

CITY OF BURNABY

HOUSING COMMITTEE

*HIS WORSHIP, THE MAYOR
AND COUNCILLORS*

RE: BUILDING HEIGHT REGULATIONS IN THE R10 DISTRICT

RECOMMENDATION:

1. **THAT** Council authorize staff to explore a new method of measuring building height in the R10 District, based on the method described in Section 3.0 of this report and that as a first step, residents and property owners in the South Slope area west of Patterson Avenue be consulted to determine whether this method would be effective in addressing residents' concerns about building height restrictions under the R10 District.

REPORT

The Housing Committee, at its meeting held on 1996 May 21, adopted the attached staff report recommending that a new method of measuring building height, based on a sloping building envelope, be explored for the R10 District.

Respectfully submitted,

Councillor L.A. Rankin
Chairman

Councillor C. Redman
Member

Councillor J. Young
Member

COPY - CITY MANAGER
- CHIEF BUILDING INSPECTOR
- DIR. PLNG. & BLDG.

TO: CHAIR AND MEMBERS
HOUSING COMMITTEE

1996 MAY 16

FROM: DIRECTOR PLANNING AND BUILDING

OUR FILE: 16.300

SUBJECT: **BUILDING HEIGHT REGULATIONS IN THE R10 DISTRICT**

PURPOSE: To report on possible changes to height regulations in the R10 District to better account for sloping lots.

RECOMMENDATION:

1. **THAT** the Housing Committee recommend to Council:
 - a. **THAT** a new method of measuring building height, based on the method described in section 3.0 of this report, be explored for the R10 District and that as a first step, residents and property owners in the South Slope area west of Patterson Avenue be consulted to determine whether this method would be effective in addressing residents' concerns about building height restrictions under the R10 District.

R E P O R T

1.0 BACKGROUND

Arising out of recent area rezoning processes in neighbourhoods in the South Slope, is a concern that the R10 District is too restrictive as it applies to houses on sloping lots. During the consultation processes for these neighbourhoods, a number of residents have indicated that they generally support restrictions to limit the bulk of new houses, but are concerned that R10 zoning would limit their options in terms of redevelopment or additions to existing houses.

In particular, on lots where there is a drop in grade of about 5 feet through the depth of the house, new houses would most likely be limited to one storey and a cellar. For example, in considering the topography of the South Slope, R10 zoning would likely restrict new houses on the lower side of the street to one storey and a cellar while new houses on the higher side of the street, where a bench has been created through previous grade manipulation, would be permitted to have one and a half storeys above grade and a cellar (see *Figure 1*). Where this situation occurs, residents on sloping lots often feel their development potential is limited and are less likely to support an area rezoning to the R10 District.

As a result of the concerns raised during these neighbourhood processes, the Housing Committee has requested staff to examine approaches that could be used to better account for sloping lots in the R10 District. This report provides the findings of a review of possible changes to the R10 District to address building height concerns.

2.0 OPTIONS FOR MEASURING BUILDING HEIGHT

As part of the review of methods to better account for sloping lots in the R10 District, planning and building department staff met with staff from the Districts of North and West Vancouver and the Cities of Coquitlam and White Rock. Designers familiar with the zoning bylaws of these municipalities were also consulted. It was found that each municipality studied has a method of measuring building height which takes into account sloping residential areas. Although each municipality's method differs, certain elements are common to some or all of these municipalities. Based on a review of these municipalities' zoning bylaws and discussions with planning and building department staff, three general approaches to account for sloping lots were considered.

The first method considered would involve measuring building height from an average grade elevation taken from around the perimeter of the house. This method would appear to be more lenient for sloping lots than Burnaby's current method of measuring building height from the lower of the front or rear average elevations. Depending on the degree of slope, this method of measuring height would likely allow for new houses to be constructed with a cellar and two storeys above grade. However, in order to ensure that the floor space on the second floor is livable, a higher maximum building height may be required than is currently permitted under R10 zoning. As a result, an increase in the maximum height permitted may detract from the intent of the R10 District to preserve the low-scale character of neighbourhoods.

Another method considered by planning and building staff but not used in any of the municipalities studied, would involve using elevations at a number of points across the building footprint and projecting a line vertically from each point to determine the building height. The building height at any of these points would not be permitted to extend beyond the maximum building height permitted. This method would follow the contours of the site more closely and has been considered for larger multi-family sites. Under the R10 maximum building height of 25 feet, it would also allow for two floors above grade and a cellar which is mostly below grade. However, in discussing this method with a number of designers, it was felt that given the smaller size of single family sites, that this more detailed method of determining height may not be necessary and could involve a number of additional calculations currently not required.

The third method considered would involve establishing a sloping building envelope based on the average elevations at the front of the house and at the rear of the house. In considering the intent of the R10 District to provide for low-scale development in mature single family areas, it would appear that this method would allow for houses on the lower side of the street to be built with two floors above grade and still remain within the maximum building height of 25 feet. Through the establishment of a sloping building envelope, the height of a house would relate more closely to the slope of the lot than is currently the case using Burnaby's method of calculating building height. It is proposed that this method, as described in greater detail in the following section, be explored with residents in the South Slope area west of Patterson Avenue to determine whether it would be effective in addressing residents' concerns about building height in the R10 District.

3.0 BUILDING HEIGHT BASED ON A SLOPING BUILDING ENVELOPE

A sloping building envelope is created using a building height base line and a maximum building height line that follows the slope of the lot. An average elevation is determined at the front and rear of the house and a line is drawn longitudinally through the base of the house to join the two elevations. A maximum building height line is drawn parallel to the building height base line to represent the maximum height permitted for the house. These two lines serve to create a building height envelope into which the house must fit (see *Figure 2*).

Since this method of measuring height follows the slope of the lot, it would appear possible to have two storeys above grade on the higher side of the house, as well as a cellar that is mostly below grade, and still remain within the R10 maximum height of 25 feet. Under the existing regulations, building height is measured from the lower of the front or rear average elevation to the highest point of the structure as shown on the dashed line on *Figure 3*. The proposed method for measuring height would result in no increase in height on a flat lot. However, on a more severely sloping lot the proposed method would result in some increase in permitted height as also shown on *Figure 3*.

In discussing this method of measuring building height, the designers consulted by staff have indicated that the site elevations required to use this method would normally be provided on the site survey. These designers also mentioned that they would prefer working with a method of measuring building height that better accounts for sloping lots than the method currently used in Burnaby.

4.0 THE NEXT STEPS

It is recommended that a new method of measuring building height based on a sloping building envelope be explored through a consultation with residents in the South Slope area west of Patterson. This method of measuring building height could be explained to residents and property owners through a brochure. The brochure would also invite residents and property owners to attend an Open House where they could obtain further explanations from staff.

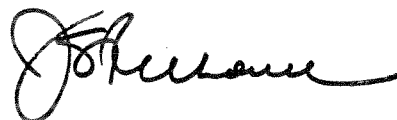
A questionnaire would accompany the brochure sent to residents and property owners in the South Slope area west of Patterson Avenue. Based on the new method of measuring building height, residents and property owners would be asked if they support the area rezoning and to provide comments on the new method of measuring building height. If it is found that this method is effective in meeting residents concerns about building height restrictions under the R10 District, a change to the method of measuring building height could be pursued in the R10 District.

If changes are made to the way building height is measured in the R10 District and they prove to be effective in addressing building height concerns in sloping areas, similar changes could be considered for other single and two family residential areas at a later date. Building department staff have emphasized that they would prefer to have one method of measuring building height in all of the single and two family residential zones.

If it is recommended that this course of action be taken, residents in the South Slope area west of Patterson could be consulted in June.

5.0 RECOMMENDATION

It is recommended that a new method of measuring building height, based on a sloping building envelope, be explored for the R10 District. As a first step, residents in the South Slope area west of Patterson Avenue would be consulted to determine whether this method would be effective in addressing concerns related to R10 building height restrictions in sloping areas. Based on this new method, residents and property owners would be asked if they support the area rezoning. If residents and property owners support the area rezoning, based on the new method of measuring building height, an amendment to the building height regulations in the R10 District could be pursued.



D.G. Stenson, Director
PLANNING & BUILDING

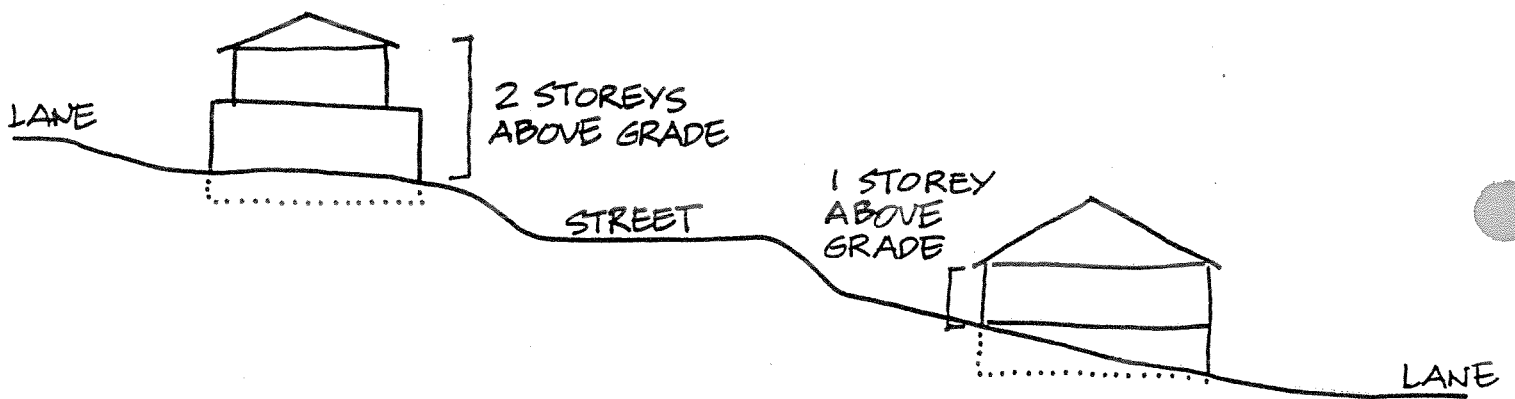


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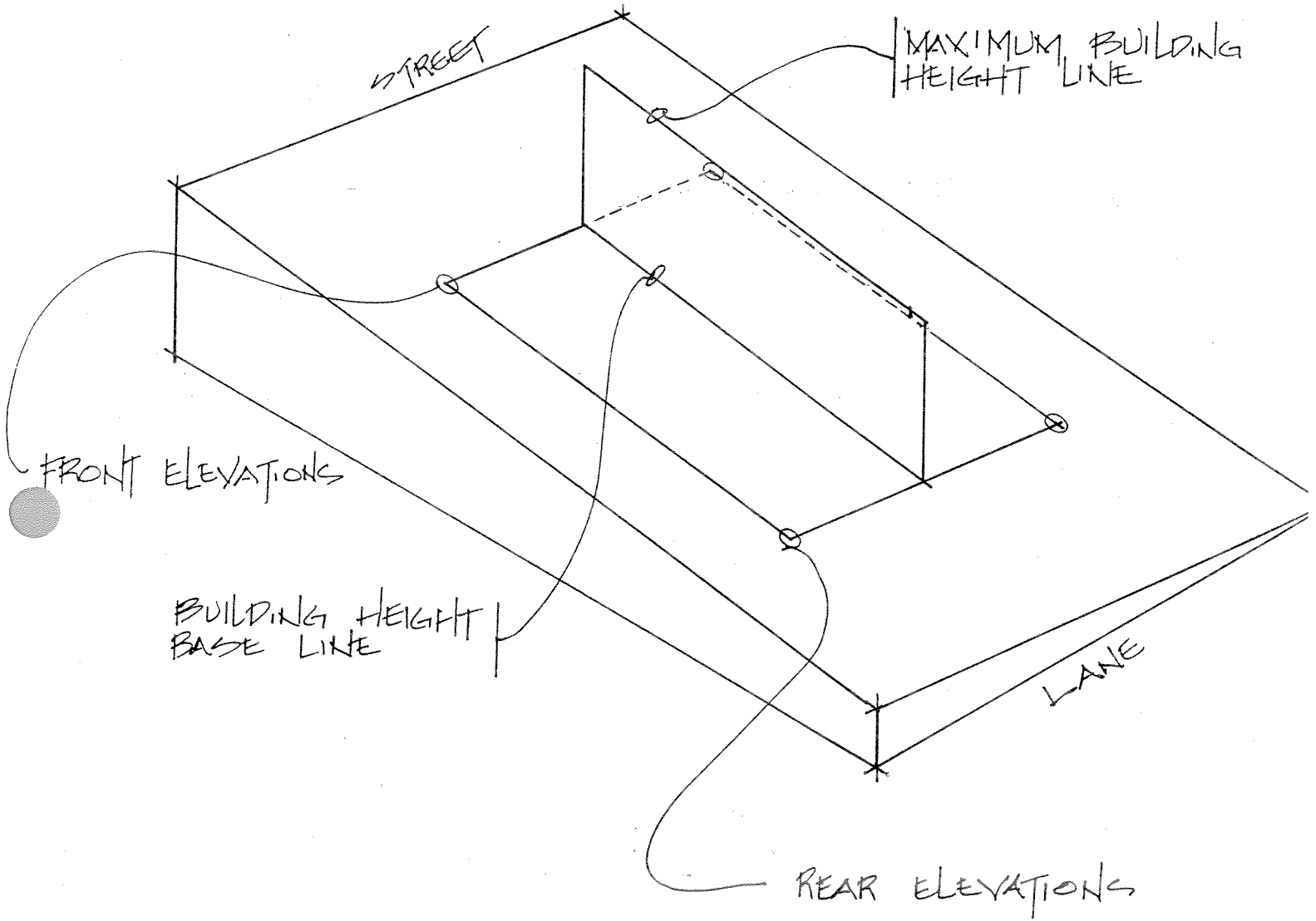
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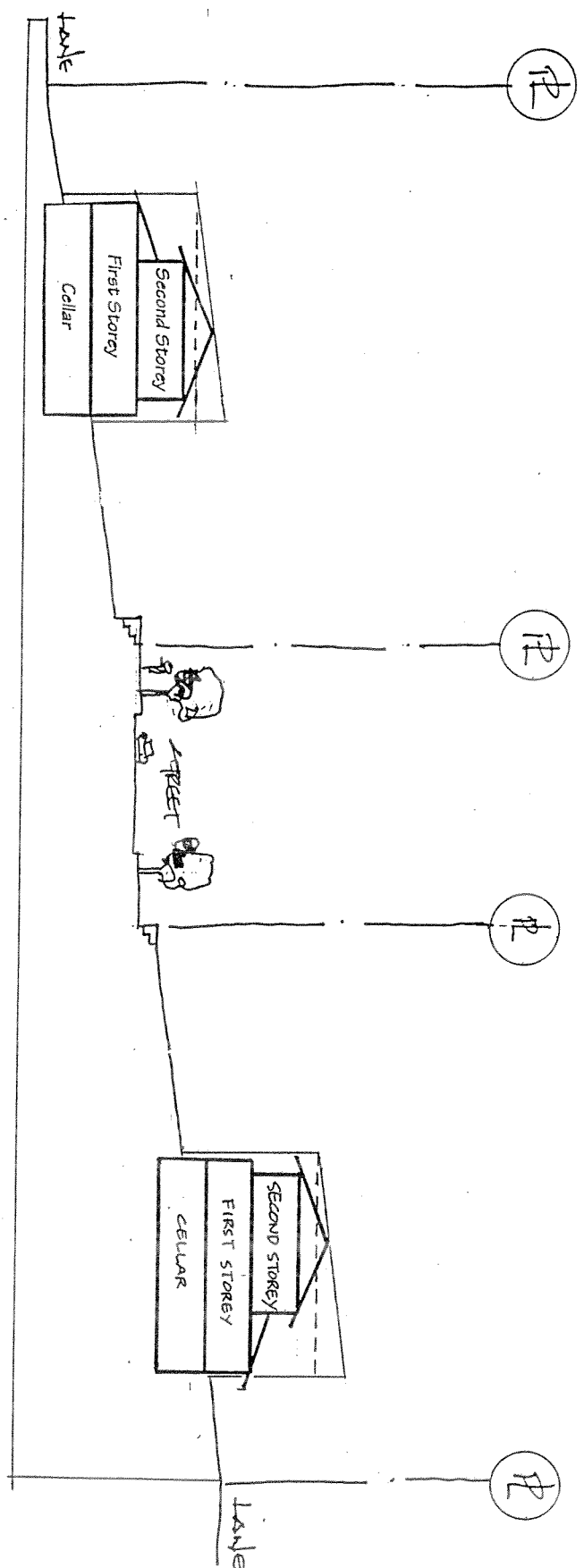
cc: Chief Building Inspector
Supervisor Plan Checking

EXISTING RIO ZONING AS APPLIED TO SLOPING LOTS

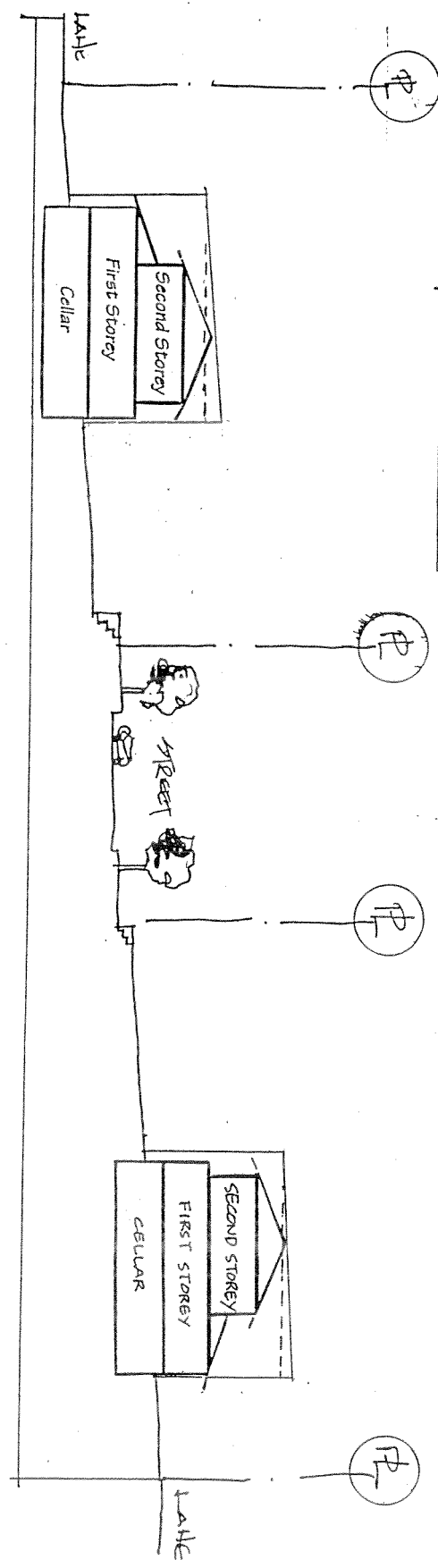


SLOPING BUILDING ENVELOPE





Street Section (10% Slope)



Street Section (5% Slope)

----- CURRENT PERMISSIBLE BUILDING HEIGHT UNDER EXISTING ZONING REGULATIONS

FIGURE 3