



## City of Richmond

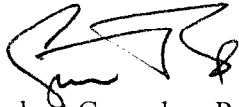
## Report to Committee

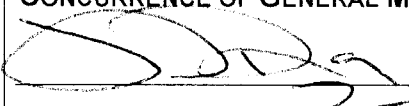
*To Public Works & Transportation - Jan 18, 2006*

**To:** Public Works and Transportation Committee **Date:** December 19, 2005  
**From:** Robert Gonzalez, P.Eng. **File:** 10-6000-01  
Director, Engineering  
**Re:** Williams Road Area Development Moratorium Removal

### Staff Recommendation

That the hold on rezoning applications in the 10,000 and 11,000 block of Williams Road, the 10,000 block of Shell Road and the 10,000 block of No. 4 Road as approved by Council according to the March 21, 2002 report be removed.

*for*   
Robert Gonzalez, P.Eng.  
Director, Engineering  
(4150)

FOR ORIGINATING DIVISION USE ONLY					
<b>ROUTED TO:</b>	<b>CONCURRENCE</b>	<b>CONCURRENCE OF GENERAL MANAGER</b>			
Sewerage & Drainage .....	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>				
Development Applications .....	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>				
Policy Planning .....	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>				
<b>REVIEWED BY TAG</b>	YES <input checked="" type="checkbox"/> <i>DW</i>	NO <input type="checkbox"/>	<b>REVIEWED BY CAO</b>	YES <input checked="" type="checkbox"/> <i>GD</i>	NO <input type="checkbox"/>

## **Staff Report**

### **Origin**

On March 25, 2002 Council approved a report recommending that rezoning applications received for the location known as the Horseshoe Area (10,000 and 11,000 blocks of Williams Road, the 10,000 block of Shell Road and the 10,000 block of No. 4 Road) not be processed. This recommendation was made on the basis of drainage and sanitary service related issues.

Since Council's adoption of this recommendation, staff have completed comprehensive engineering studies and subsequent implementation of recommendations in the areas of sanitary and drainage infrastructure.

The purpose of this report is to remove the holds on rezoning applications in the Horseshoe Area.

### **Analysis**

Where land owners wish to change or re-develop their property use they are required to make application for rezoning. The rezoning process requires staff review of many items, including the required capacity of the infrastructure in the area to support the proposed development.

Several rezoning applications were received in the Horseshoe area in 2002. Given experiences related to sanitary overflows and flooding issues as noted in the March 21, 2002 report to Council (Attachment 1), these applications did not receive rezoning approval. Furthermore, no other rezoning applications in the Horseshoe area have been considered to the present.

Following Council approval of the Horseshoe Area development moratorium, staff completed a comprehensive investigation of the sanitary and drainage infrastructure in the Horseshoe Area, primarily through the creation of hydraulic models.

The sanitary system hydraulic model created showed that there were in fact no infrastructure capacity upgrades required to service the Horseshoe Area if development proceeds according to the Official Community Plan. It was further found that the sanitary overflows observed on Williams Road were operational in nature, i.e., blocked sewers. Operational changes have been made in this regard to minimize the opportunity of future blockages.

The drainage system hydraulic model found that this system required a capacity upgrade before rezoning and subsequent re-development would be permitted to take place. Accordingly specific drainage upgrade related tasks to be completed by the end of 2006 were identified as follows.

- Installation of new drainage sewers (anticipated completion by February 2006) to improve flow and storage capacity.
- Dredging of a 150 metre length of Horseshoe Slough south of Hammersmith Gate to improve storage and flow characteristics (complete).
- Design of Horseshoe Slough Pump Station screen upgrades to minimize plugging opportunities (construction pending for completion by Summer 2006).

- Adjustment of Horseshoe Slough Pump Station pump start/stop operating elevations (complete).
- Maintenance of the Shell Road Canal and portions of adjacent ditches (complete).
- Changes to the Shell/Steveston drainage pump station infrastructure to improve flow characteristics (anticipated completion by Summer 2006).

The drainage upgrades are expected to be completed ahead of schedule and have advanced sufficiently to facilitate improved drainage. Accordingly, staff recommend that the development moratorium related to sanitary and drainage infrastructure issues be removed.

### **Financial Impact**

There is no financial impact.

### **Conclusion**

Staff completed a comprehensive review and hydraulic model of the sanitary and drainage infrastructure network in the Horseshoe Area. While no significant changes were found to be required for the sanitary infrastructure, drainage infrastructure related upgrades were identified and have advanced sufficiently and ahead of schedule whereby the hold on rezoning applications is no longer necessary.



Jim V. Young, P. Eng.  
Manager Engineering Design and Construction  
(4610)

JVY:jvy



CITY OF RICHMOND

REPORT TO COUNCIL

TO: Richmond City Council  
FROM: Councillor Bill McNulty, Chair  
Planning Committee  
RE: **WILLIAMS ROAD REZONING APPLICATIONS STATUS UPDATE**

DATE: March 21, 2002  
FILE: 8060-20-  
7313/7314/7317/7318

The Planning Committee, at its meeting held on Tuesday, March 19, 2002, considered the attached report, and recommends as follows:

COMMITTEE RECOMMENDATION

- (1) That new applicants for rezoning in the 10,000 and 11,000 block of Williams Road, the 10,000 block of Shell Road and the 10,000 block of No. 4 Road be advised that their applications will not be processed until staff report to Council in approximately one year with further information regarding the sanitary sewerage and storm drainage issues in the area;**
- (2) That the rezoning applications which have not received first reading or proceeded to Committee or Council (11111 Williams Road (RZ 02-201789), 11471 Williams Road (RZ 02-200844), 10120 Williams Road (RZ 01-198290) and 10451 Shell Road (RZ 01-198474)), be given the option of withdrawing their applications with a full refund, or having their applications put on hold for approximately one year when staff will report back to Council with further information regarding the sanitary sewerage and storm drainage issues in the area.**
- (3) That the rezoning applications that proceeded to the February and March Public Hearings with the appropriate rezoning signage (10571 Williams Road - RZ 01-195817 - Bylaw 7313; 11171 and 11191 Williams Road - RZ 01-196031 - Bylaw 7314; 11231 Williams Road - RZ 01-197729 – Bylaw 7317 be referred to another Public Hearing subject to each applicant providing a drainage plan for each lot (showing that there is no substantial increase in runoff over what is permitted under the existing zoning) prior to consideration of adoption.**
- (4) That the rezoning application that proceeded to the February 2002 Public Hearing without the appropriate rezoning signage (RZ 01-197785 - 11671 Williams Road – Bylaw 7318) be referred to another Public Hearing, subject to the rezoning requirement that the applicant provide a drainage plan for each lot that demonstrates no substantial increase in stormwater runoff over what is permitted under the existing zoning.**

Councillor Bill McNulty, Chair  
Planning Committee

Attach.

VARIANCE

Please note that staff recommended the following for (3) and (4):

- (3) That the rezoning applications that proceeded to the **February Public Hearing** with the appropriate rezoning signage (10571 Williams Road - RZ 01-195817 - Bylaw 7313; 11171 and 11191 Williams Road - RZ 01-196031 - Bylaw 7314; 11231 Williams Road - RZ 01-197729 - Bylaw 7317) be given second and third reading subject to each applicant providing a drainage plan for each lot (showing that there is no substantial increase in runoff **over the existing situation**) prior to consideration of adoption.
- (4) That the rezoning application that proceeded to the February 2002 Public Hearing without the appropriate rezoning signage (RZ 01-197785 - 11671 Williams Road - Bylaw 7318) be referred to another Public Hearing, subject to the rezoning requirement that the applicant provide a drainage plan for each lot that demonstrates no substantial increase in stormwater runoff **over the existing situation**.

### Staff Report

#### Origin

There are currently 12 applications in various stages of the rezoning process with the City in the area of Williams and Shell Roads (see chart below and Attachment 1).

File	Address	Bylaw	Status
RZ 01-114608	11611, 11631, 11651 Williams Road	7239	Adopted 702 Policy 5409 Amended Not yet Subdivided
RZ 01-194842	10531 Williams Road	7295	Adopted Not yet Subdivided
RZ 01-195817	10571 Williams Road	7313	Public Hearing Feb 18, 2002 Referred to staff
RZ 01-196031	11171, 11191 Williams Road	7314	Public Hearing Feb 18, 2002 Referred to staff
RZ 01-197729	11231 Williams Road	7317	Public Hearing Feb 18, 2002 Referred to staff
RZ 01-197785	11671 Williams Road	7318	Public Hearing Feb 18, 2002 Referred to staff
RZ 01-198983	10091 Williams Road	7325	Public Hearing March 18, 2002
RZ 02-199174	11271 Williams Road	7326	Public Hearing March 18, 2002
RZ 01-198290	10120 Williams Road		702 Policy 5443 Requires Amending
RZ 01-198474	10451 Shell Road		702 Policy 5443 Requires Amending
RZ 02-200844	11471 Williams Road		In Circulation
RZ 02-201789	11111 Williams Road		In Circulation

Council has recently heard from the public and staff regarding some sanitary and storm drainage issues in this area. The purpose of this report is to:

- Recommend actions with regard to the rezoning applications currently still in process with the City in the subject area; and
- Respond to the following Council referral from the February 18<sup>th</sup>, 2002 Public Hearing:
  - 1) confirmation that a Development Application Permit sign was in place on the subject property; and
  - 2) a report on the drainage issues of the area which would include:
    - i) information on the impact of fill required for new development;
    - ii) the street elevations;
    - iii) what development can take place without drainage implications;
    - iv) a timeline in which the issues would be addressed.

## Findings Of Fact

### Sanitary

#### *System Description*

The sanitary system in the subject area is approximately 35 years old and is a part of the Edgemere and Sherman pump station catchments. Both stations pump sewage into the trunk forcemain along Williams Road, which was extended about five years ago to connect to the Shell Road forcemain, and then flows south along Shell Road into the GVRD trunk main and eventually to the Lulu Island Treatment Plant (see Figure 2).

#### *Issue*

There are two sanitary sewer issues in this area. The first more pressing issue has to do with some overflows from the forcemain along Williams Road. The second issue relates to the service to individual properties. Both issues are exacerbated in periods of high rainfall due to high inflow and infiltration from groundwater and rainfall into the system. Staff are not clear as to the exact cause of each of the issues, however, problems with service to individual properties, which occurs in all parts of Richmond to some degree, can relate in part to maintenance problems such as roots or grease in the system.

#### *Response*

1. City crews have already started undertaking structural assessments of the system to remove blockages and mend broken pipes which helps the problems with service to the individual properties. This work will continue throughout the whole Shellmont catchment area over the next few months and should increase the effectiveness of the system.
2. Staff has also just begun working on a sanitary hydraulic model which will help determine the causes of the overflows in the forcemain as well as enable staff to assess whether the system can handle additional capacity from the subdivision of properties. **This flow monitoring work will be complete in approximately September of 2002** at which time staff will be able to provide a more detailed assessment of the situation, make recommendations on improvements to the sanitary system for the neighbourhood and make a recommendation to Council on whether to permit additional rezoning of lots.
3. In the meantime, staff have made some temporary adjustments to the Williams Road forcemain system to address the overflow problems while further analysis occurs.

### Storm Drainage

#### *System Description*

The storm sewers within the subject neighbourhoods are approximately 37 years old while the portion along Williams Road was upgraded in 1996 when Williams Road was widened. The system directs the flow along Williams Road to a major ditch on Shell Road and then a lift station at Shell Road and Steveston Hwy moves the stormwater towards the Horseshoe Slough pump station (see Figure 1).

*Issue*

Annually, for at least the last 5 years, numerous flooding occurrences have been reported by the public as well as by staff in the area south of Williams Road between No. 4 Road and Shell Road and in the area north of Williams Road between Shell Road and No. 5 Road. The storm drainage system for the City as a whole was designed in such a way that it was deemed acceptable for the system to surcharge from time to time, however, this area seems to be affected by flooding to a greater degree and staff and Council have heard from numerous residents in the area with regard to flooding of individual properties.

*Response*

1. The pump station at Shell Rd and Steveston Hwy was inspected for possible malfunctions and improper settings and repairs have been made to one pump and settings have been adjusted that should assist with the drainage problems.
2. A video inspection of the storm pipes in the area is being carried out to determine whether localized problems are present such as blocked or collapsed pipes.
3. Staff are currently reviewing the replacement program for the numerous pump stations throughout the City and the pump station at Shell Rd/Steveston Hwy has been identified as a priority. The infill of the Shell Road ditch has been scheduled in the Capital Program, and staff will be reviewing the timing for this work.
4. Staff have recently conducted a geographic survey of the area to help identify possible causes of the flooding (i.e. low spots, reverse grade). However, because the drainage system is a complicated system of interconnected pipes and pumps, the cause of the problem is not always easy to identify. In order to properly identify the causes of the problems a computer drainage model is being developed by Engineering Planning to simulate the real life conditions and will be **complete in approximately March 2003**. At that time staff can report back to Council on the sources of the problems and options to remedy the situation.
5. In the meantime, City staff do take measures to try to reduce the flooding in the City by pumping down the water in the ditches immediately prior to a storm to provide additional storage capacity. While the pumps are set to turn on automatically at different levels they can not always keep up with the large storms like the City experienced in December 2001.

Development Application Signage

Of the five applications that were reviewed at the February 18<sup>th</sup>, 2002 Public Hearing, one applicant (11671 Williams - RZ 01-197785) failed to erect signage but has since, at the time of writing this report, erected the necessary rezoning sign. The Clerk advises that this application will have to be reviewed once again at another Public Hearing.

Two of the newer applications that are still being processed need signage before they will be presented to Committee or Council.



**Analysis**

One of the more common concerns that staff and Council hear from some of the long time residents in Richmond have to do with flooding of individual properties in periods of high rainfall. This is symptomatic of Richmond being situated in a floodplain and its heavy reliance on its pumping and dyke system. As redevelopment occurs in Richmond overall, storm drainage will continue be an issue and will likely become more acute, especially for the older lower lying properties.

This is for two reasons. As more properties are raised there are less places for the water to sit while it is absorbed into the groundwater system. Additionally, drainage from impervious surfaces such as roofs or driveways funnels water more directly into the storm drainage system creating higher peak volumes than when the water would have entered the system more slowly through the ground or yards.

Staff note that there are no requirements to fill individual properties to a certain level either:

- to meet building requirements; or
- to meet floodproofing requirements as West Richmond is in the Floodplain Exemption Area.

With the work that is being done on the assessment of the sanitary and storm drainage systems, staff will be better able to pinpoint the areas with the greatest problems, such as the subject area, make adjustments to accommodate the problems and make recommendations as to some of the capital investments that will be required to improve service.

In the meantime, dispersed redevelopment of properties elsewhere over West Richmond is not a concern. However, in the subject area where there are some existing drainage issues coupled with a higher level of redevelopment activity with the potential to add 40 new people per year over the next few years, a specific response is required.

In terms of dealing with the rezoning applications in the area, staff recommend that the applications that have not yet proceeded to Planning Committee or Council be put on hold, however, for the seven lots that have had 1<sup>st</sup> reading Council has three options:

**Option 1 – Permit the Applications to Proceed**

Under this option, the applications would proceed to Council for 2<sup>nd</sup> and 3<sup>rd</sup> readings and there would be the potential to add additional lots in the area. This option recognizes that the applicants have made some financial and time commitments. However, engineering staff point out that while they can't say the exact effect of the additional development due in part to the unpredictable nature of the weather, there will be a greater chance of additional flooding in these neighbourhoods. In view of this situation, the City Solicitor does not support this option.

**Option 2 – Put the Applications on Hold**

Under Option 2, the applications would be put on hold for approximately 12 months until staff reports back to Council with further information regarding the sanitary sewerage and storm drainage issues in the area. However, while this option would be justifiably cautious, staff believe that there should be some other options available that address the issues at hand and don't require the seven lots to be put on hold.

Option 3 – Permit the Applications to Proceed with Drainage Sensitive Designs

Option 3 recognizes that there may be some other ways to address the drainage issues. Under this option the applicants would submit a drainage plan for each new lot which demonstrates that stormwater runoff will not increase substantially, and which Engineering staff have agreed to review, as part of the 4<sup>th</sup> reading requirements. These drainage designs could address details such as the level of fill of the lot, the extent and method of containing roof top runoff, or the amount of impervious surface. Ultimately, Engineering Planning would have to be satisfied that the designs will not substantially increase the amount of runoff over what is permitted to be built under the existing zoning or compound the surface drainage issues.

It should be noted that with any of these options the applicants could abandon their rezoning applications in favour of building a large house on the property (which could not be denied based on sanitary sewerage or storm drainage issues).

The following chart outlines the rezoning applications in their various stages and the corresponding recommended actions.

Status of Rezoning Application	Application	Recommended Action
Potential new applications		Advise applications will not be processed until staff reports back
Not received 1 <sup>st</sup> reading	RZ 02-201789 (11111 Williams) RZ 02-200844 (11471 Williams)	Put on hold with option of withdrawal
Not received 1 <sup>st</sup> reading but 702 Policy amendment process initiated by staff	RZ 01-198290 (10120 Williams) RZ 01-198474 (10451 Shell)	Put on hold with option of withdrawal
Received 1 <sup>st</sup> reading and proceeded to Feb 18 <sup>th</sup> , 2002 Public Hearing	RZ 01-195817 (10571 Williams) RZ 01-196031 (11171 Williams, 11191 Williams) RZ 01-197729 (11231 Williams)	Proceed with Drainage Sensitive Designs
Received 1 <sup>st</sup> reading and proceeded to Feb 18 <sup>th</sup> , 2002 Public Hearing	RZ 01-197785 (11671 Williams)	Send back to Public Hearing (signage) & Proceed with Drainage Sensitive Designs
Received 1 <sup>st</sup> reading and will be proceeding to Mar 18 <sup>th</sup> , 2002 Public Hearing	RZ 01-198983 (10091 Williams) RZ 02-199174 (11271 Williams)	To be determined
Received 4 <sup>th</sup> reading	RZ 01-114608 (11651 Williams, 11631 Williams, 11611 Williams) RZ 01-194842 (10531 Williams)	Complete. Subdivision status still to be resolved.

### **Financial Impact**

None.

### **Conclusion**

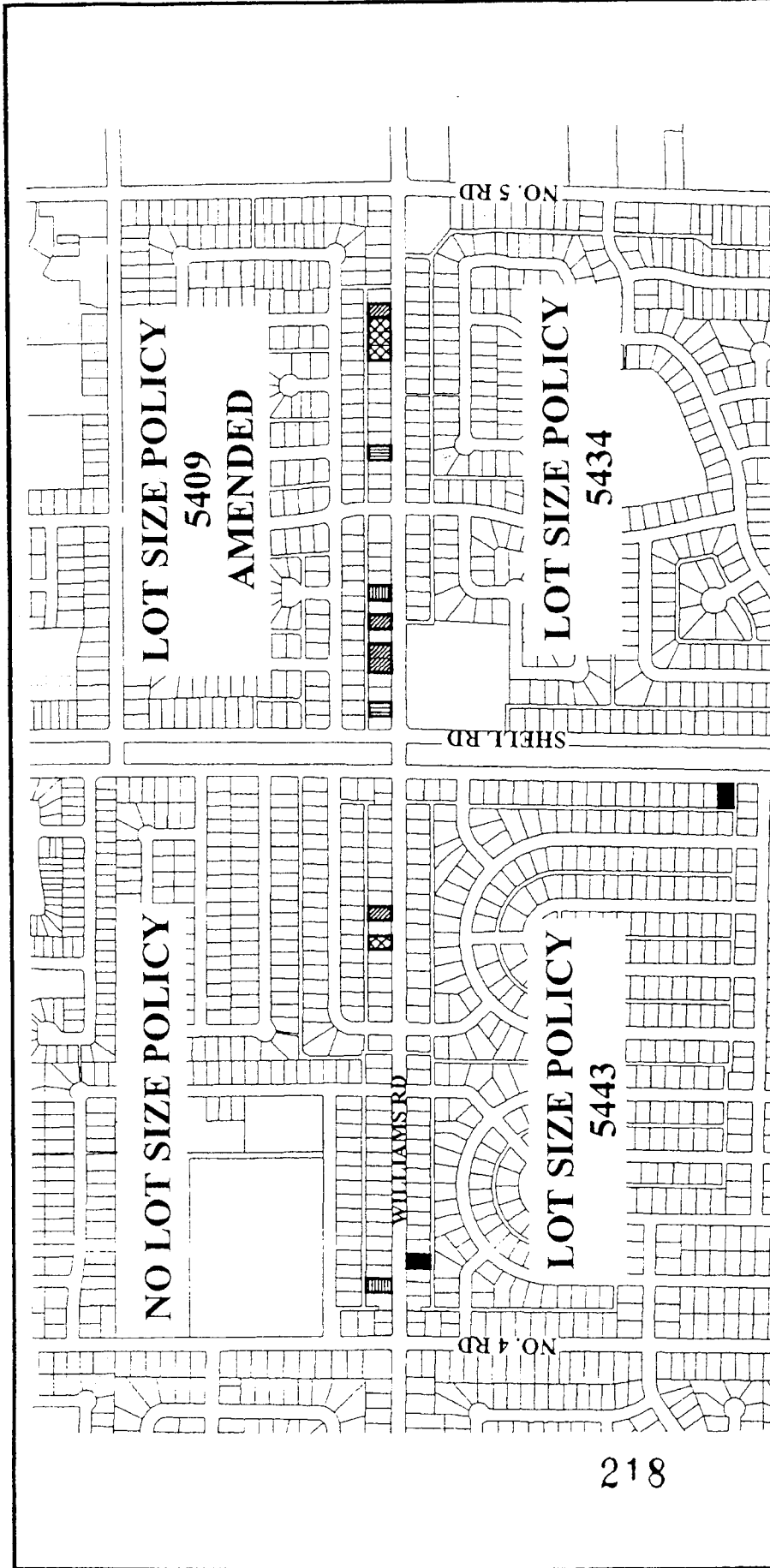
There are a number of applications in process with the City in the Williams and Shell Road areas. Until staff report back to Council in approximately six months regarding the sanitary sewerage and in approximately one year regarding the storm drainage issues in the neighbourhood, it is recommended that:

- New applications in the area be tabled until staff reports back to Council regarding the sanitary sewerage and storm drainage issues in the area;
- Applications that have recently been received by the City or which involve a proposed Lot Size Policy amendment, but have not been considered by Committee or Council, have the option of withdrawing their applications with a full refund or being put on hold until staff reports back to Council regarding the sanitary sewerage and storm drainage issues in the area; and
- Applications from this area that have proceeded to the February 2002 Public Hearings be permitted to proceed if Engineering Planning approves the drainage designs for the new properties.



Jenny Beran, MCIP  
Planner, Urban Development

JMB:cas



### LEGEND

 Adopted (3 Lots)

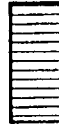
 Applications in 702 Policy Area 5443



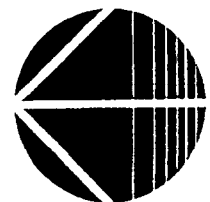
1st Reading Feb 18 PH (5 Lots)



1st Reading Mar 18 PH (2 Lots)



Application (3 Lots)



## Williams Road Rezoning Status

Original Date: 02/14/02

Revision Date: 03/06/02

Note: Dimensions are in METRES

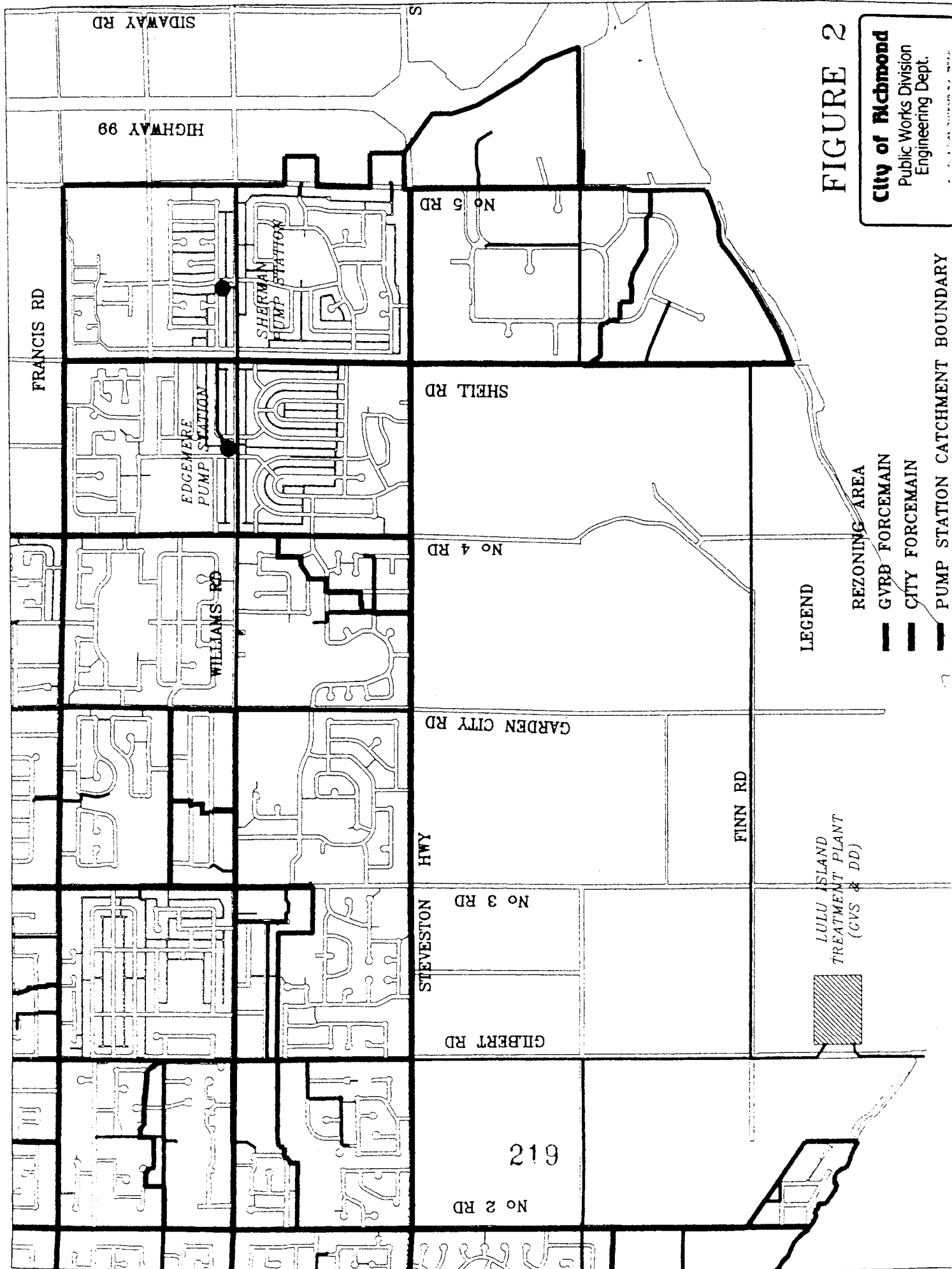


FIGURE 2

**City of Richmond**  
Public Works Division  
Engineering Dept.

LEGEND

REZONING AREA

— GVRB FORCEMAIN

— CITY FORCEMAIN

— PUMP STATION CATCHMENT BOUNDARY

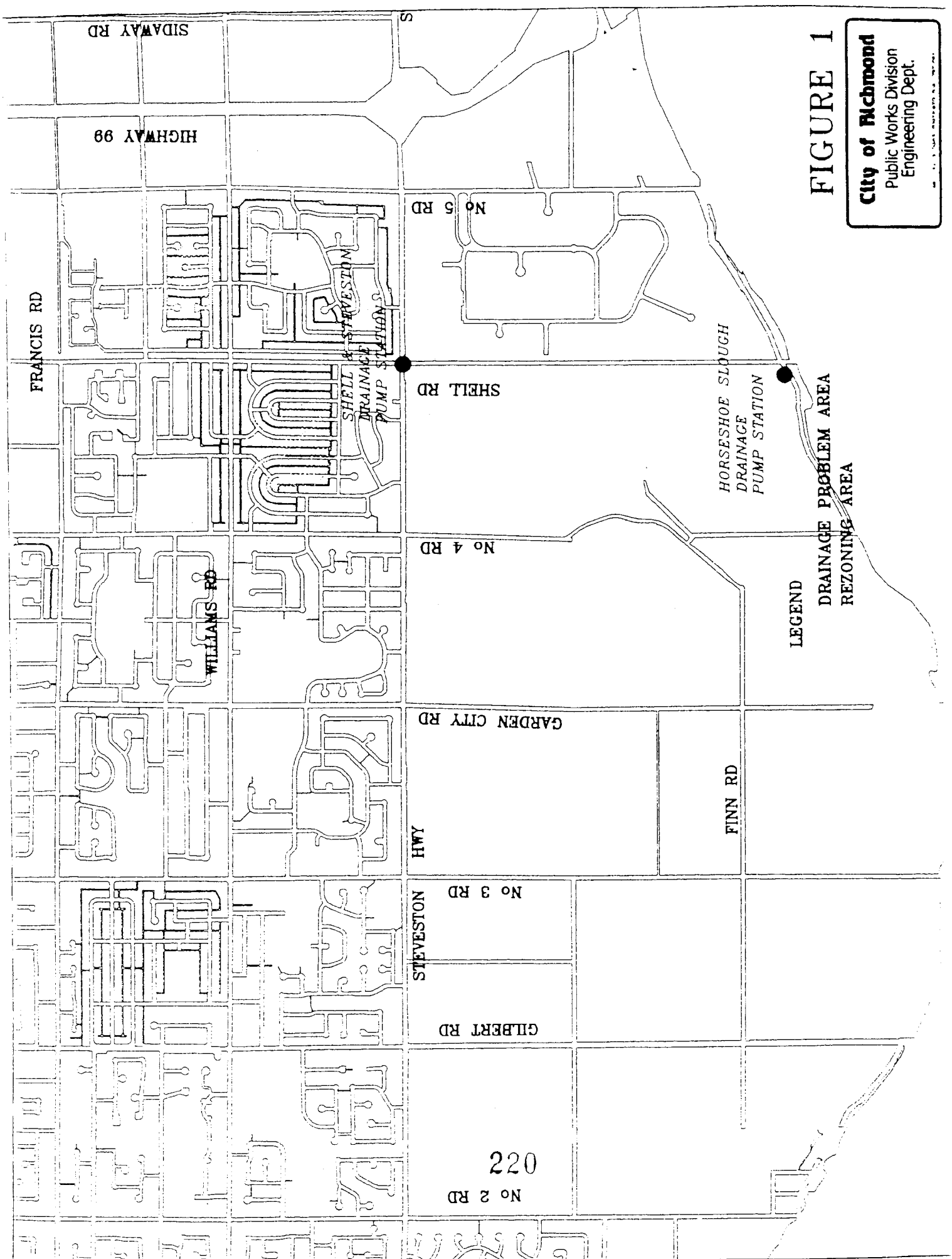


FIGURE 1

**City of Richmond**  
Public Works Division  
Engineering Dept.