inertia

Inertia Corporation
1140-B 44th Avenue SE
Calgary, AB T2G 4W6

Tuesday, April 23, 2019

The City of Calgary
Planning Development and Assessment
800 MacLeod Trail SE
Calgary AB T2P 2M5

Attn: Tammy Henry

Re: Proposed Amendments to Land Use Bylaw 1P2007
PUD2019-0402

I do not believe that the proposed new height policy is better than the current method. It's very easy for me to see that it will cause more confusion, and more conflict between stakeholders. The current method is very easy to calculate, and everyone easily arrives at the same result. The proposed method of measuring from grade will result in a three dimensional envelope that varies depending on the shape of the site topography. For example, I believe it will be hard to convey and interpret a side height chamfer that changes in height on a sloped lot. These are problems that we solved when the current height calculation method was implemented in the LUB.

I understand your goal of trying to make the LUB more consistent, however it is actually making the developed and developing area calculations different. The developing area gets to keep the current method that is working well, but the developed area has to manage with a more restrictive, more challenging method. Calgary is not going to increase inner city populations with a regulatory approach like this.

I appreciate the goal of arriving at a common method of measuring height for "ground-oriented" development. I know how this is important given the goal of collapsing all "ground-oriented" development into a single land use district under the Developed Areas Guidebook. I also appreciate that these rules propose that contextual height have less of an influence on the height plane, and while the chamfers are contextual to a degree, they have a more universal goal of allowing light and air down into all "ground-oriented" developments.

I share these objectives and want to support you in this effort. However, my experience has been long enough that I remember the challenges with height calculations for houses using a measurement from grade. Whenever the height plane takes on a three dimensional shape, it is much harder to come to an agreement on whether a building is designed within those limits.

Yes, the proposed height rules are consistent with how the City measures height on larger projects. But it is important to keep in mind that larger projects are different than houses.

They are assigned to more senior file managers, who have a better understanding of how to apply the rules and what should be relaxed. These projects also have larger budgets and longer timelines, which allow applicants to spend the time to describe a complicated height plane, or explain why a project may need a height relaxation. Given that arguments around height are often just analogues for arguments against change, the current height rules help houses and semis to get approved without bogus height complaints.

To be specific on the proposed rules, raising the height to 11m is indeed helpful because it means that people aren't going to believe that R−CG redesignations allow for taller buildings. As well, if the 11m height limit will make collapsing all the "ground-oriented" uses into a single district, this would be a valuable change.

However, measuring from grade is challenging on two counts:

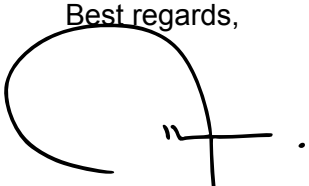
1. In the proposed 360(1), the point where the building meets grade is easy to agree on, but what point at the top of the building are you measuring to? If the building is slope responsive, there may be point on the building near the highest point on the site that does not fit within 11m from grade at the lowest point on the site. Making a judgement on this measurement often isn't simple, and the proposed rules offer no guidance.

2. In the proposed 360(2), when there is an adjacent building (a), the starting height of the chamfer is very easy to agree on. There is only one measurement for the highest geodetic elevation on the adjacent building. However, if there is not an adjacent building (b), the starting height is grade at the shared property line. Is this measurement to be taken in the middle of the proposed house, or at the highest point on the parcel? Is it supposed to be measured continuously along the property line to create a three dimensional height plane as the chamfer sweeps along the length of the property offset from the shape of the topography along the property line? The proposed rules don't make this clear and will certainly result in confusion and arguments.

Regarding the engagement process, I have not seen evidence of the proposed height rules being tested against recently approved developments. We need to know how many of these would fail and why in order to properly assess these proposed height rules. As well, we need to know if many existing developments will no longer be in compliance with the LUB should these rules be put into effect.

I feel that these amendments are being rushed and that we have been asked to support them on faith not evidence.

Best regards,



Stephen Barnecut,
Director
Inertia Residential Design

Attention: Tammy Henry,
City of Calgary Planning Development Department

Date: April 22, 2019

From: Paul Bergmann, Chapel Rock Developments and Winchester Builders.

Thank you for your time during our most recent Infill Review Working Group meeting, as well as our BILD Calgary Inner-city Advisory Committee (IAC) meeting. Both of those meetings involved in-depth discussions concerning three proposed amendments to Land Use Bylaw 1P2007 involving Solar Collectors, Tree Plantings, and Building Height.

At the BILD IAC meeting, there was much discussion by the people in the room regarding these three amendments. Of the approximately 16 people in the room, many are intimately involved with the Land Use Bylaw, working within its parameters on a day to day basis.

Regarding the solar collectors, the discussion surrounded the question of what is the intent of the bylaw and what is the intent of the changes: is it to create less invasive solar cell installations or to limit the electricity production on each yard (regulated by others). Should the Bylaw be addressing these issues at all?

Regarding Tree plantings, does this bylaw provide the flexibility required given the limitations involved with building in the Inner-city, and fitting new developments in to existing neighbourhoods with aging infrastructure. While we appreciate the merits of tree planting and the proposed new flexibility, we have concerns around the implementation: who adjudicates the ambiguities and conflicts of this new bylaw when attempting implement the new changes? As well, who sets priorities when there are competing interests, even with the City such as those between Roads, Parks and shallow utilities?

In the case of changing the way Building Height is calculated, we seem to be recycling some old ideas to fix problems which may exist in a small set of certain circumstances without testing those new rules against existing conditions. We may be making the situation more limiting to the point of having very real unintended consequences to the build forms available to builders. If there was concern before about 'builders always building the same thing', this could easily get worse as a result of these changes. Making these sorts of amendments to the bylaw without testing against real world situations could prove harmful to creating great living spaces and improving outcomes.

Approaching changes such as we have with these three proposed amendments is questionable; it does not create substantially different outcomes to the ones we have today – and it risks making things worse. It appears to me, and most people in our recent meetings, that in order create better outcomes we should put our efforts, not towards the tweaking of existing bylaws with the intent of getting potential small percentage improvements in outcome, but by defining first what we want as an outcome and using the tools we are creating (such as those being worked on in the new Developed Areas Guidebook) to create better outcomes.

The talents of the skilled Planners in the Planning and Development Department would be much better used addressing the bigger issues of the day, versus 'tweaking the edges' of the existing bylaws. I look forward to working with them to create great outcomes.

Thank you once again for your time.
Paul Bergmann

Attention : Tammy Henry , City of Calgary Planning

Bev Jarvis, Bild Calgary

Date: April 23, 2019

From: Mike Borkristl, Tricor Design Group

Subject: PUD2019-0402

As an industry, we appreciate the City taking time to sit down with industry to obtain feedback on various issues, in this case what is going to PUD2019-0402. Our letter is focusing mostly on the height portion of the proposal as we find that if it goes to council and approved as is, there will be many negative ramifications to the final outcome of how streets are developed in the future.

The bylaws as currently written are to address existing conditions, and not final outcomes. The new proposals in PUD2019-0402 before you only nibble at certain concerns raised by council and communities and greatly affect the way we build and design.

If the goal is to tackle only existing conditions and concerns, the height bylaws are fine the way they are. Very restrictive but they work. This is illustrated later in my letter as the examples shown are all approved Developments within the last two years. If the new rules before you are adopted, most of these approved DP's fail and even further restrict how we develop existing communities. The new amendments only nibble at the surface and do not create rules that work in all scenarios and for good planning outcomes.

Another drawback to these amendments affect the City of Calgary and their processing times and burdens. The rules as they are written now, seem to maintain a balance ratio of contextual to discretionary applications suitable to City and industry. Under these new amendments, the ratio would swing heavily to discretionary applications as almost every scenario shown later in this letter would require relaxations, therefore sending them out of the contextual stream. This will increase City planner's time in certain streams and other streams would have less to do. I see this as a negative impact to both parties.

We believe that the bylaws should focus more on a final outcome scenario, and not the tendency towards haphazard development caused by rules for exiting conditions.

At the tail end of our letter, you will find our possible solution to the height bylaw, which is consistent and can be used in all scenarios. One rule for both existing conditions and final

outcome, that is a blend of community concerns and industry concerns in regards to height, massing and building form envelope.

The City has a talented group of planners that seem to be placed in a situation to rectify certain concerns for a small group overall, instead of using the time to create a path for final outcomes that is beneficial to the City redevelopment for all stakeholders.

Thank you for the opportunity to present our findings based on what is before you in regards to the height issues included in PUD2019-0402.

Mike Borkristl

PS. In addition to the above letter, please see our concerns outlined in the following notes and documents.

After many meetings discussing bylaws over the years and our review of the current amendments before us, we would like to share are our findings based on the proposed amendments in developed areas. These suggestions and comments are based on several factors, keeping in mind that the current bylaws are written for existing conditions only and do not encompassed final outcomes of street architecture. Hopefully a blend can be achieved so that developers and designers are not restricted into "box in" types of developments and include some styles of architecture and not others. Hopefully our examples will show where diversity in architecture is allowed and not allowed under the current form. **It is also important to note that all these examples are indeed approved DP's and many are under construction or completed.**

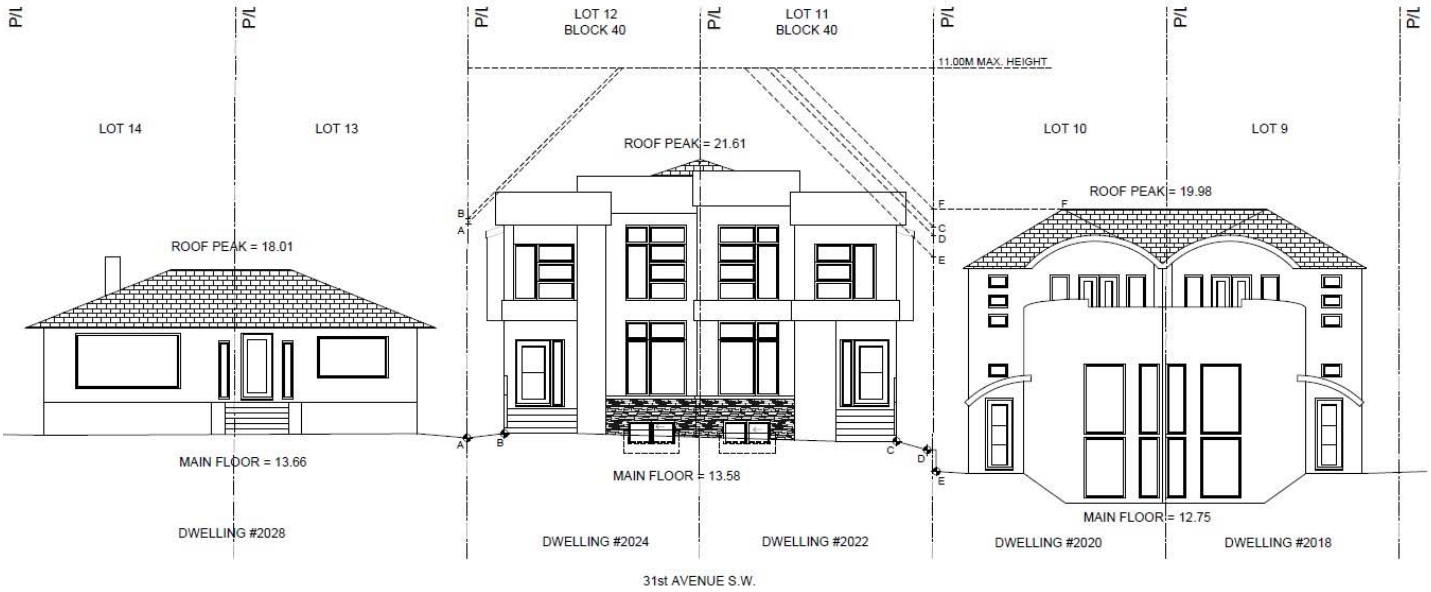
> **"Building Height in the Developed Areas**
>
> **360(1)** In the ***Developed Areas***, unless otherwise referenced in subsections (2) and (3) for a **Contextual Semi-detached Dwelling**, **Contextual Single Detached Dwelling**, **Duplex Dwelling**, **Semi-Detached Dwelling** and **Single Detached Dwelling**, the maximum ***building height*** is 11.0 metres measured from ***grade***;

While this bylaw is essentially excellent with the 11m as maximum building height, the issue is the word "grade".

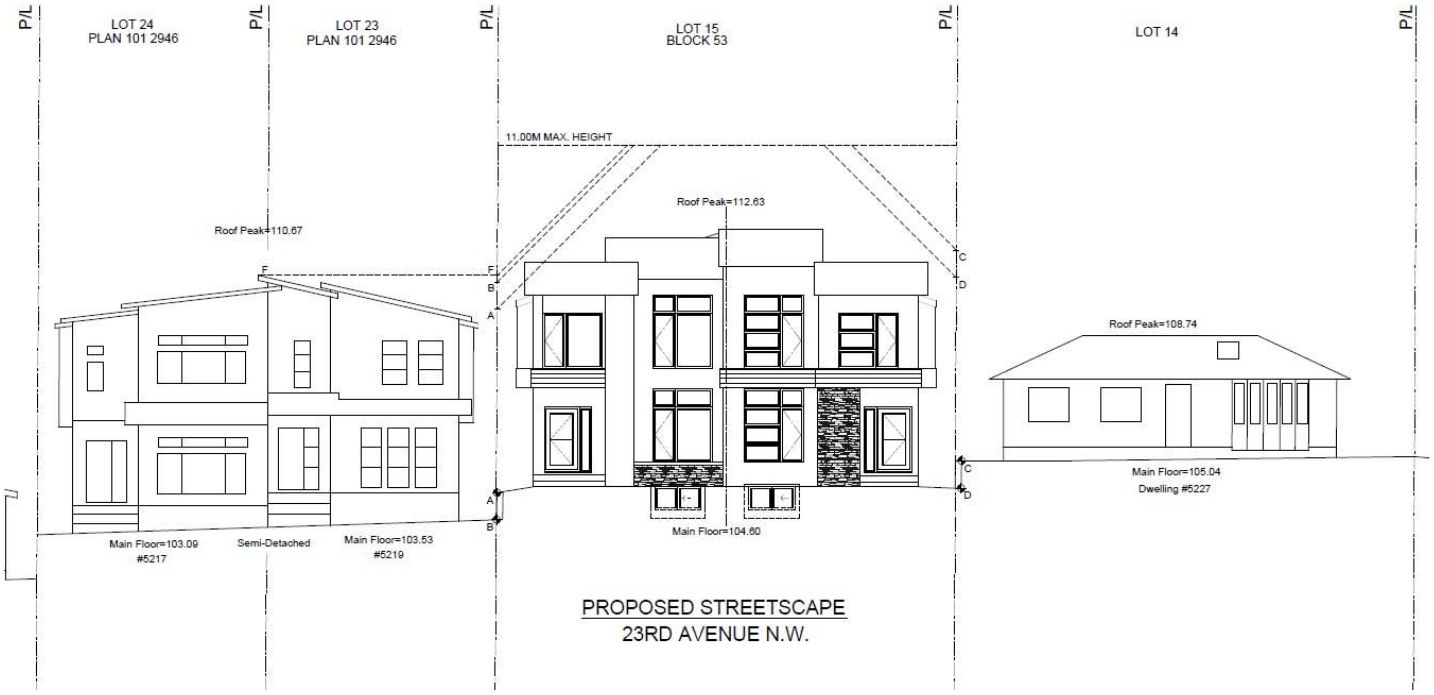
69 Grade

The elevation of the finished ground surface, not including any artificial embankment, the elevation of an entrance to underground parking, stairways or window wells.

Grade is not defined enough: is ground surface at house? Property line? Corners of lot or at house. If it is at the house, it raises the question about what is an artificial embankment and what is allowed for building up the final grade. The following illustrations are for purposes of grade determination only. More will follow on the many other lines shown.



Here is an example of an approved DP. In this scenario where would we measure grade under the new amendments? As you can see this impacts greatly what is allowed based on this type of architectural form. Almost every case fails.



This DP on 23rd ave has similar architecture but again grades and retaining walls make it challenging to determine where you measure for grade.

Perhaps something along the following wording could be adopted?

> **69 Grade for determining building height**
> The elevation of the finished ground surface as shown from subject parcel property grades, to the finished grade at foundation, not exceeding a 4% slope. This could include any artificial embankment not exceeding more than a 4%, and not the elevation of an entrance to underground parking, stairways or window wells.

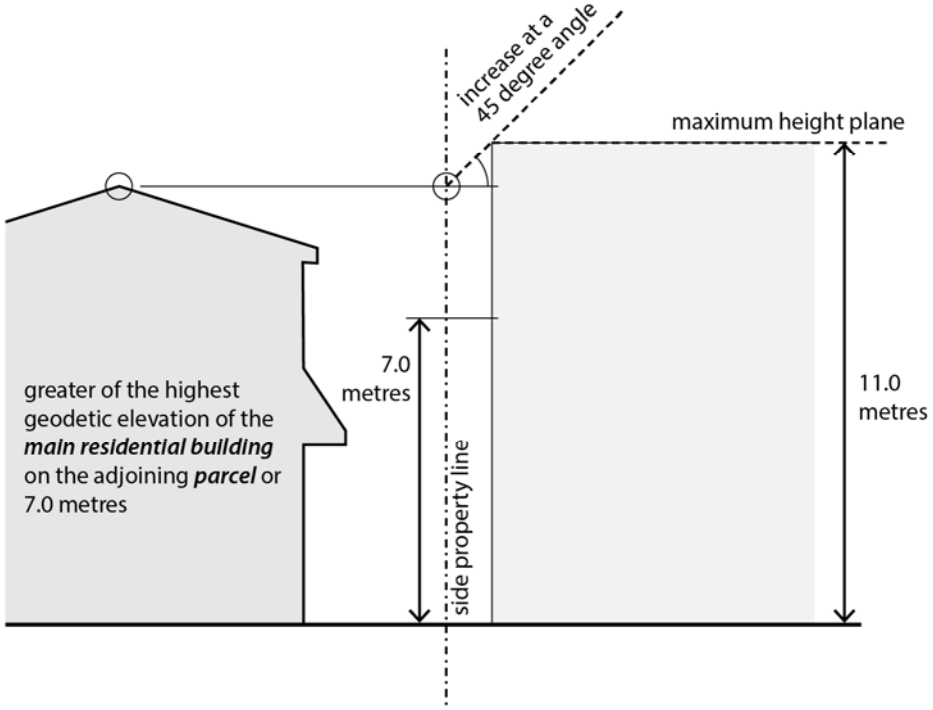
4% is an allowable slope for drainage in all directions and identifies grades at foundation for purposes of measuring height. If the parcel warrants higher than 4% for other factors, that is still permissible, *but not for determination of height*. This stops falsifying grades to achieve height outcomes. *(up to 8% could be an allowable range as well)*

Being a flat lot, the grade determination for 7m was relatively easy on this example but if the 4% rule was added, it may not fail. But these two single family detached up against two bungalows do fail under the proposed amendments without clarification on grades, and also because of choice on architectural style.

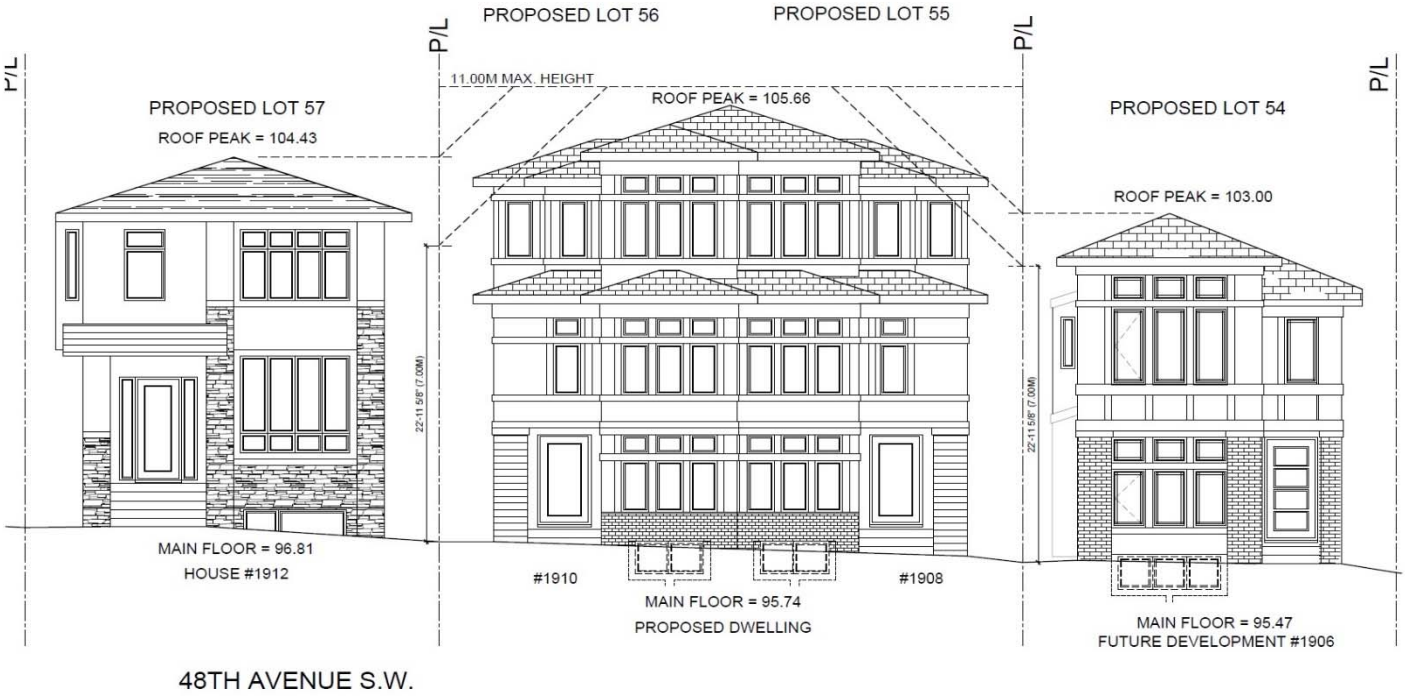
The next part of the amendments to tackle is once the grade is established, now we apply the following …

> **(2)** The maximum ***building height*** at a ***side property line*** is the greater of:
>
> (a) the highest geodetic elevation of a ***contextual adjacent building*** on an adjoining ***parcel***; or
>
> (b) 7.0 metres from ***grade;***
>
> measured at the shared ***property line***; and
>
> (c) increases at a 45-degree angle to a maximum of 11.0 metres measured from ***grade***;

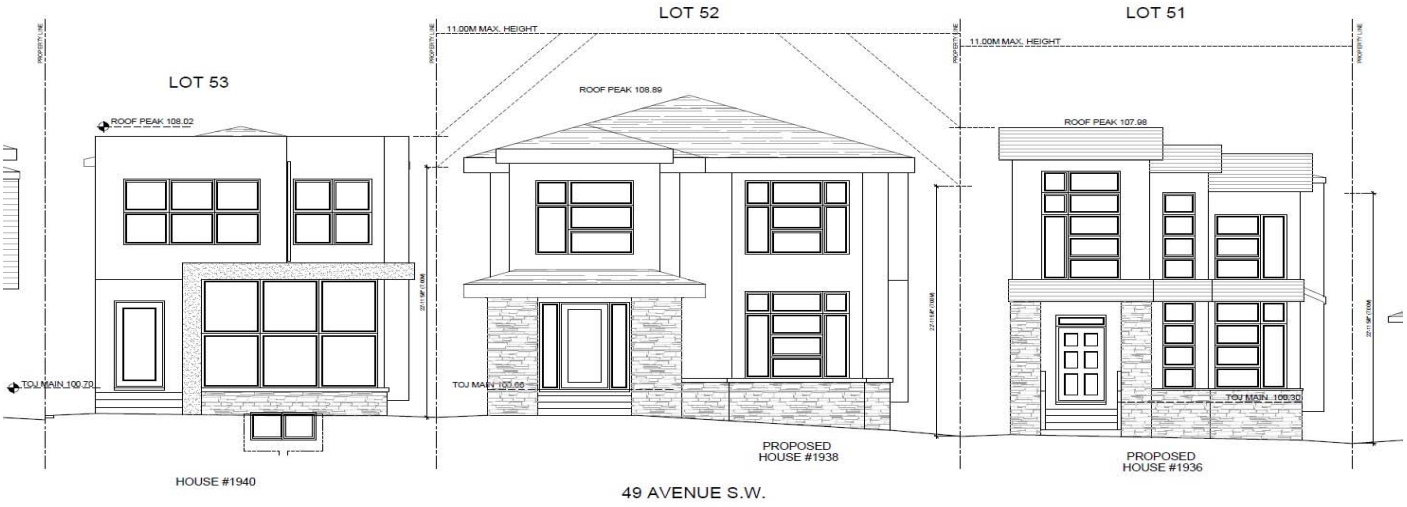
Figure 5: Proposed height chamfer next to a building over 7 metres



On the following example, we using the roof peak from the adjacent building, not staying with the contextual height of the both sides. This makes a difference as shown in the following example. The contextual height would be higher on the right side and lower on the left and not the same as roof peaks in this case. This needs better clarification.



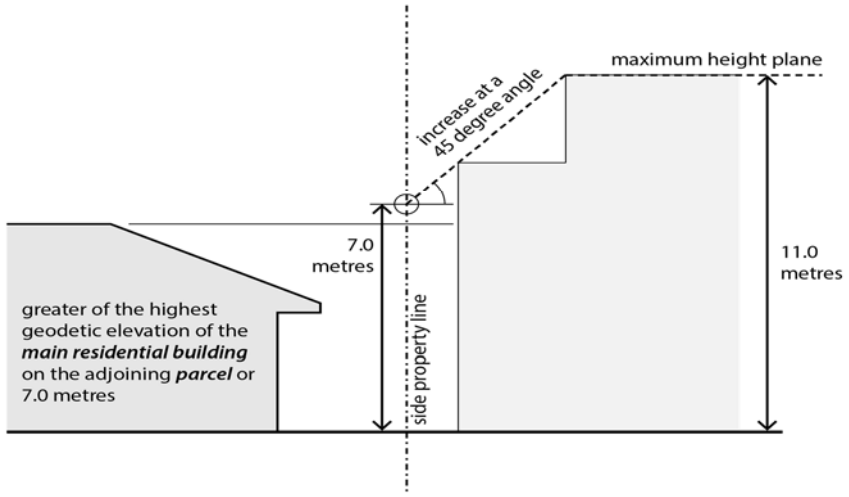
The following example illustrates a fairly common build form and with two storeys on either side. This generally works for most sites and allows room for creativity unless you want to add a 3rd storey or higher ceilings.



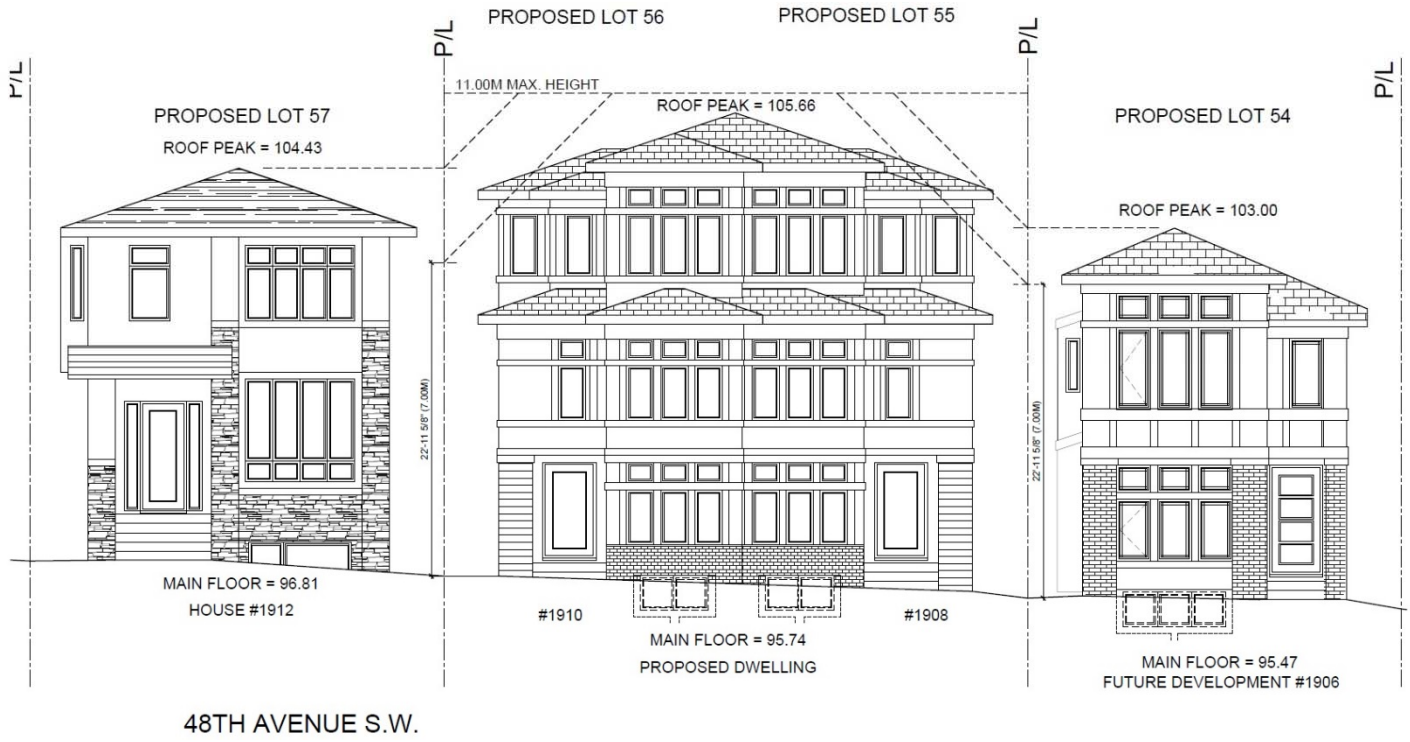
This part of the bylaw amendment and accompanying illustrations are great for almost all types of architecture, and it will produce a multitude of different building forms, and it will create a substantially different "final outcome" on a street scape, but it **only** works if there are two storeys on either side of the proposed site. The final outcome changes significantly when bungalows are introduced.

The next proposed amendment does not provide the same kind of flexibility.

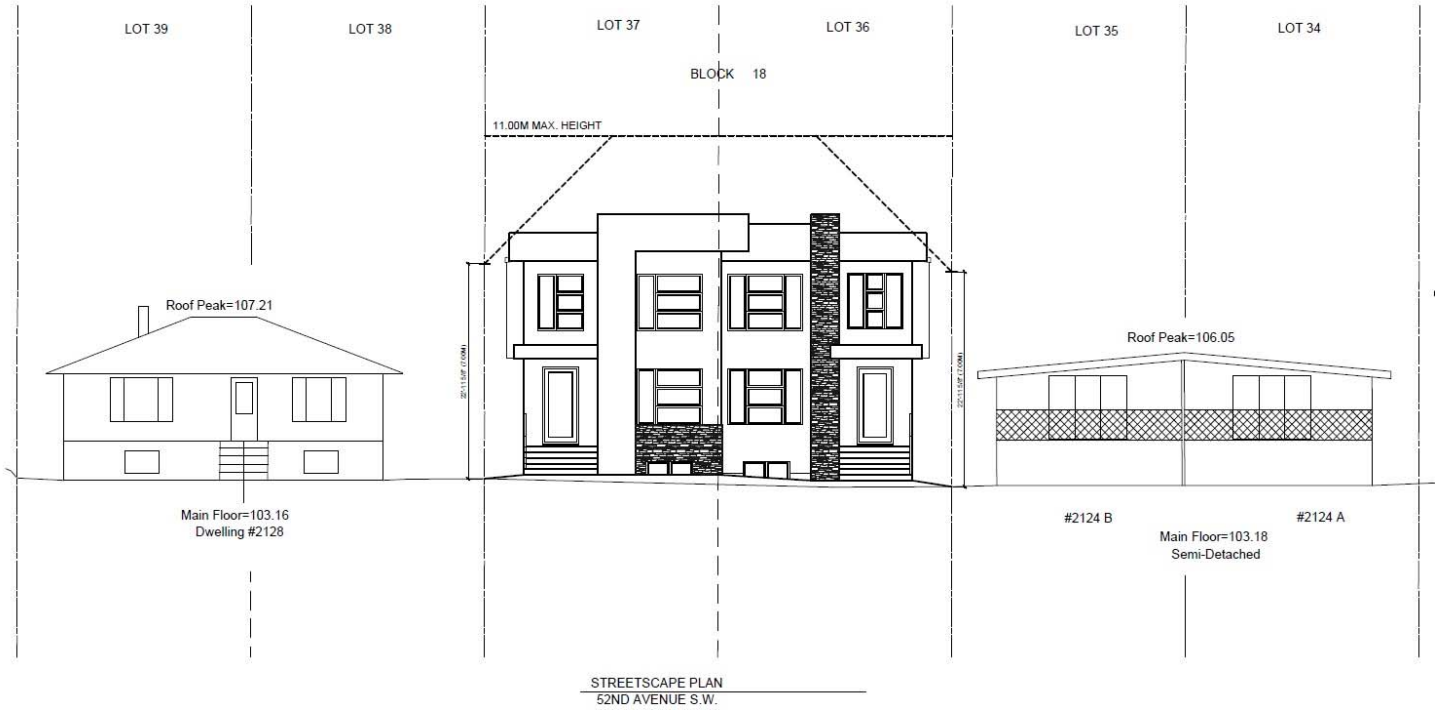
Figure 4: Proposed height chamfer next to a building under 7 metres



The following example, also shown above, and under the proposed amendment, gives a much more limited space a 3 storey type of build form. We have illustrated a second set of lines showing where a bungalow on either side would fail this building. So while this amendment is good for existing conditions with two storeys, it does not provide for a “final outcome” result with bungalows.



And this architectural style fails as a 2 storey under the same scenario.



And yet, this example below shows that the bylaw may work, **but only because of the architectural style chosen**!

The above examples are sufficient for existing conditions, but now this development has been built, the neighboring homes could potentially be higher and even three storey, creating a better final outcome for those homes, but not allowed for this home with existing conditions.

It creates, to a certain extent, an unfair limited competitive disadvantage, to those developers building first on the street.

The following example shows how a potential 3 storey could be built on lots 38 and 39 now that 36 and 37 are developed, but the condition is not possible on subject parcel because at the time of development, bungalows existed. The shaded areas indicate what areas could be built in and cannot be built in with current conditions, but those conditions immediately change once a two storey goes into development.

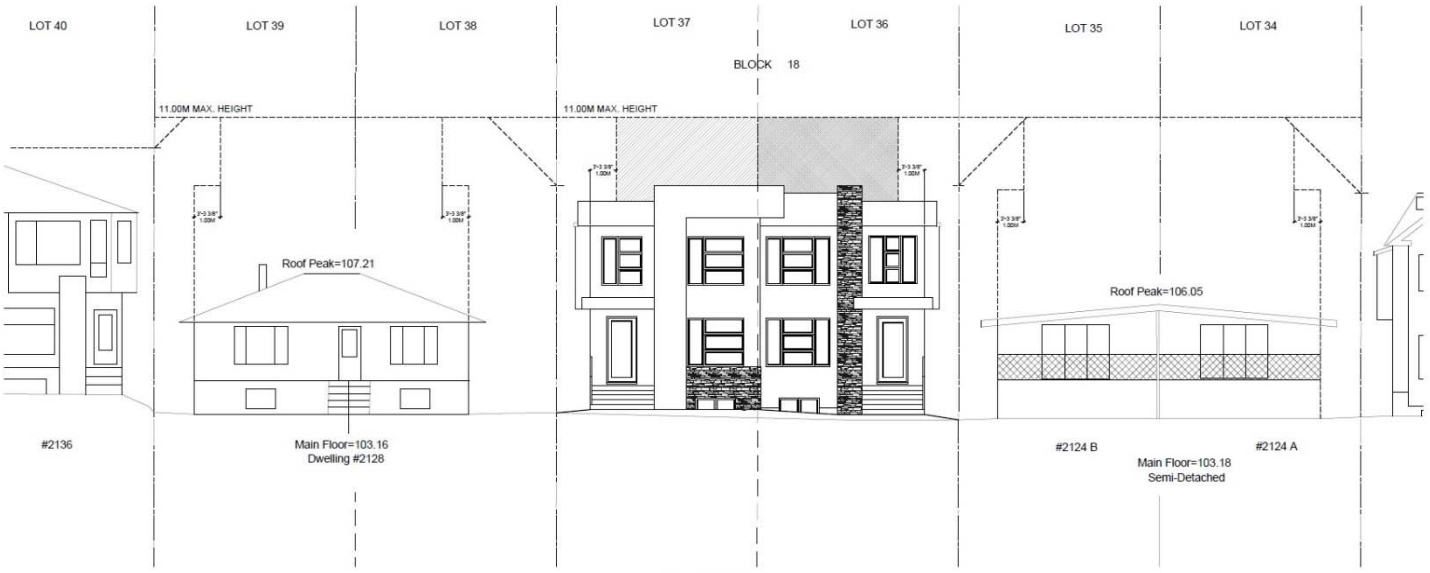
In this example above, the home fails in both cases (although marginally) but any opportunity for a 3rd storey on either side is very limited. Lots 38 and 39 have the best possibilities for development, and the best advantage.

3 stories up against a bungalow on one side is a tremendous challenge and makes the architecture of the proposed building very lopsided or virtually impossible in this scenario. If the developer chose to do a 3 storey on the left side only, the “final” outcome of the developed streetscape is again compromised. We need rules that allow for consistency along the entire streetscape when developed.

Here is an example of a home that is built but fails under proposed amendments as well, due to architectural style and also up against a bungalow.

STREETSCAPE PLAN
21ST AVENUE N.W.

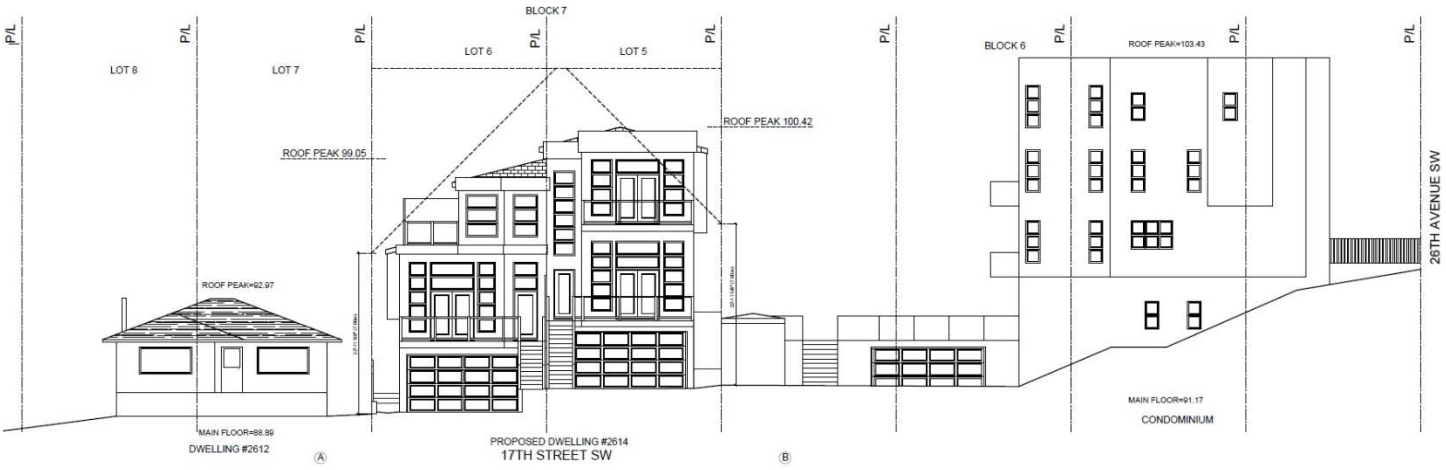
This example below is how the “final outcome” could look like but because of the bungalows, the subject lot lower in height. But the neighbouring lots could now be built to potential as shown in dotted lines. This will create an uneven and disjointed streetscape at “final outcome”.



STREETSCAPE PLAN
52ND AVENUE S.W.

This example below shows how a building has to be manipulated to meet the rules as proposed. Given this is a unique site, it came with many challenges, but illustrates what kind of lines are being defined by bylaws, that developers and designers are limited to. Yes, we can be

creative, but that generally leads to much higher costs in all areas and developments that get tabled. Very restrictive in many cases.



This next amendment is probably going to cause the largest push back I believe. This rule was originally to be applied for contextual applications only and higher exteriors would fall under discretionary use, would be allowed in most cases, and did not restrict most corner development adversely. 361(1) currently.

If this rule is to be applied in both cases across the board this is very problematic. Why are we trying to restrict massing and design elements on a corner site? This rule basically only allows a sloping roof away from the corner, which means every corner lot will have the exact same architectural roof for the most part and definitely puts the architecture into a defined "box"!

(3) On a ***street side property line***, the maximum ***building height*** is:

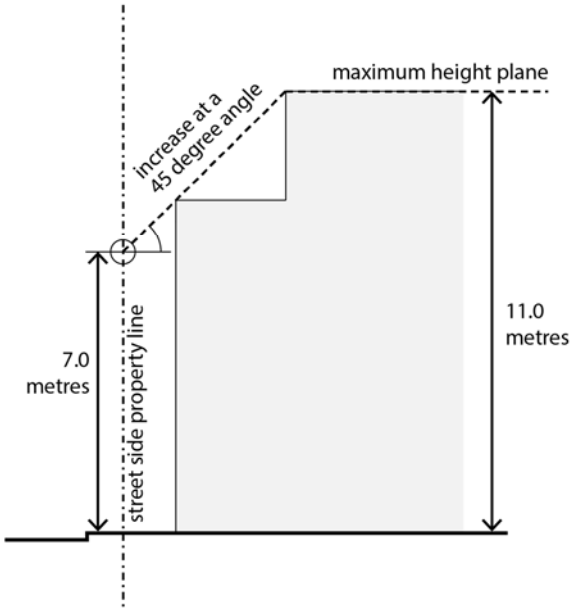
(a) 7.0 meters measured from ***grade*** at the ***street side property line***; and

(b) increases at a 45-degree angle to a maximum of 11.0 metres measured from ***grade***.

(4) Notwithstanding section 518, for all other ***uses***, the maximum ***building height*** is 10.0 metres.

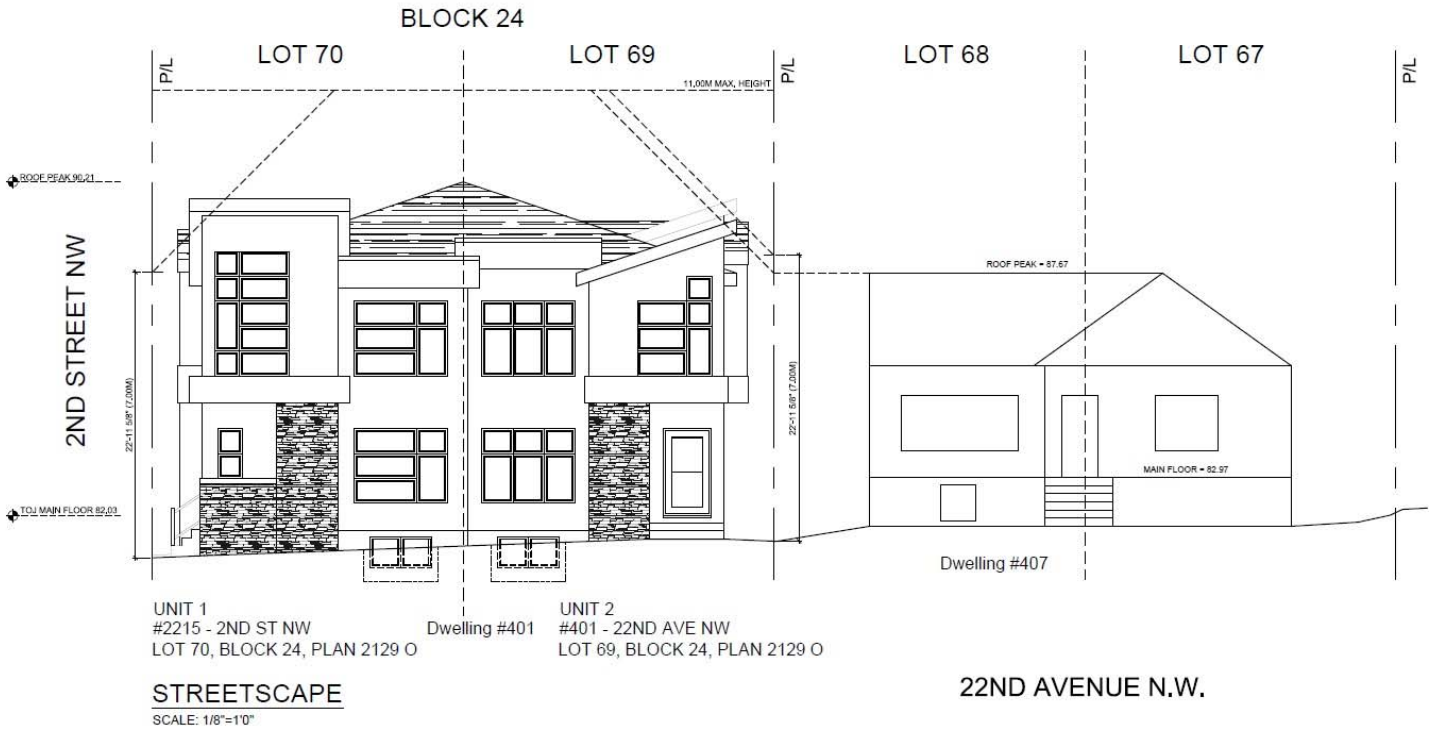
(5) The following diagrams illustrate the rules of subsections (2) and (3):

Figure 4: Proposed height chamfer next to a building under 7 metres



In 90% of the examples we tested, every single design that had any modern architectural features on the side **failed**. Every 3 storey design **failed** miserably.

If you take many of the above examples and put them on corner lots, they **fail** as well.



This example above is built and occupied on a corner lot, but **fails** under proposed amendments.

The next amendment talks about only applying to developing areas? Does this mean you propose to scrap it completely for developed areas as well? Or are we to apply to developed areas as well. Old rule 360(2)

If so, this leads to a few questions either way, especially when massing is being discussed. The whole intent of this rule was to discourage massing on rear exteriors, and now the rules give room for lots of massing, which is a good thing for designers.

"**Building Height in the Developing Areas**

361(1) In the ***Developing Area***, unless otherwise referenced in subsections (5) and (6), for a **Duplex Dwelling**, **Semi-Detached Dwelling** and **Single Detached Dwelling**, the ***building height*** must not exceed a height plane described in subsections (2), and (3).

(2) When the difference between the ***average building reference point*** at the front corners of the ***parcel*** and those at the rear of the ***parcel*** is greater than or equal to 1.0 metres, the ***building height*** must not be greater than a height plane that:

(a) begins at the highest ***average building reference point***;

(b) extends vertically to the maximum ***building height*** plus 1.0 metre;

(c) extends horizontally towards the opposite end of the ***parcel*** to a point that is 5.5 metres closer than the point on the foundation which is furthest from the highest ***average building reference point***; and

(d) extends downward at a 4:12 slope.

(3) When the difference between the ***average building reference points*** at the front corners of the ***parcel*** and those at the rear of the ***parcel*** is less than 1.0 metres, the ***building height*** must not be greater than the height plane that:

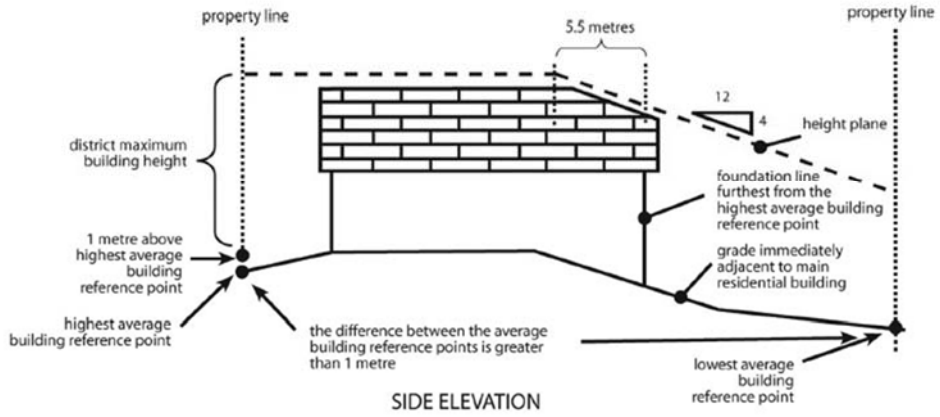
(a) begins at the highest ***average building reference point*;**

(b) extends vertically to the maximum ***building height*** plus 1.0 metres; and

(c) extends horizontally towards the opposite end of the ***parcel*.**

(4) The following diagrams illustrate the rules of subsections (2) and (3):

Figure 2: Method for measuring the height of a single or semi-detached dwelling on a sloping site in the low density residential districts



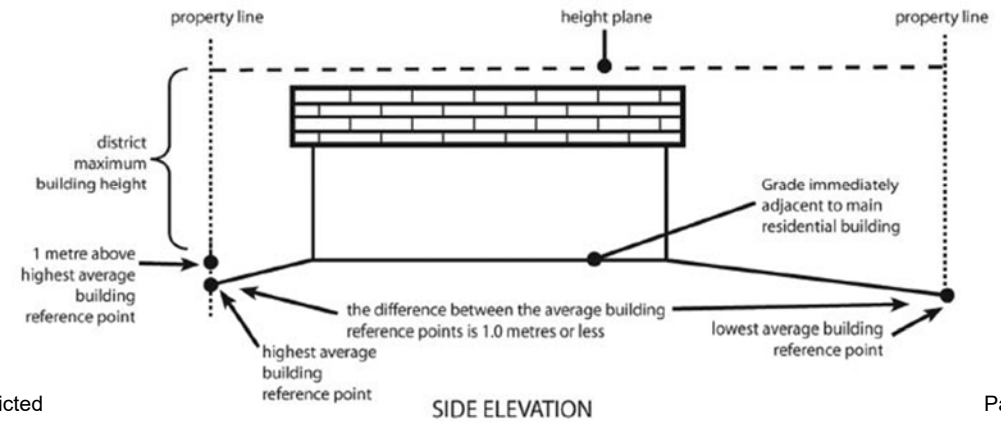
The above amendment illustrations require updating and clarification.

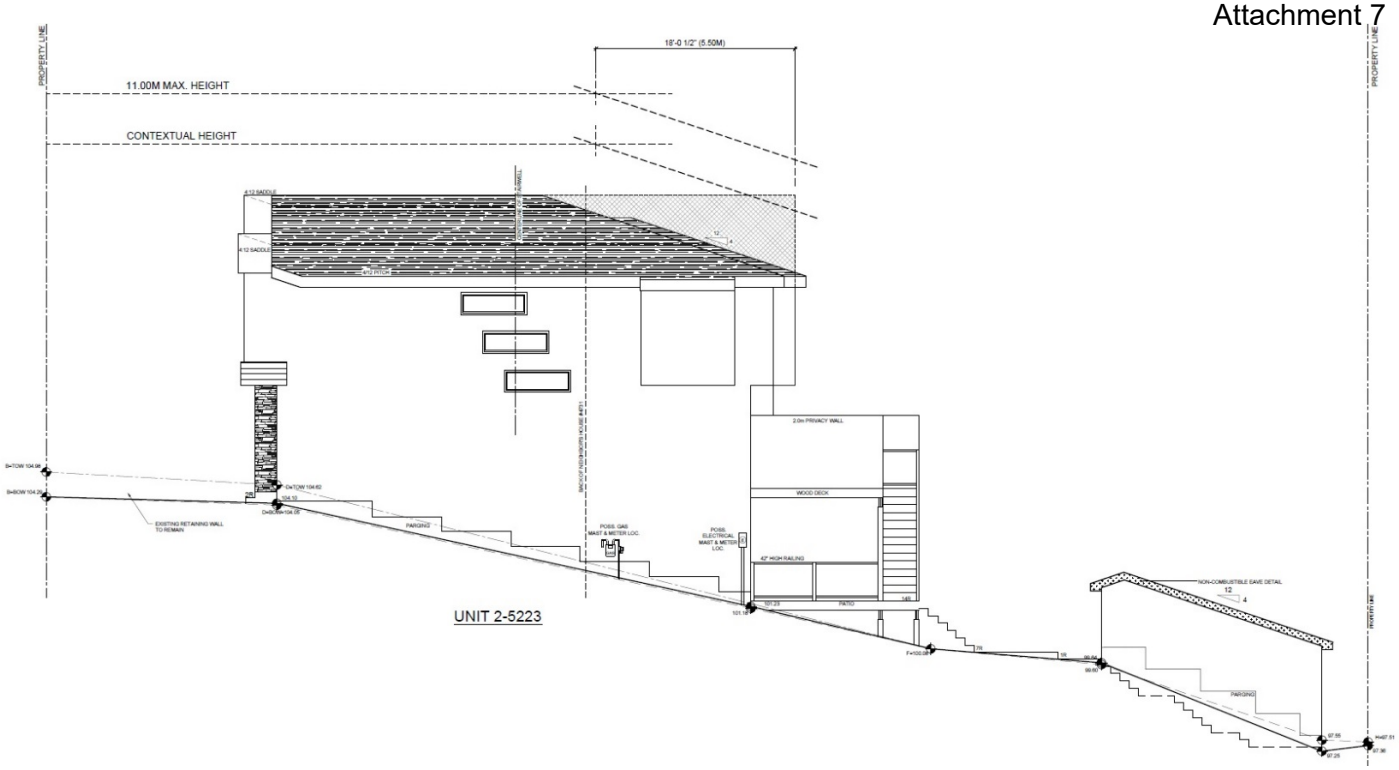
While front and back property lines are not indicated, the illustrations portray the rear to be to the right and the front to be on the left. The issue with the is that the scenario can be found in both cases, not just the rear. Many front walk outs share the same chamfer rule so some clean up would be a good idea. The illustrations also depict 1 meter above grade the district maximum.

Here is an example of an approved DP. Under these rules, you cannot build above the lower line. This also depicts a slope to the rear lane.

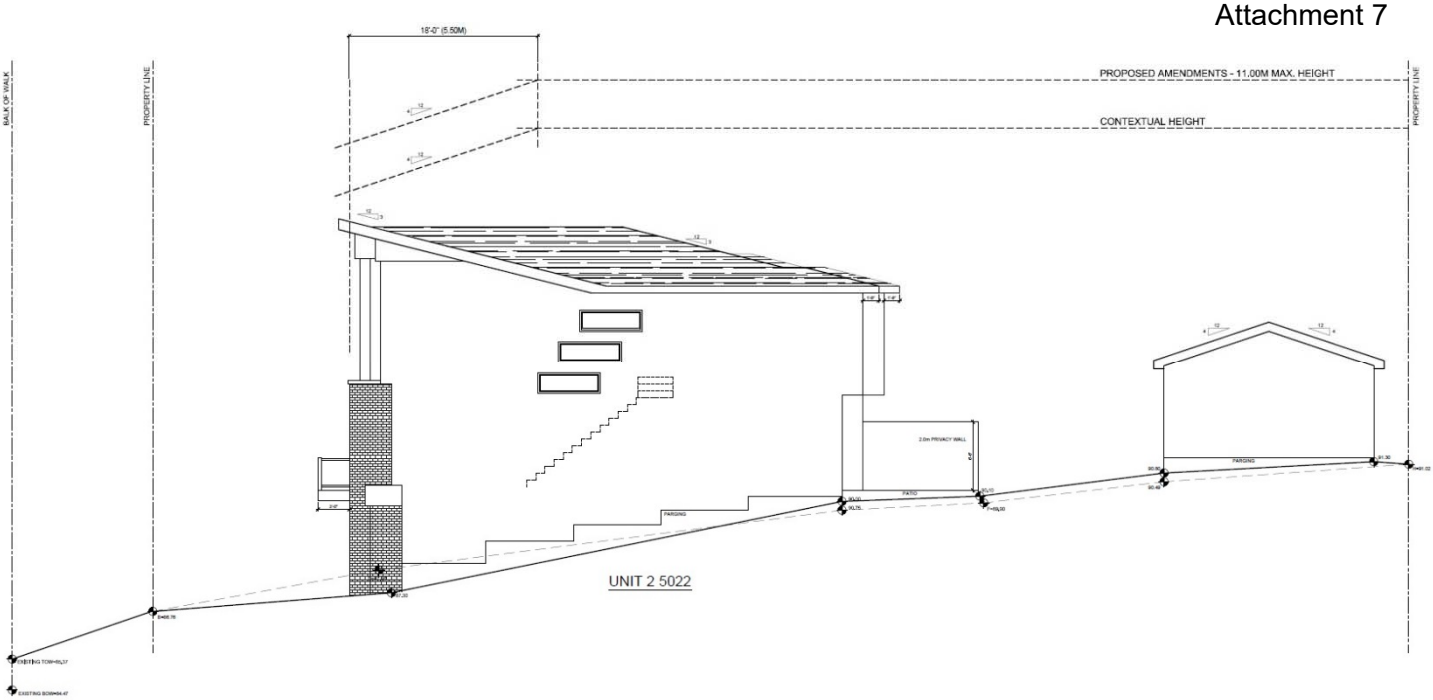
If the 11m is to be used, with or without a chamfer, there is a lot of room to create exciting rear exteriors, but lots and lots of massing. Was this the intent of this amendment or am I missing something?

Figure 1: Method for measuring the height of a single or semi-detached dwelling on a flat site in the low density residential districts





The following example is the same scenario but towards a street, Once again a lot of room for massing.


18'-0" (5.50M)
PROPOSED AMENDMENTS - 11.00M MAX. HEIGHT
CONTEXTUAL HEIGHT
BACK OF WALK
PROPERTY LINE
PROPERTY LINE
2.0m PRIVACY WALL
PARKING
PATIO
PARKING
UNIT 2 5022

A proposal to PUD2019-0402 amendments.

Possible solutions…

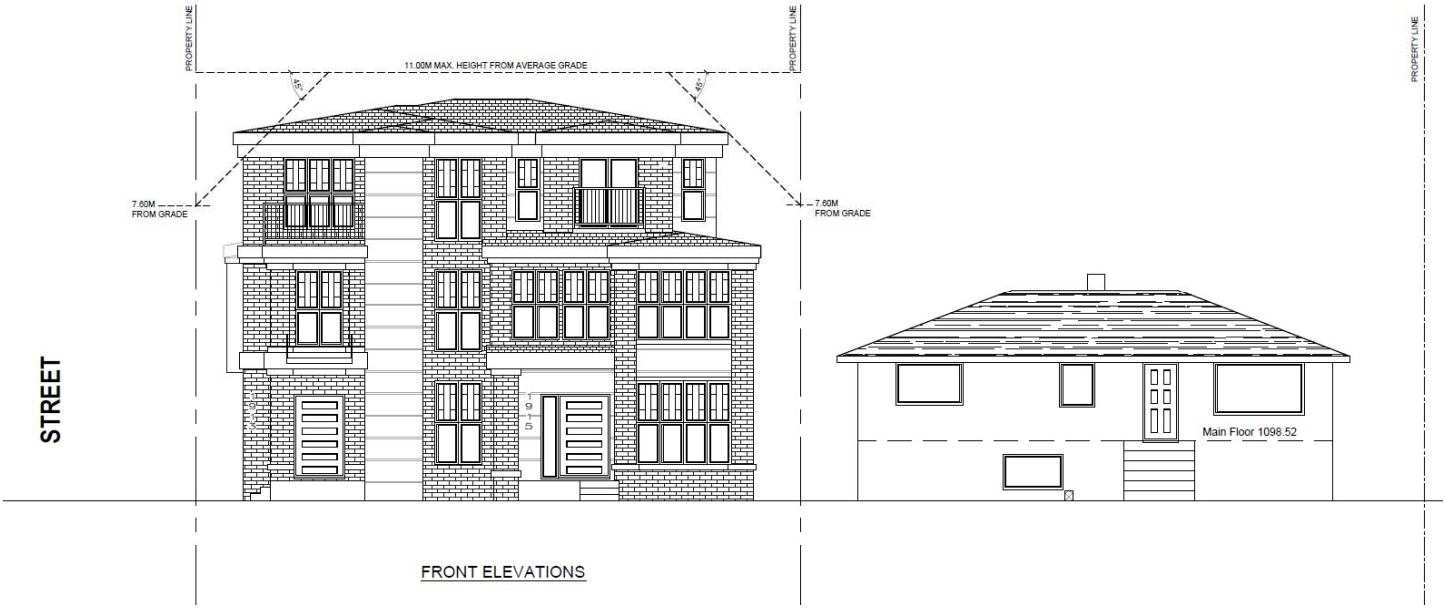
…….Keeping in mind that the current bylaws are written for existing conditions only and do not encompassed final outcomes of street architecture.....

In an attempt to find a blend so that developers and designers are not restricted into a “box in” type of developments and include some styles of architecture and not others, we propose the following for a ”final outcome”, while being sensitive to community concerns of certain types of massing …….

What the proposal is based on is to allow 3 storey build forms, but not forms that go straight up on all sides. A current internal policy is that 3rd storey units should be inset approx. 1 meter on sides and 3 meters front and back.

A better solution is to create a “usable” building envelope that is consistent for all scenarios and not create several rules that restrict the final outcome.

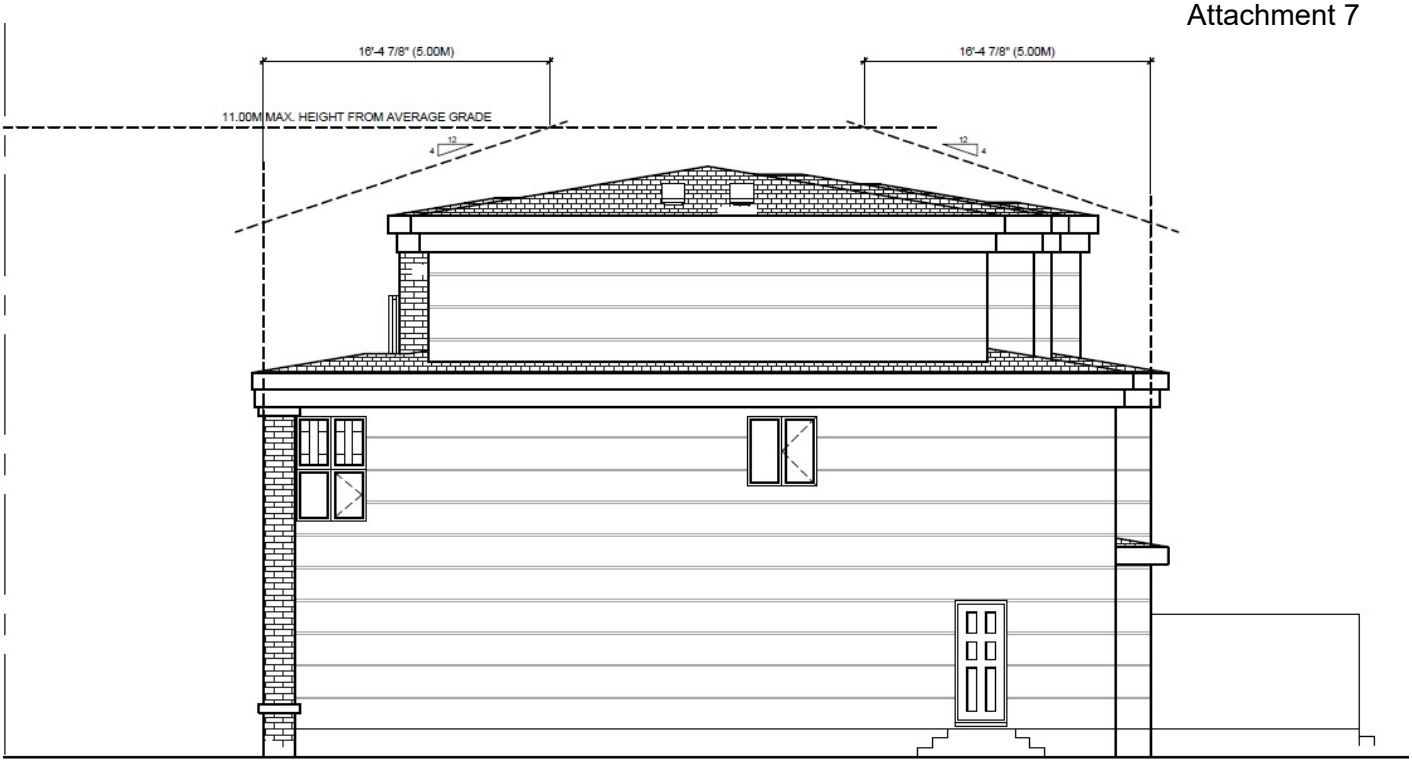
In order to achieve that, create an envelope as follows…..



This above example is for a street side and a bungalow. The 11 m is consistent and a side chamfer at 7.6m allows for various build forms but the build forms still have to be inset to break up massing. In this example, the street side going straight up encroaches into the chamfer and should not be allowed. The right side steps in breaking the massing and conforms. We have picked 7.6m for all scenarios to work and the indents would still be close to 1m depending on ceiling heights.

This above example is for a bungalow on both sides. The 11 m is consistent and a side chamfer at 7.6m allows for various build forms but the build forms still have to be inset to break up massing. In this example, the left side going straight up, once again encroaches into the chamfer and should not be allowed. The right side steps in breaking the massing and conforms. Again, we have picked 7.6m for all scenarios to work and the indents would still be close to 1m depending on ceiling heights.

This above example is for a two storey on both sides. The 11 m is consistent and a side chamfer at 7.6m allows for various build forms but the build forms still have to be inset to break up massing. In this example, the left side going straight up still encroaches, and the building would still have to be articulated, even next to a two storey, but the rule is the same for all scenarios. This still allows for various build forms but not block massing.

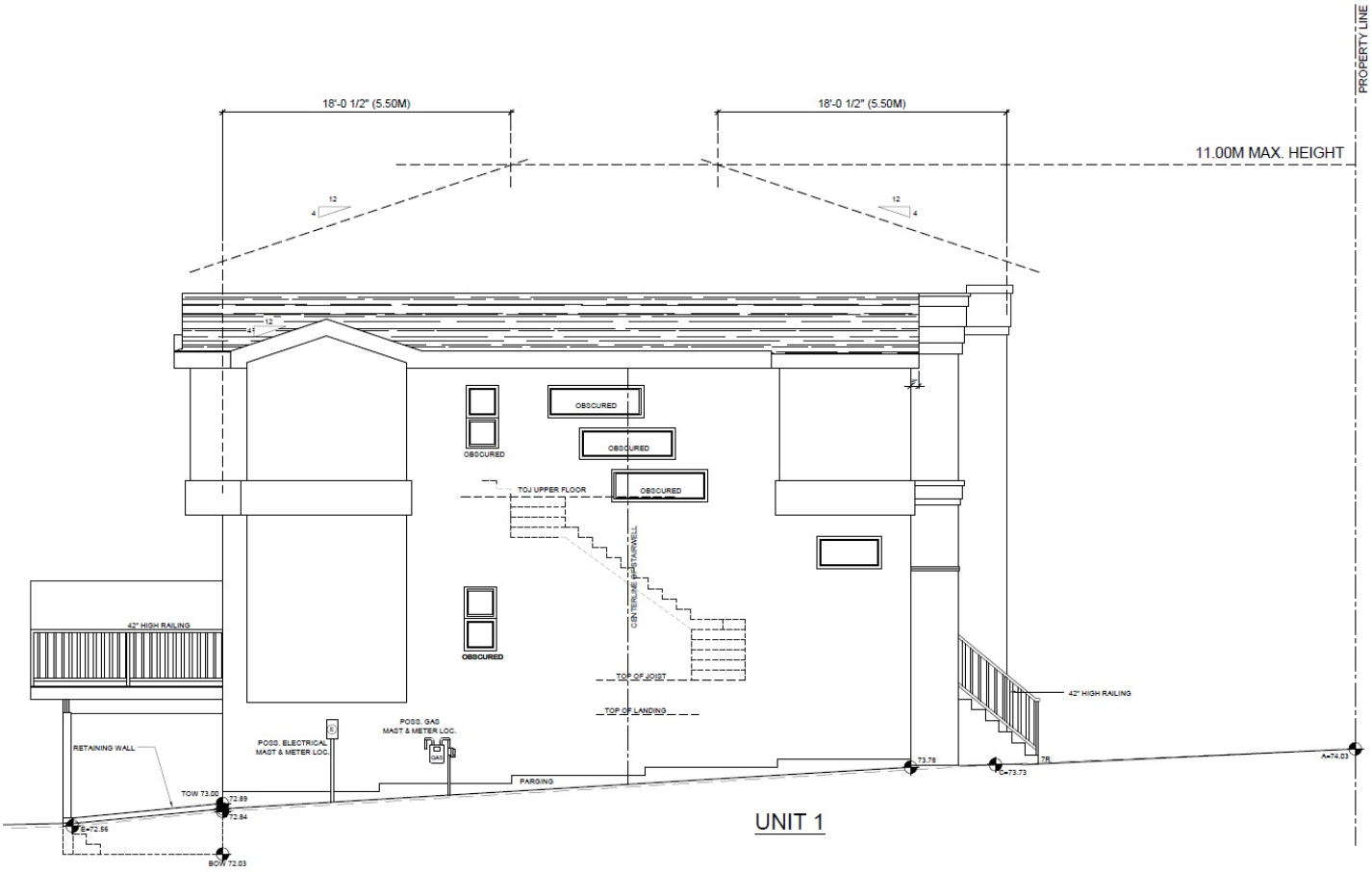


SIDE ELEVATIONS

This proposal for side chamfers would also have to include provisions to inset the back and front of a 3rd storey as well. Taking the same building as shown above, but looking at the side building form, take the furthest most foundation line, extend that line up to the 11m, measure back 5.5m back and front along building height line, take a 4/12 slope down from that point to front and rear property lines. Again this ensures that an inset is required if the developer wishes to go to a 3 storey product and works for all scenarios, regardless of build form existing beside the subject parcel.

STREETSCAPE PLAN
21ST AVENUE N.W.

To illustrate how this works on a “normal” two storey product with a more contemporary / modern architectural style, the 7.6m works as well without excessive massing up against a bungalow form and still fits nicely against a two storey using all the same rule.



Using the same back to front rule as above, a normal two story fits within the envelope as well, with no need to create additional rules. If the development was to use a higher roof pitch or higher ceiling heights, the chamfer would come into play and massing would need to be addressed.

The ideal behind this solution is to look at all stakeholders and find a consistent rule across the board. One rule, a simple rule, A KISS method so to speak. The design possibilities within this rule are endless for all types of architecture, but are still sensitive to lower, bungalow type development next to a subject property. The other key part of this is that the first home on the street and the last home on the street have “the same competitive advantage”!