ITEM	4
MANAGER'S REPORT NO.	15
COUNCIL MEETING	90/02/26

RE: RESIDENTIAL VIEW PRESERVATION STUDY

ACTING MUNICIPAL MANAGER'S RECOMMENDATION:

1. THAT the recommendation of the Director Planning & Building Inspection be adopted.

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TO: MUNICIPAL MANAGER — 1990 February 22

FROM: DIRECTOR PLANNING & BUILDING INSPECTION — Our File: 16.300

SUBJECT: RESIDENTIAL VIEW PRESERVATION STUDY

PURPOSE: To refine an approach for the protection of existing views that involves changes to the way that height and bulk of single and two family dwellings are calculated.

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RECOMMENDATION:

1. THAT should Council concur with the modified F.A.R. approach, either independently or in conjunction with the alternative method of measuring height, as outlined in this report, staff detail the concept in anticipation of public discussion and a possible zoning bylaw amendment.

R E P O R T

1.0 BACKGROUND

At its meeting of 1990 February 5, Municipal Council considered a report that provided results of the research undertaken with regards to view preservation, and to recommend a specific approach to deal with the issue of view preservation.

In the report it was concluded that there is merit in examining bulk regulations affecting single family lots as a method to assist in the objective of preserving existing views. It was noted that this approach would not completely address the view blockage problem related to a single storey house that is uphill from a newly constructed house. Without significantly affecting development potential it appears unlikely that private views from modest houses can be fully protected.

As outlined in the 1990 February 5 report, it is apparent that the existing regulations affecting the bulk and height of residential buildings may be exacerbating the view blockage problem. Therefore, the purpose of this report is to describe a possible change to the way that the size and shape of single family dwellings is measured and regulated, and also to gain some direction from Council concerning the desirability of "undergrounding" a greater proportion of a single family structure as part of height calculation considerations.

2.0 BUILDING DENSITY

The maximum floor area that a building may utilize is related to the massing of the structure. Concern about mass, or building size, is a relatively new phenomena that has emerged in the 1980's in response to the tendency to maximize allowable floor area, producing new homes different in scale to those in established neighborhoods. The problem is compounded on sloping lots where bulky new buildings often block existing views.

Building density for single and two family dwellings in Burnaby is based on a maximum floor area ratio calculation (0.6 x lot area) up to a maximum overall floor area, that is based on 0.6 F.A.R. x 110 percent of the minimum lot area for each residential zone. For example, in the R3 District, where the minimum site area is 6,028 sq. ft. per lot, the maximum allowable floor area is the lesser of 0.6 x the lot area, or 3,983 square feet. R3 lots that are in excess of 9,042 sq. ft. in area can apply for rezoning to the R3a category, where an outright F.A.R. of 0.6 is applicable.

All floor areas, including basements and cellars are calculated in the maximum allowable floor area. As such, there is a tendency to maximize the built area above the ground level, contributing to the mass and bulk of the structure, and potentially blocking existing views.

The City of Vancouver and the District of North Vancouver have moved to an approach that involves regulating the maximum floor space buildable above ground. Floor area that is contained in basements and cellars are not included in above ground F.A.R. thereby encouraging buildings to be pushed into the ground and helping reduce the overall above ground building bulk.

Both North Vancouver and Vancouver have moved to a sliding scale above ground F.A.R. calculation that lowers the true F.A.R. as the lot size increases. The City of Vancouver also uses an overall F.A.R. of 0.6 that includes basements and cellars to regulate absolute maximum F.A.R.. Examples of how North Vancouver and Vancouver (existing and proposed) methods apply to various lot sizes is outlined in Attachment 1 with Burnaby's regulations in Attachment 2.

Comparing the tables in Attachments 1 and 2, the net result of the above approaches to maximum allowable floor area is that in Burnaby, houses that are built on lots that are close to the minimum lot area in each zone are permitted to build substantially more floor area above ground than on similar sized lots in Vancouver or North Vancouver, resulting in bulkier buildings. Due to the maximum floor area cap in each zone (which is based on a maximum floor area of 0.6 x 110 percent of the minimum lot size in each zone,) the above ground floor area advantage in Burnaby decreases as the lot size in each zoning category increases. On extra large lots in each zoning category, however, it is possible to apply for the R"a" zoning category, and move to a 'pure' maximum floor area ratio of 0.6 without the floor area cap.

It is suggested that it may be appropriate to move towards a maximum floor area formula that regulates the maximum floor space buildable above ground. Using this approach and a maximum F.A.R. formula of 0.3 + 1000 sq. ft. for above ground buildable area, the amount of building contributing to the above ground massing would be significantly reduced while the total floor area allowable will not change. The latter would be achieved by maintaining the existing 0.6 F.A.R. ratio and maximum "caps" for defining total buildable area including basements/cellars space.

3.0 THE MEASUREMENT OF BUILDING HEIGHT

In Burnaby, the height of single family dwellings is measured from the average grade at the front of the building to the highest point of the building, with the maximum height being 29.53 feet (See Figure 1). The height measurement, therefore, does not take into account the slope of the land, resulting in buildings on lots sloping down from the street having potentially a much larger above grade building envelope as compared to buildings that slope up from the street. Not only is the method of calculating height somewhat inequitable, there is also no incentive, for example, to modify a flat land building design to a sloping site.

An alternate method for the measurement of height has been developed. The method in relation to our existing approach is illustrated on Figures 1 and 2. In essence, the alternate method measures the maximum height (29.53 ft. to highest point of building) from the lowest point at the perimeter of the building. This can be considered the 'primary envelope'. In cases where there is no slope, or it is minor, this 'primary envelope' will describe the total building envelope. Obviously, for flat properties, the maximum building height has not changed from current regulations.

In cases where the slope from the front one side of the building to the other side of the building is in excess of 9.5 ft. (about one storey), then a 'secondary envelope' above the primary envelope is defined. To create this added envelope, the lowest point of the lesser of the natural or finished grade at the upslope perimeter of the building is identified. From this point the building would not rise more than 20 feet or one and one half storeys. This point, (20 feet above the lesser of the natural or finished grade) is connected to the point that measured the maximum height at the lower end of the building to complete the secondary envelope. This secondary envelope would ensure the ability to incorporate up to one and one half storeys above grade accommodation at the upslope perimeter on steep slopes while at the same time helping preserve views.

4.0 BALANCING OF ISSUES

In discussions with the Building Inspection Division field staff concerning these possible approaches, there is a consensus that such an approach would help reduce to some degree the view obstruction problems as a result of new development on sloping sites. There is, however, a philosophical concern about the desirability and feasibility of sinking a greater proportion of a single family structure into the ground that would occur from such an approach. It is anticipated that while the approach could help reduce the view obstruction problem in redeveloping areas, there could be significant resistance to such a change in terms of owner/builder acceptance and general marketability.

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In addition, there were two potential technical concerns raised in relation to the alternate approach. The first relates to the ability to adequately provide off-street parking in severe slope areas at the main floor level and the second is in relation to the potential inability to "underground" a greater proportion of the structure in some instances given the location of existing in-ground services.

Before refining the mechanics of the alternate approach to the measurement of height as a means of further altering the above ground bulk of buildings, it is considered desirable to obtain an opinion from Council concerning their philosophical position with respect to a greater sinking of single family structures into the ground on sloping sites.

5.0 CONCLUSION

The use of a modified F.A.R. approach as discussed above would on its own reduce the overall mass and bulk of structures and encourage more cellar/basement development to achieve maximum allowable floor areas. The incorporation of a change to the manner in which height is measured, as has been suggested, could have a compounding effect on the sinking of buildings into the ground on sloping sites. There would be no additional effect on level sites. Therefore, from a purely view preservation perspective, the dual concept of reducing bulk and the way height is measured could be beneficial in addressing the view preservation issue. However, this approach has to be weighed against the general desire to reduce below grade accommodation from a livability standpoint and the reluctance of many to see buildings further 'pushed underground'.

Should Council feel that, on balance, the modified F.A.R. approach, either independently or in conjunction with the height measurement approaches as outlined would satisfactorily meet community objectives, staff will detail the concept in anticipation of public discussion and possible zoning bylaw amendment.

A.L. Parr
DIRECTOR PLANNING &
BUILDING INSPECTION

BG:JSB/mcb
Attachs:

cc: Chief Building Inspector
Director Engineering
Municipal Solicitor

ATTACHMENT I

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COMPARISON OF FLOOR AREA RATIOS

LOT SIZE & AREA	TOTAL @ .06 FAR	VANCOUVER ABOVE GRADE EXISTING .3+1000 FLOOR AREA	VANCOUVER ABOVE GRADE PROPOSED .23+1250 FLOOR AREA	NORTH VANCOUVER ABOVE GRADE 0.35+1000
30 x 120 3,600	2,160	2,080	2,078	1,980 (0.55 FAR)
36 x 120 4,320	2,592	2,296	2,244	2,376 (0.55 FAR)
50 x 120 6,000	3,600	2,800	2,630	3,100
60 x 120 7,200	4,320	3,160	2,906	3,520
70 x 120 8,400	5,040	3,520	3,182	3,940
80 x 120 9,600	6,000	4,000	3,550	4,500

N.B. Unlike Vancouver and Burnaby, North Vancouver does not exclude covered parking from F.A.R.

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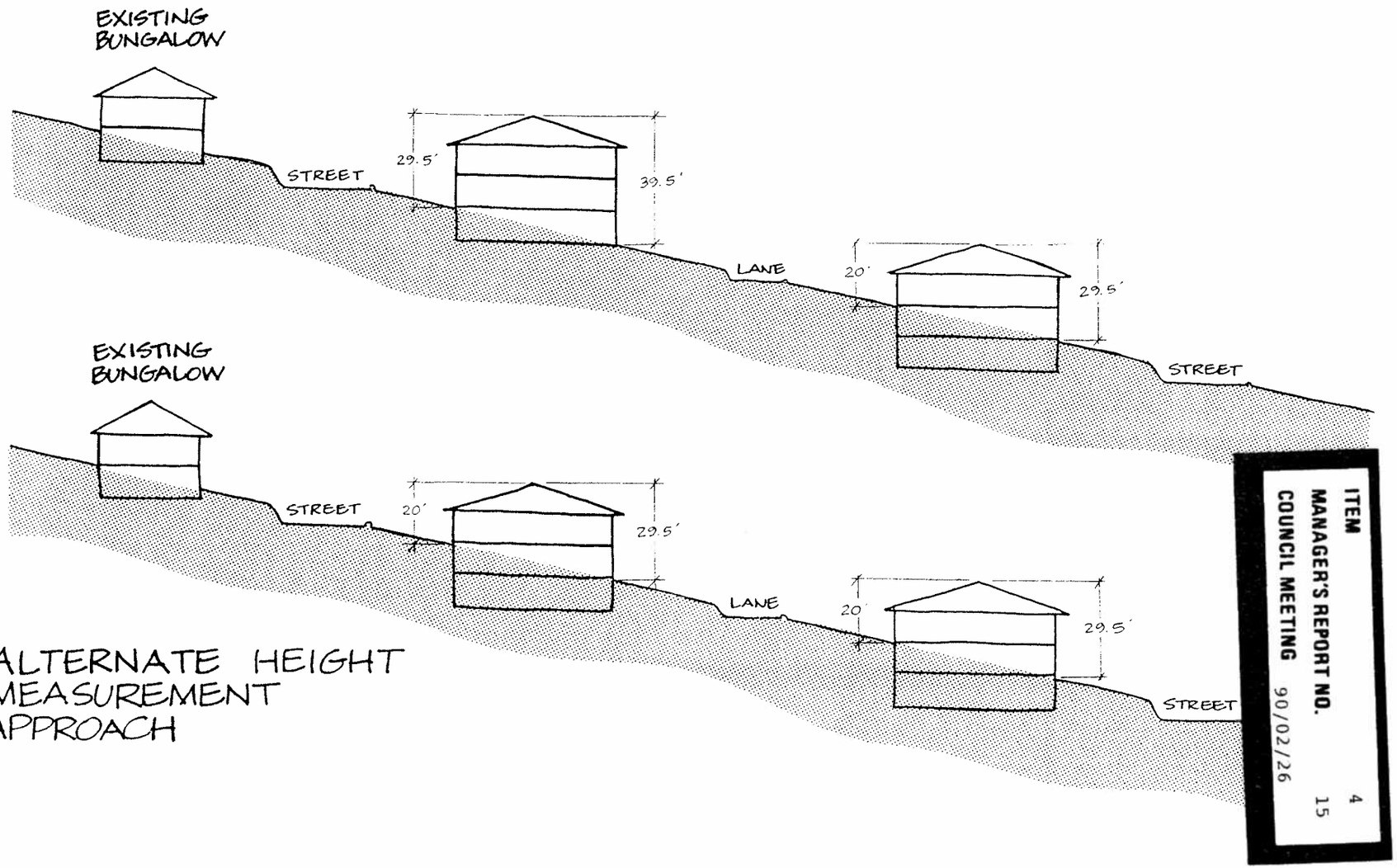
ATTACHMENT 2

BURNABY'S MAXIMUM FLOOR AREA CALCULATION

ZONE	MAXIMUM FLOOR AREA RATIO (SQ. FT.)	
R1 R1a	the lesser of lot area x .6 or lot area x	6,351 0.6
R2 R2a	the lesser of lot area x .6 or lot area x	4,736 0.6
R3 R3a	the lesser of lot area x .6 or lot area x	3,983 0.6
R4 R4a	the lesser of lot area x .6 or lot area x	4,736 0.6
R5 R5a	the lesser of lot area x .6 or lot area x	3,983 0.6
R9 R9a	the lesser of lot area x .6 or lot area x	2,852 0.6

EXISTING REGULATIONS

20% SLOPE



ALTERNATE HEIGHT MEASUREMENT APPROACH

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FIGURE 1

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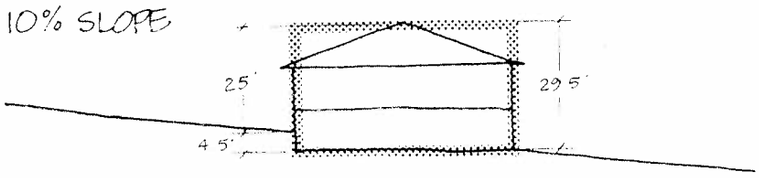
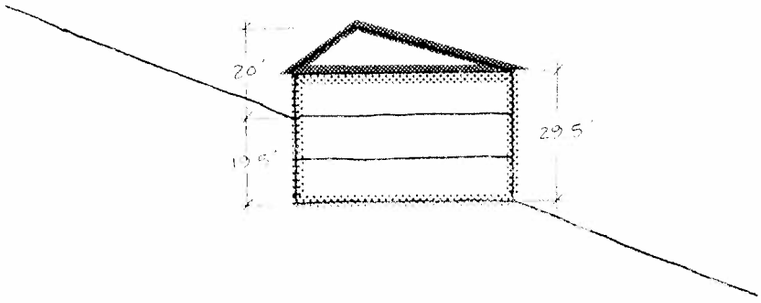
PRIMARY AND SECONDARY ENVELOPE PROPOSAL

10% SLOPE



40% SLOPE



PRIMARY ENVELOPE

SECONDARY ENVELOPE

FIGURE 2