

## **COMMITTEE OF THE WHOLE – DECEMBER 1, 2009**

### **BLOCK 11 BRIDGE / CULVERT VALLEY ROAD CROSSINGS AND PRESSURE DISTRICT 6 EAST RUTHERFORD ROAD TRUNK WATERMAIN REIMBURSEMENT OF DEVELOPMENT CHARGE FUNDS WARD 1**

#### **Recommendation**

The City Manager and the Commissioner of Engineering & Public Works, in consultation with the Director of Development / Transportation Engineering, the Director of Reserves and Investments and the Director of Legal Services, recommend:

1. That a By-law be enacted authorizing the Mayor and Clerk to execute an agreement amending the Block 11 Spine Services Agreement between the City and the Block 11 Landowners' Group (Block 11 Properties Inc. – Trustee) dated August 11, 2006 to provide for the up-front financing and reimbursement of the costs associated with the design and construction of the Block 11 valley road crossings and the Pressure District 6 East Rutherford Road Trunk Watermain from Development Charges, pursuant to the principles and terms set out in this report;
2. That the amending agreement provide for the Block 11 Landowners' Group to be reimbursed \$15,784,550 for the Block 11 valley road crossings and \$2,835,266 for the Pressure District 6 East Rutherford Road Trunk Watermain pursuant to the principles and terms set out in this report;
3. That Council authorize an interim payment to the Block 11 Landowners' Group in advance of the execution of the amending agreement in the amount of \$2,933,600 for the Block 11 valley crossings and \$1,800,000 for the Pressure District 6 East Rutherford Road trunk watermain which represents the estimated net amount owing to December 31, 2009 with funding from Capital Projects DT-7001-08 and 1246-0-04, respectively, subject to the Block 11 Landowners' Group providing the City with satisfactory proof that the works have been constructed in accordance with the approved construction drawings and City standards, and a statutory declaration that all contractors and subcontractors associated with the construction of the works have been paid;
4. That Staff be authorized to retain a consulting engineering firm to assist where necessary and expedite the review of the additional costs under review which are associated with the Block 11 valley road crossings. The consulting fees associated with this review are to be funded from Capital Project DT-7037-09; and
5. That Staff report back to Council on the reimbursement of the additional costs associated with the construction of the Block 11 valley road crossings.

#### **Contribution To Sustainability**

The valley road crossings within Block 11 provide for a continuous and porous collector road network supporting sustainable modes of transportation including public transit, walking and cycling.

There are two main valley corridors within Block 11 which form part of the Don River Watershed system. The majority of the lands within the block are also located along the southern edge of the Oak Ridges Moraine. Accordingly, the valley road crossings were designed and constructed with considerable attention to the preservation of the existing natural aquatic and terrestrial habitats in consultation with the Toronto and Region Conservation Authority and the Department of Fisheries and Oceans Canada.

## **Economic Impact**

The seven valley crossings in Block 11 and the Pressure District (PD) 6 East Rutherford Road Trunk Watermain are identified as growth related projects within the engineering component of the approved 2003 and 2008 Development Charges (DC) Background Studies and related By-laws.

The 2003 DC Background Study identified the total estimated costs of the valley crossings and trunk watermain to be approximately \$15.3 million and \$2.4 million respectively. The trunk watermain was identified as an Area Specific Development Charge project with a benefiting area which includes the development lands within Blocks 10, 11 and 17. The Block 17 Landowners' Group advanced the design and construction of the initial components of the PD 6 East Rutherford Road Trunk Watermain between Barrhill Road and Confederation Drive to accommodate the development in Block 17 as shown on Attachment No. 2. The total cost of this first segment of the trunk watermain was \$839,438.

In November 2007, the Block 11 consulting engineer provided updated information to the City indicating that the estimated costs to complete the construction of the valley road crossings and the second segment of the PD 6 East Rutherford Road Trunk Watermain had increased to approximately \$26.2 million and \$2.8 million respectively. Accordingly, these updated cost estimates were reflected in the City's 2008 Development Charge By-law update and Background Study as summarized in the table below.

<b>Infrastructure</b>	<b>DC Type</b>	<b>DC By-Law</b>	<b>DC Estimates</b>
Block 11 Valley Road Crossings	City-Wide	230-2008	<b>\$26,818,232</b>
PD 6 East Rutherford Road Trunk Watermain	City-Wide	230-2008	\$728,253
	Area Specific	234-2008	\$3,031,510
		<b>Total Watermain</b>	<b>\$3,759,763</b>

At the request of the City, the Block 11 Spine Services Agreement required Block 11 Properties Inc. to design and construct the seven valley road crossings and the remaining components of the PD 6 East Rutherford Road Trunk Watermain as part of the initial stage of development in Block 11. The provisions of the Spine Agreement also obligate Block 11 Properties Inc. to enter into a further financial agreement with the City with respect to the reimbursement of the costs associated with the design and construction of these growth related projects. Accordingly, over the last several years Council has approved funding through the Capital Budget process to reimburse Block 11 Properties Inc. for these growth related projects. Funding in the amount of approximately \$11.1 million for the valley road crossings and \$3.9 million for the PD 6 East Rutherford Road Trunk Watermain has been set aside in approved capital budgets. Funding for these Capital Projects is from Development Charges.

On June 23, 2008, Council authorized an interim payment to Block 11 Properties Inc. of \$5,000,000 for the valley road crossings, with funding from the above noted approved Capital Projects.

Based on the capital forecast that is included in the 2008 Development Charges Background Study, it is estimated that a successful reimbursement schedule can be established for the Block 11 valley road crossings starting from 2007 and distributed over a ten year period between 2007 and 2016.

Reimbursement of Area Specific Development Charge funds for the Pressure District 6 East Rutherford Road Trunk Watermain will be accommodated by the on-going development within the benefiting area (development lands within Blocks 10, 11 and 17) as identified in the City's Area Specific Development Charge By-law 234-2008. The reimbursement of additional trunk

watermain costs associated with the City-wide component of the City's DC Background Study shall be repaid over a six year period between 2009 and 2014. The estimated total cost of the trunk watermain constructed by Block 11 is \$3,688,000.

There is sufficient capital budget to provide for the additional interim payment. Additional funding will be included in subsequent capital budgets to cover the future annual reimbursement installments.

### **Communications Plan**

There is no specific communications plan associated with this report.

### **Purpose**

The purpose of this report is seek Council's approval to execute an agreement with the Block 11 Properties Inc. with respect to the reimbursement of the costs associated with the design and construction of the seven valley road crossings in Block 11 and the remaining segments of the Pressure District 6 East Rutherford Road Trunk Watermain from Development Charge funds based on the amounts and principles set out in this report. Since the preparation and execution of this agreement may take several months, staff is seeking approval to provide Block 11 Properties Inc. with an interim payment for these works.

The report also identifies a number of additional costs associated with the construction of the valley road crossings that require further review to determine if these costs are fully reimbursable. To assist and expedite this review, this report is seeking Council's authorization to retain a consulting engineering firm with expertise in the review of contract payments.

### **Background - Analysis and Options**

On October 28, 2002, Block 11 Properties Inc. requested the seven valley road crossings that were identified in Block 11 pursuant to OPA 600 be included in the City's 2003 Development Charges (DC) Background Study as growth related projects. The rationale for this request was that the valley road crossings provide a benefit to the City's overall transportation system by establishing a continuous collector road network. In addition, similar type bridge crossings had been included in previous DC Background Studies such as the Melville Road Bridge, Creditstone Bridge, Vaughan Mills Road Bridge and Martin Grove Road Bridge. Accordingly, preliminary cost estimates were prepared by the Block Consultant and supplied to the City on April 14, 2003. These estimates were incorporated into the final 2003 City-Wide Development Charges By-law as growth related projects. In 2003, the seven valley road crossings were estimated to cost \$15.3 million.

Growth related infrastructure projects such as these are typically designed, constructed and up-front financed by developers as part of the development process. Reimbursement provisions for capital costs are usually addressed within individual subdivision agreements and/or other applicable development/servicing agreements.

The Block 11 Community Plan was approved by Council on August 23, 2003. Individual draft plans of subdivision within the Block were subsequently approved by Council and development has proceeded in phases based on the availability of servicing capacity. Construction of municipal services within Block 11 has proceeded on the basis of a spine servicing arrangement followed by the servicing of individual phases of each subdivision within the Block.

In accordance with the approved block plan and individual draft plans of subdivision, the location of the seven Block 11 valley crossings are illustrated on Attachment No. 1 and described below.

- Crossing 1, Bridge 'G' - south end of Thomas Cook Avenue
- Crossing 2, Bridge 'A' - east end of Marc Santi Boulevard
- Crossing 3, Bridge 'D' - midpoint of Marc Santi Boulevard
- Crossing 4, Culvert 'F' - west end of Marc Santi Boulevard
- Crossing 5, Culvert 'B' - Lebovic Campus Drive
- Crossing 6, Bridge 'C' - east end of Valley Vista Drive
- Crossing 7, Culvert 'E' - west end of Valley Vista Drive

The PD 6 East Rutherford Road Trunk Watermain project includes the construction of approximately 2.2 kilometres of 600/400 mm diameter watermain on Rutherford Road between Keele Street and Crimson Forest Drive as shown on Attachment No. 2. This trunk watermain provides the primary feed of municipal water to the Pressure District 6 East service area within Blocks 10, 11 and 17.

Development in Block 17 proceeded before Block 11. As a result, the Block 17 Landowners' Group was required to design and construct the first component of the trunk watermain works. This included the section of 600 mm diameter watermain between Barrhill Road and Confederation Parkway as shown on Attachment No. 2. In accordance with the provisions of the Block 17 External Services Agreement, the Landowners' Group was reimbursed the costs associated with the design and construction of this initial segment of the watermain by the City. The balance of the PD 6 East Rutherford Road Trunk Watermain was designed and constructed in conjunction with the spine services for Block 11 during the course of the Phase 1 and 2 developments within the Block.

On August 11, 2006, Block 11 Properties Inc. entered into a Spine Servicing Agreement with the City. Pursuant to subsections 18.15 and 18.16 of the Spine Services Agreement, Block 11 Properties Inc. was required to design and construct the seven valley crossings and the PD 6 East Rutherford Road Trunk Watermain as part of the initial phases of the development such that the primary road network and an adequate potable water supply would be established at the outset of development within the Block. The specific wording of Subsections 18.15 and 18.16 of the Block 11 Spine Services Agreement is provided below for reference purposes.

*“18.15 The Trustee shall design and construct the proposed Pressure District No. 6 Watermain East in accordance with the approved construction drawings as part of the spine servicing works in Block 11. The Pressure District No. 6 Watermain East is included as a Special Service Area Charge Project D-19 in the Development Charges By-law 361-03. The Trustee shall enter into a separate financial agreement with the City upon execution of the Block 11 Spine Services Agreement.”*

*“18.16 The Trustee shall design and construct the proposed seven (7) valley crossings in accordance with the approved construction drawings as part of the spine servicing works in Block 11. The seven (7) valley crossings area included as a City-Wide Development Charges Project (Appendix H Item 13 in the 2003 Development Charges Background Study) in the Development Charges By-law 350-03. The Trustee shall enter into a separate financial agreement with the City upon execution of the Block 11 Spine Services Agreement.”*

#### Block 11 Valley Road Crossings

The Block 11 valley crossings were designed and constructed between 2005 and 2006 with the exception of bridge Crossing No. 6, which is currently under construction and anticipated to be completed by the end of the year. To date, the engineering consultants for the Block have provided staff with background documentation in support of reimbursement in the form of tenders, progress certificates, contract extras and invoices. Based on this information, Block 11 Properties Inc. is requesting the City reimburse them \$20,940,000 for the seven valley road crossings as detailed in the table below.

## COST SUMMARY – BLOCK 11 VALLEY ROAD CROSSINGS

No.	Type	2009 Claim	Current Reimbursable Costs	Costs Under Review	Item Under Review
1	Bridge 'G'	\$5,920,000	\$4,057,000	\$1,863,000	Dewatering
2	Bridge 'A'	\$1,580,000	\$1,580,000	N/A	N/A
3	Bridge 'D'	\$2,410,000	\$2,308,800	\$101,200	Dewatering
4	Culvert 'F'	\$1,040,000	\$1,040,000	N/A	N/A
5	Culvert 'B'	\$1,870,000	\$1,456,000	\$414,000	Dewatering
6	Bridge 'C'	\$4,530,000	\$2,983,250	\$500,250 \$1,046,500	Precast Culvert Restocking Dewatering
7	Culvert 'E'	\$3,590,000	\$2,359,500	\$1,230,500	Dewatering
<b>TOTAL</b>		<b>\$20,940,000</b>	<b>\$15,784,550</b>	<b>\$5,155,450</b>	

**NOTES:**

1. All costs exclude GST and 3% City Administration Charge.
2. All costs include 15% engineering fees / soft costs.
3. All costs include associated landscaping works.

Additional costs were incurred during the construction of the valley crossings to address unforeseen items such as:

- Extensive dewatering and ground water augmentation activities;
- Restocking charge for a precast concrete conspan culvert which wasn't used.
- Remediation of unstable soil conditions leading to deeper foundation requirements and soil strengthening systems;
- Changes to the design, materials and construction of the culvert crossing structures from single cells to double cells to accommodate the passage of wildlife in accordance with TRCA and DFO requirements;
- Winter construction premiums;
- Creek diversion works; and
- Other general construction cost increases.

Staff has reviewed the \$20.9 million claim and has determined that approximately \$15.8 million is substantiated for reimbursement; however, the extra cost related to dewatering and ground water augmentation activities and the restocking charge for the unused conspan culvert totaling approximately \$5.2 million require further review.

Staff believes that a thorough review of the construction process and administration of the relevant construction contracts is required to determine whether all or part of these costs is fully reimbursable. To expedite the review of these additional cost items, staff is recommending that the City retain a consulting engineering firm with expertise in the audit of contracts to review these items associated with the Block 11 valley road crossings where necessary. The consulting fees associated with this review can be funded from Capital Projects DT-7037-09. Staff will report back to Council on the results of this review.

### Pressure District 6 East Rutherford Road Trunk Watermain

The Area Specific Development Charge for the PD 6 East Rutherford Road Trunk Watermain project was included in the 2003 DC Background Study with cost estimates based on unit rates from the 2001 York Region's Water Optimization Study. Block 11 Properties Inc. constructed two segments of the PD 6 East Trunk Watermain between 2006 and 2009 as shown on Attachment No 2.

In November 2007, the Block 11 Engineering Consultant provided the City with an updated cost estimate for the completion of the watermain works, which amounted to \$2,835,266. This cost estimate reflected contract unit prices and the additional works required to complete the project including tunneling, hydrants and extra valve chambers. Accordingly, the revised cost estimate for the PD 6 East Trunk Watermain project was reflected in the City's 2008 Development Charge update.

During the detailed design and construction of the watermain, project scope changes were required by the City to address future servicing and network requirements. These works included the tunneling of a 150 mm diameter watermain across Rutherford Road, various costs associated with the interconnection of Pressure Districts 6 and 7 across Rutherford Road, future servicing provisions for the Carville District Centre lands, and a valve chamber at the easterly limit of the trunk watermain together with restoration and other related works.

In March 2009, the Block 11 Engineering Consultant advised that the cost to complete the watermain works including the scope changes required by the City was estimated at \$3,688,000 excluding G.S.T. This revised cost estimate is approximately \$850,000 greater than the 2007 cost estimate and the value that is included in the current Development Charge By-law. The majority of the watermain works have now been substantially completed. Staff has reviewed the scope of work and the related construction contract documents associated with the two segments of the PD 6 East Trunk Watermain project that were constructed by Block 11 and is satisfied that the total cost of the works qualify for reimbursement from Development Charges.

Accordingly, it is recommended that Block 11 Properties Inc. be initially reimbursed \$2,835,266 which represents the maximum available funding in the current City Development Charge By-laws for the PD 6 East Trunk Watermain project pursuant to the principles and terms set out in this report. The shortfall in the City's current Development Charge funding in the amount of approximately \$850,000 will be added to the City-wide Development Charge By-law when it is next updated. The inclusion of this shortfall in the next update of the City's Development Charge By-law is subject to appeal.

### Tender and Award of Construction Contracts

The Block Consultant has confirmed the bridge contracts for valley Crossings 1, 2 and 3 were awarded by way of a competitive bid process involving a minimum of three contractors, and that the individual contracts for each of the bridges were awarded to the lowest bidder.

Culvert Crossings 4, 5 and 7, and the PD 6 East Rutherford Road Trunk Watermain works were integrated within two larger contracts which included all other necessary municipal spine infrastructure works. As a result, the contract awards for these items were made for broader considerations than any specific item within each of the two contracts. As a condition of Block Plan Approval, all watercourse crossings were to be completed prior to the release of building permits within the Block. Due to the construction magnitude of the spine servicing works and associated valley crossings, during the tendering process, the Block only received bids from two large construction companies. Even with the large size of these firms, it was not considered viable to award more than half of the contract value to each bidder. Hence, based on an analysis of cost, timing and construction logistics, the overall spine servicing works (including the trunk watermain and the culvert crossings) were split into two contracts. Based on this bid process, staff is satisfied that the City received economy of scale pricing for these infrastructure works.

### Principles of Financial Agreement

The financial agreement with Block 11 Properties Inc. for the reimbursement of the cost associated with the design and construction of the valley road crossings and Pressure District 6 East Rutherford Road Trunk Watermain shall be based on the following terms and principles:

1. The City has provided Block 11 Properties Inc. with an interim payment of \$5,000,000 for the design and construction of the seven valley road crossings in Block 11 as per Council resolution of June 23, 2008.
2. There shall be no economic risk to the City in connection with the reimbursement of the cost associated with the design and construction of the seven valley road crossings and the Pressure District 6 East Rutherford Road Trunk Watermain.
3. Based on information supplied by Block 11 Properties Inc., the City shall determine the final reimbursable cost associated with the design and construction of the seven valley road crossings and the Pressure District 6 East Rutherford Road Trunk Watermain.
4. The development of the 2,652 low density residential units in Block 11 will generate approximately \$8.4 million in City-wide Engineering Development Charge payments. These Development Charge funds will be reimbursed to Block 11 Properties Inc. as set out in items 5 and 9 below subject to the funds being available and approved in the annual capital budget.
5. The City shall reimburse Block 11 Properties Inc. on a yearly basis a portion of the final reimbursable cost of the valley road crossings from the City-wide engineering component of the Development Charges paid by Block 11 developers in connection with the 2,652 low density residential units in Block 11 and for any high density or commercial developments within Block 11 during the preceding year.
6. The City shall reimburse Block 11 Properties Inc. the difference between the final reimbursable cost of the seven valley road crossings and the Development Charges paid by developers in Block 11 in ten (10) yearly installments beginning in 2007. This reimbursement of funds shall be from the engineering component of the City-wide Development Charge and subject to the funds being available and approved in the annual capital budget.
7. Block 11 Properties Inc. will be reimbursed (in yearly installments) a total of \$2,835,266 for costs associated with the design and construction of the Pressure District 6 East Rutherford Road Trunk Watermain from funds collected by the City in the preceding year pursuant to the Area Specific Development Charge By-law 234-2008. The difference between the capital funds that are collected through Area Specific Development Charge By-law 234-2008 and the \$2,835,266 shall come from the engineering component of the City-wide Development Charge and shall be reimbursed over a six (6) year period between 2009 and 2014 subject to the funds being available and approved in the annual capital budget. The funds associated with this reimbursement are currently included in the City's 2008 Development Charge Background Study and related DC By-laws.
8. The City will agree to include the capital funding short fall for the Pressure District 6 East Rutherford Road Trunk Watermain, estimated at about \$850,000 in the next update of the Development Charge By-law. Block 11 Properties Inc. acknowledges that the inclusion of this short fall in the next update of the City's Development Charge By-law is subject to appeal. This capital funding short fall will be reimbursed over a six (6) year period and shall commence once the updated By-law is passed and the appeal period has expired.

9. All approved City-wide Development Charge related payments will be made within ninety (90) days of funding being approved in a City Capital Budget.
10. Prior to the reimbursement of any funds, Block 11 Properties Inc. shall provide certification of all final as-constructed costs and certification that all works have been constructed in accordance with City standards and specifications to the satisfaction of the City.
11. Prior to the reimbursement of any funds, Block 11 Properties Inc. shall provide the City with Statutory declarations confirming that all invoices / payments have been made by the Group and that there are no outstanding claims related to the subject works.
12. Prior to the final payment for the valley road crossings and the PD 6 East Rutherford Road Trunk Watermain, a comprehensive reconciliation of the costs shall be undertaken to the satisfaction of the City to ensure total costs repaid do not exceed actual certified costs.
13. Block 11 Properties Inc. shall submit to the City copies of all final executed construction contracts, approved contract extras and change orders related to the construction of the valley road crossings and the PD 6 East Rutherford Road Trunk Watermain to the satisfaction of the City.
14. Block 11 Properties Inc. shall provide the City with certified as-constructed drawings for the valley road crossings and PD 6 East Rutherford Road Trunk Watermain to the satisfaction of the City.
15. Block 11 Properties Inc. shall warrantee the valley road crossings and PD 6 East Rutherford Road Trunk Watermain for a minimum period of 24 months from the date the City is satisfied that the infrastructure works are substantially completed.

### **Relationship to Vaughan Vision 2020 / Strategic Plan**

In consideration of the strategic priorities related to Vaughan Vision 2020, the recommendation of this report will assist in:

- The pursuit of excellence in service delivery;
- Demonstrating leadership initiatives and effective governance;
- Promoting environmental sustainability;
- Planning and managing growth, and economic vitality.

This report is therefore consistent with the priorities previously set by Council and the necessary resources have been allocated and approved.

### **Regional Implications**

There are no specific Regional implications associated with this report.

### **Conclusion**

The City required the Block 11 Landowners' Group to design and construct the seven valley road crossings and PD 6 East Rutherford Road Trunk Watermain as part of the initial phases of development in Block 11. These works are considered growth related infrastructure and included in the City's 2008 Development Charges Background Study and related by-laws. This infrastructure is now essentially constructed. The final cost of the valley crossings is estimated at \$15,784,550 with a further \$5,155,450 still under review by the City.



The final cost of the PD 6 East Rutherford Road Trunk Watermain constructed by Block 11 is estimated at \$3,688,000. However, funding for reimbursement of the watermain costs from Development Charge recoveries is only available in the amount of \$2,835,266 at this time.

It is recommended that the Block 11 Spine Services Agreement be amended to provide the terms of reimbursement for the cost of the seven valley road crossings and PD 6 East Rutherford Road Trunk Watermain pursuant to the principles set out in this report.

Since the Block 11 Landowners' Group has up-front financed these works and it will likely take several months to prepare and execute the financial agreement, it is recommended that an interim payment to Block 11 Properties Inc. be authorized for the estimated amount owing to December 31, 2009.

**Attachments**

1. Block 11 Valley Crossings - Location Plan
2. PD 6 East Rutherford Road Trunk Watermain - Location Plan

**Report prepared by:**

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Respectfully submitted,

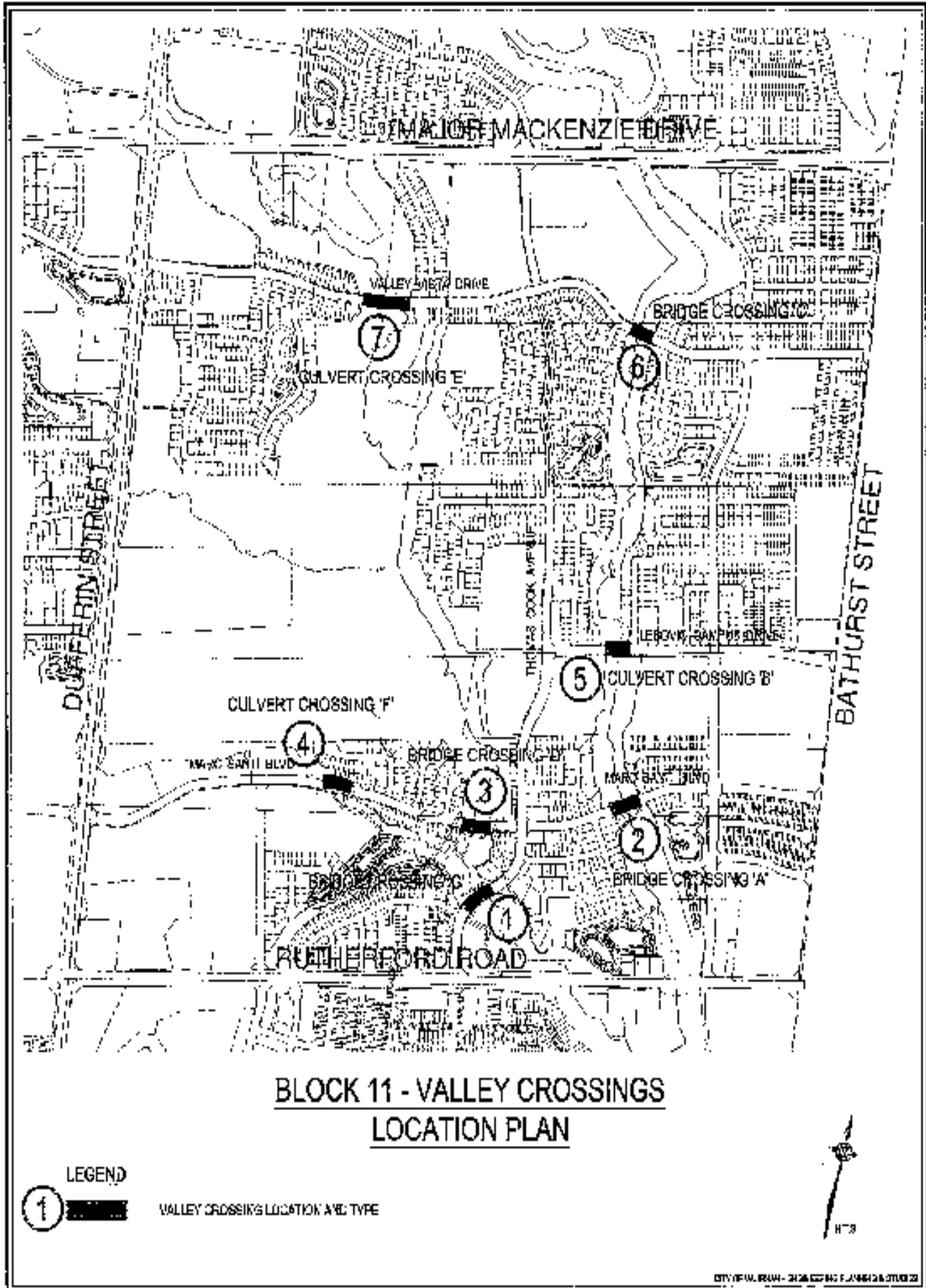
Clayton D. Harris, CA  
City Manager

Bill Robinson, P. Eng.,  
Commissioner of Engineering  
and Public Works

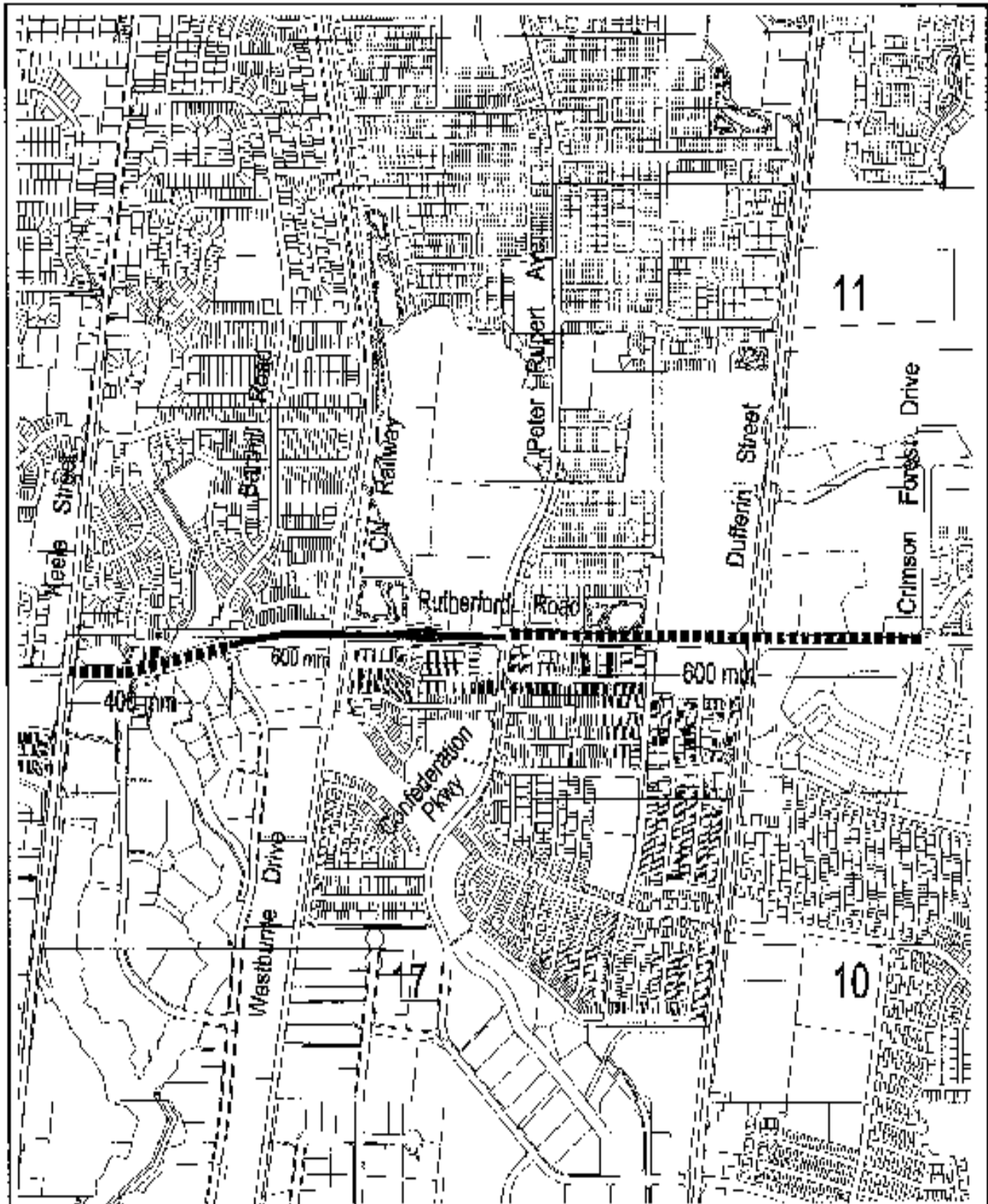
Ferruccio Castellarin, CGA  
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Andrew Pearce, C.E.T.,  
Director of Development &  
Transportation Engineering

# ATTACHMENT No. 1






# ATTACHMENT No. 2



## PRESSURE DISTRICT 6 EAST RUTHERFORD RD. TRUNK WATERMAIN

### LOCATION PLAN

#### LEGEND

-  WATERMAIN WORKS CONSTRUCTED BY BLOCK 11
-  WATERMAIN WORKS CONSTRUCTED BY BLOCK 17
-  CITY BLOCK NUMBERS

N 7/8