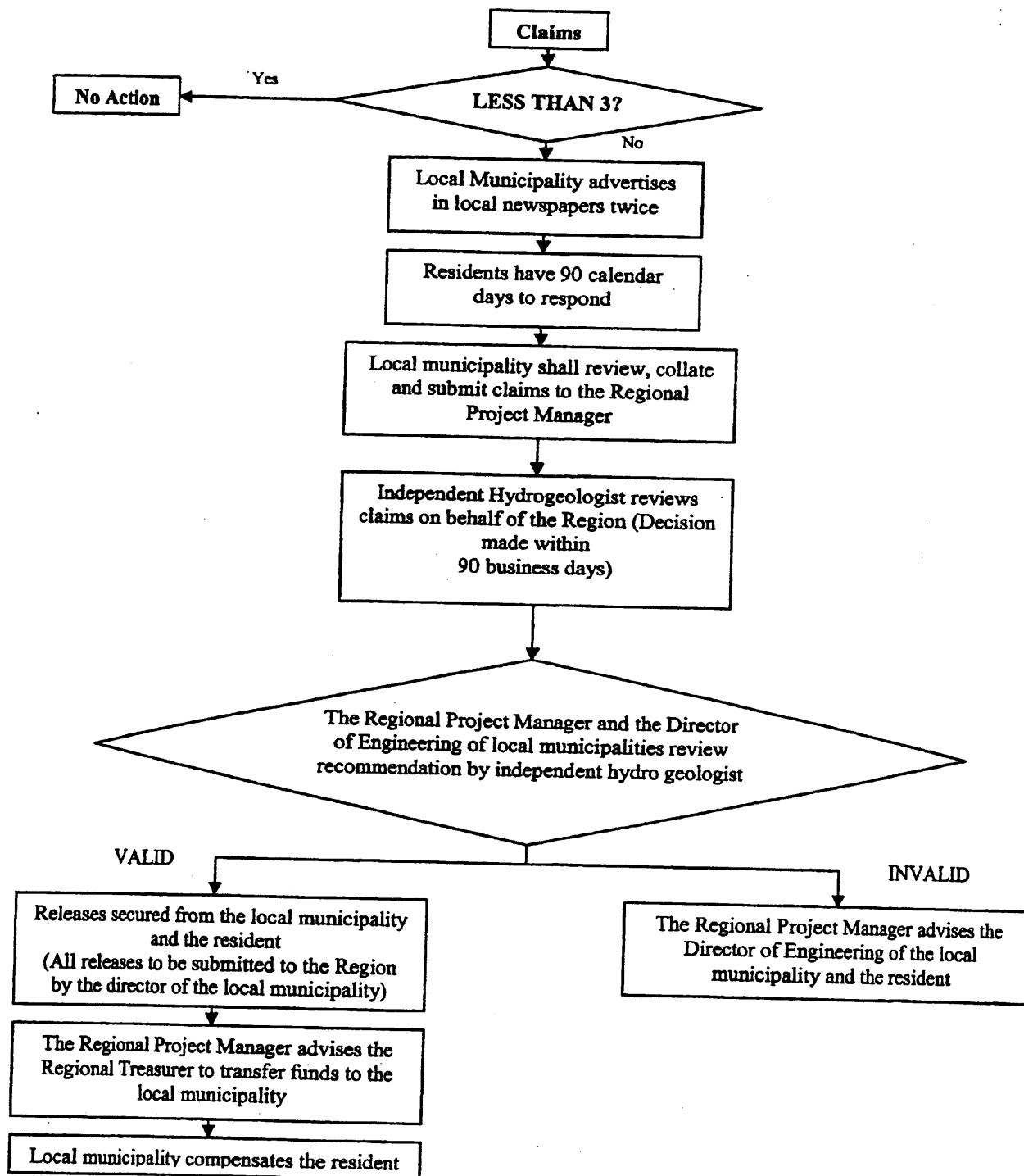


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COUNCIL ATTACHMENT 2

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POST CONSTRUCTION CLAIMS REVIEW PROCESS



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