

## Amy Buckler

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**From:** jerome parker <jerome.parker@comcast.net>  
**Sent:** Wednesday, March 05, 2014 9:26 AM  
**To:** Amy Buckler  
**Cc:** Kim Andresen  
**Subject:** Multi-family transitional housing  
**Attachments:** Analysis - Multi-Family Transition.doc

Amy -

If the analysis that Kim and I prepared is distributed to the OPC, the following cover note would be appropriate.

Thank you.

Jerry  
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Colleagues -

Attached is the analysis of the proposed reduction from 10 acres to 5 acres for the requirement in existing code for multi-family transition housing. Please note the following:

1. This is ONE analysis. It is not definitive. Other assumptions can be made regarding the shape of the 5 acre parcel and the nature of the surrounding land use as well as the size of the parcel.
2. This analysis does not directly address the issue of actual density vs. desired density. The focus, instead, is on whether ANY development under the conditions required in the existing residential development standards is feasible.

If development is found to be possible on some 5 acre parcels, it seems a logical deduction than it will not be possible to achieve anything close to 18 DU / acre.

3. Two factors influence the determination that in the example used in the attached analysis, development is not feasible: the provision that maximum building coverage of a parcel is 50%; the provision that maximum impervious surface coverage is 70%. (Table 4.04)
4. Our example does not suggest that these two provisions be revised. Rather, it raises the question of whether the current provision requiring a buffer of single family, duplex, or townhouses around a proposed RM-18 development is consistent with the general intent of the recommended Update to increase density within Olympia. (OMC 18.04.060 (N) (2) )

Note: This requirement for a buffer is currently in the code. To restate the second point above, it is this requirement and NOT the requirement for a mix of housing types within an RM-18 zone that leads to the conclusion that in many if not all 5 acre parcels, RM-18 is not feasible.

## Amy Buckler

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**From:** jerome parker <jerome.parker@comcast.net>  
**Sent:** Thursday, March 06, 2014 9:47 AM  
**To:** Amy Buckler  
**Cc:** Kim Andresen  
**Subject:** Fwd: Multi-family transitional housing  
**Attachments:** Analysis - Multi-Family Transition.doc

Amy -

In the introduction to the analysis of the proposed change in code governing multi-family transitional housing (below) I wrote:

*However, in the absence of information on the acreage of the RM-18 parcels, it is not clear how many of the identified RM-18 parcels would be subject to the proposed code change. (See above: OMC 28.04.060 N (2))*

Upon review of materials you have provided, this statement is clearly wrong. In our packet for the 2/24 meeting of the OPC are aerial photographs of each of the 21 RM-18 parcels in the City, together with a description of the acreage and information which I understand to be the number of separate ownerships within each parcel.

I reviewed this information and conclude that 10 of the 21 parcels are between 5 and 10 acres and would, therefore, be affected by the proposed change in the code.

I did not attempt to determine if the configuration of parcels would make compliance with the existing code regarding multi-family transition impossible, regardless of acreage. I identified three elongated parcels where the required buffer would appear to preclude any multi-family structures.

I suggest that the review of this issue by staff include consideration of configuration as well as size in determining whether compliance with the existing code is feasible.

Jerry Parker

Begin forwarded message:

**From:** jerome parker <jerome.parker@comcast.net>  
**Subject:** Multi-family transitional housing  
**Date:** March 5, 2014 9:26:10 AM PST  
**To:** Amy Buckler <abuckler@ci.olympia.wa.us>  
**Cc:** Kim Andresen <klwa-pha@msn.com>

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Thank you.

Jerry

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Colleagues -

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If development is found to be possible on some 5 acre parcels, it seems a logical deduction that it will not be possible to achieve anything close to 18 DU / acre.

3. Two factors influence the determination that in the example used in the attached analysis, development is not feasible: the provision that maximum building coverage of a parcel is 50%; the provision that maximum impervious surface coverage is 70%. (Table 4.04)
4. Our example does not suggest that these two provisions be revised. Rather, it raises the question of whether the current provision requiring a buffer of single family, duplex, or townhouses around a proposed RM-18 development is consistent with the general intent of the recommended Update to increase density within Olympia. (OMC 18.04.060 (N) (2) )

Note: This requirement for a buffer is currently in the code. To restate the second point above, it is this requirement and NOT the requirement for a mix of housing types within an RM-18 zone that leads to the conclusion that in many if not all 5 acre parcels, RM-18 is not feasible.

# Multi Family Transitions - Considerations

Issue Statement

Current Code (OMC 18.04.060 N) :

## *LARGE MULTIFAMILY HOUSING PROJECTS*

*To ensure that large multifamily housing project provide a transition to adjoining lower density development, multifamily projects shall be subject to the following requirements:*

### *1. Mix of Dwelling Types*

- a. In the RM-18 and RMU districts, no more the seventy (70) percent of the total housing units on sites of **ten (10) or more** acres shall be of a single dwelling type (e.g., detached single family units, duplexes, triplexes, multi-story apartment buildings, or townhouses.).*

## Proposed Change in Recommended Update:

PL 16.2 (p. 83):

*Require a mix of single-family and multi-family structures in villages, mixed residential density districts, and apartment projects when these exceed **five acres**; and use a variety of housing types and setbacks to transition to adjacent single-family areas.*

## Staff Clarification (Agenda Notes for 2/10/2014)

Despite the language in PL 16.2 that refers to villages, mixed residential districts and apartment projects, PL 16.2 is limited in fact to RM18 and RMU districts for the following reasons: (p. 17 of 51 in Agenda Notes for 2/10/2014)

- Villages are guided by specific regulations in Olympia Municipal Code which provide for mix of housing types.
- RM 7-13 and RM 10-18 have specific criteria for mix housing in Olympia Municipal Code.
- RM-24 has a minimum density of 18 du/acre. It would be exceedingly difficult to achieve this required density along with parking, height, and other requirements.
- The RMU zone exists in only one area of the City and the parcel size there renders the 5 acre provision non-applicable.
- Conclusion: the proposed policy PL 16.2 applies to only one zoning district: RM-18.

# Multi Family Transitions - Considerations

(For additional detail, see Notes cited above)

Note: It appears that in light of the above qualifications, the language in PL 16.2 must be revised to replace the words “villages, mixed residential density districts, and apartment projects” with the words “in RM-18 Districts” . It would read:

*Require a mix of single-family and multi-family structures in RM 18 districts when these exceed **five acres**; and use a variety of housing types and setbacks to transition to adjacent single-family areas.*

## Additional Provision in Olympia Municipal Code Affecting PL 16.2

18.04.060 N

2. *Transitional Housing Types. In the RM 18, RM 7-13 and MR 10-18 districts, detached single family houses or duplexes shall be located along the perimeter (i.e., to the depth of one lot) of multifamily housing projects over five (5 acres) in size which are directly across the street and visible from existing detached single family houses. Townhouses, duplexes, or detached houses shall be located along the boundary of multifamily housing sites over five (5) acres in size which adjoint but do not directly face, existing detached single family housing (e.g. back to back or side to side).*

(Note: The above provision is interpreted to mean that the only distinction between the requirement for buffering of RM 18 districts of over five acres is that where there is no street between the RM 18 district and existing single family housing, townhouses may be included in the buffer.)

## Analysis of PL 16.2 from a Spatial Perspective

### **Residential Development Standards Governing RM-18**

RM-18 allows 18 DU/acre. The minimum requirement is 8 DU/acre (OMC 18.04.080 Table 4.04)

(For five acres, the maximum is 90 DUs. The minimum is 40 DUs.)

Minimum lot size for duplex in RM-18 is 6,000 sf. \* (Table 4.04)

Front yard and rear yard set back in RM -18 is 10'; Rear yard set back in RM -18 for multi-family 15' ; side yard set back in RM-18 is 5' ; 10' for multi family. (Table 4.04)

Note: these standards are for RM-18 and are assumed to apply to all buildings in an RM-18 zone.

# Multi Family Transitions - Considerations

\*Duplexes rather than single family homes are used in this analysis on the assumption this would be logical way to meet density standards for RM-18.

Maximum building height in MR-18 is 35'. (Table 4.04)

Maximum impervious surface (buildings, road, sidewalks, parking) in RM-18 is 70% (Table 4.04)

Maximum building coverage in RM -18 is 50% (Table 4.04)

Minimum open space in RM-18 is 30% (Table 4.04)

## **Residential Development Standards to a Five Acre Parcel**

1. Five (5) acres is equal to 217,800 square feet.(sf).
2. Allowable impervious surface on five acres is 152,460 sf. (70% of 217,800) (Table 4.04)
3. Buildable land on five acres is 108,900 sf. (50% of 217,800) (Table 4.04)

## **Calculation of Compliance of Proposed Ordinance with Current Residential Development Standards**

(The following analysis is focused on two provisions in the current residential development standards that would not be changed by the proposed ordinance: the provision for a maximum building coverage of 50% and of a maximum impervious surface coverage of 70% (Table 4.04).

Further analysis to address the feasibility of achieving the intended density of 18 DU/acre in 5 acre parcels zoned for RM - 18 has not been performed. However, it seems likely that to achieve compliance with the limits on maximum building coverage and maximum impervious surface, the actual number of dwelling units of a five acre parcel would be very far below the desired number of 90.)

The following analysis assumes that the five acre parcel is surrounded on all sides by single family development. The conclusions in this analysis would need to be revised for RM-18 parcels that are not directly across the street from single family houses or do not adjoin single family housing. A casual visual inspection of the aerial photography showing the location of RM-18 parcels suggests that some RM-18 parcels are not surrounded on all sides by single family housing and would not require the buffer of single family, duplex, or townhouses assumed in this analysis. However, in the

# Multi Family Transitions - Considerations

absence of information on the acreage of the RM-18 parcels, it is not clear how many of the identified RM-18 parcels would be subject to the proposed code change. (See above: OMC 28.04.060 N (2))

For this analysis, it is assumed that development of the buffer will be in duplexes so that a maximum density can be achieved. The minimum lot size for a duplex is 6,000. (Table 4.04) The results of this analysis would differ if single family houses were assumed to be built in the buffer. However, the overall conclusion would not likely be different.

1. Five acres is equal to 217,800 sf. ( $43,560 \text{ sf/acre} \times 5 \text{ acres}$ )
  2. The following analysis assumes the five acre parcel is square. (Without sophisticated mathematical proofs, it is assumed that a square provides less area in the required buffer than a does an elongated rectangle.)
  3. In a square five acre parcel, each side is 466.7 feet. (This is the square root of the total number of square feet in the parcel.)
  4. For purposes of this analysis, no deduction from the allowable impervious surface is made to reflect the street or streets abutting the five acre parcel nor any streets within the development.
  5. This analysis assumes the 6,000 sf lot required by the residential development standards for a duplex is square. This means each side would be 77.5 feet. (The square root of 6,000)
  6. Under these assumptions regarding the length of each side of the five acre parcel and the length of each duplex lot, 6 duplexes can be sited on two sides of the 5 acres. ( $466.7 \text{ feet} / 77.5 \text{ feet} = 6$ ) and four duplexes can be sited on the other two sides. ( $466.7 - (2)(77.5) = 311.7 \text{ ft.}$   $311.7 \text{ feet} / 77.5 \text{ ft.} = 4$ ) The total number of duplex lots is 20.
  7. The total land required for the buffer is 120,000 sf. ( $6,000 \text{ sf/lot} \times 20 \text{ lots}$ ) (This includes both the land on which the duplexes are built and the set backs required by code.)
  8. This leaves 97,800 sf for development of the RM 18 ( $217,800 \text{ sf} - 120,000 \text{ sf.}$ )
- (Note: in this and subsequent analysis, "RM -18" refers to a multi-family structure, not to the entire 5 acre parcel.)

## Multi Family Transitions - Considerations

9. For each lot required for duplexes, the buildable area must be set back 10 feet on front, 5 feet on each side, and 10 feet in back (Table 4.04) This amounts to a total of 2,125 sf.  $((10 + 10) \times 77.5 = 1,550 \text{ sf}) + (5 + 5) \times (77.5 - 20) = 575$

10. This means that the buildable area per lot is 3,875 sf.  $(6,000 \text{ sf} - 2,125 \text{ sf} = 3,875 \text{ sf})$

11. For 20 duplex lots, this means that 42,500 sf. must be undeveloped ( 20 lots X 2,125 sf ) and a maximum of 77,500 sf can be built upon ( 20 X 3,875 sf).

12. This reduces the building coverage land for the R-18 development to 31,400 sf.  $(108,900 \text{ sf} - 77,500 \text{ sf}$  where 108,900 sf is the total maximum building coverage for the entire five acre parcel, i.e. 50% of the total five acres (Table 4.04) and 77,500 sf is the total building coverage in the buffer area. See # 11 above)

13. If it is assumed at this point in the analysis that there are no roads to access the five acres and no parking or walkways and that 77,500 sf of the five acres has been built upon in the buffer, a total of 74,960 sf of impervious surface is available for the R-18 development.  $(152,460 \text{ sf} - 77,500 \text{ sf} = 74,960 \text{ sf})$  (Maximum impervious surface = 70% of parcel (Table 4.04). 70% of 217,800 sf = 152,460 sf. From this, the amount of building coverage in the buffer area, 77,500 sf is subtracted.)

(For consideration of parking, see below)

14. Again, it is assumed that the remaining land for the R-18 development is 97,800 sf. (The total sf of the 5 acre parcel is 217,800. Deduct from this the land that must be in the buffer, i.e. 120,000 sf. (See #7 above)

(Note: this is the total size of the remaining R-18 parcel, including set-backs)

15. Given the size of the R-18 parcel (see #14) each side of this remaining R-18 parcel is 312.7'. (This is the square root of 97,800 sf.)

16. On the remaining 97,800 sf in the five acre parcel available for R-18 development, setback required under the existing residential development standards reduces the amount of buildable land. This means the total land available for building is 87,105 sf. ( The land that cannot be built upon in this remaining portion of the 5 acre parcel is 10,694 sf.)

$(312.7' \times 25' = 7,817.5 \text{ sf})$   
 $(10' \times (312.5' - 25' = 287.5') = 2,875 \text{ sf})$   
for a total of 10,692.5 sf.

$97,800 \text{ sf} - 10,885 \text{ sf} = 87,107.5 \text{ sf.}$



# Multi Family Transitions - Considerations

17. Under the assumption of no roads, no sidewalks, and no parking, the total impervious development on the five acre parcel is the sum of the permitted building in the buffer and the permitted building in the remainder of the parcel. This is 164,607 sf (77,500 sf (see #11) + 87,107 sf (see #16))

18. The total impervious surface allowed for the entire 5 acre parcel under the residential building standards (Table 4.04) is 152, 460 sf. (70% of 217,800 sf.)

19 If buildings in the buffer area and in the remaining RM 18 land are built out to the allowable coverage under set-back provisions, the amount of impervious surface (excluding parking) will exceed the total impervious surface allowed under the residential building standards. (Table 4.04), i.e. 164,607 sf vs. 152,460 sf.

20. The amount of building coverage allowed under the residential building standards is 108,900 sf.(217,800 X 50%) Full use of the allowable building coverage portions of the five acre parcel as determined by the set-back requirements and lot sizes in the residential building standards would allow for a building coverage total of 164,607 sf. ( 77,500 sf (#11) + 87,107-sf. (#16) = 164,607 sf.

This is in excess of the amount allowed for the full five acres, i.e. 108,900 sf.

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## Conclusion

If accurate, the above analysis indicates that if minimum lot size and set-back provisions in the current residential building standards and the requirement for a buffer around all sides of the five acre parcel are taken into account, development on a five acre parcel under the proposed ordinance will require a considerable reduction in the both allowable building coverage and impervious surface. This would likely significantly reduce the density that could be achieved on a five acre parcel.

This above analysis does not include consideration of parking, roads, or sidewalks, all of which would make the excess in impervious surface over the code requirement even greater.

It might be possible to achieve the intended density on a much reduced building coverage were the R-18 multi-family development to be multi-level were it not for the parking requirements under existing code. (See below)

## Multi Family Transitions - Considerations

It is important to note that it is NOT the provision in the proposed code for mixed residential development that accounts for the conclusion that RM 18 development on a five acre parcel is not feasible. Rather, it is the existing provision in Olympia Municipal Code (18.04.060 N (2) that creates the major barrier to development. This is the provision requiring a “buffer” of single family houses, duplexes, or, in certain circumstances, townhouses, around any R-18 development that appears to make such development infeasible.

### **Parking Requirement:**

#### Calculation of impervious surface for parking required at full build out of 5 Acres zone RM-18

(As indicated above, full build-out to 18 du/acre is not feasible on 5 acres. However, calculation of feasible build-out requires extensive further analysis. To scope the issue of impervious surface for parking, full-build out is assumed.)

5 acres X 18 du/acre = 90 du

Parking requirement: 1.5 parking spaces per du.

Total parking spaces: 135

Size of parking space: 17'X 9' = 153 sf.

Total impervious surface for parking: 20,655 sf  
(153 sf/parking space X 135 parking spaces = 20,655 sf)

The combined impervious surface of parking and allowable building coverage is 185,262 sf. (164,607 sf (see # 17 above) + 20,655 sf for parking).

This far exceeds the 152,460 sf allowed under provisions governing RM-18 (Table 4.04)