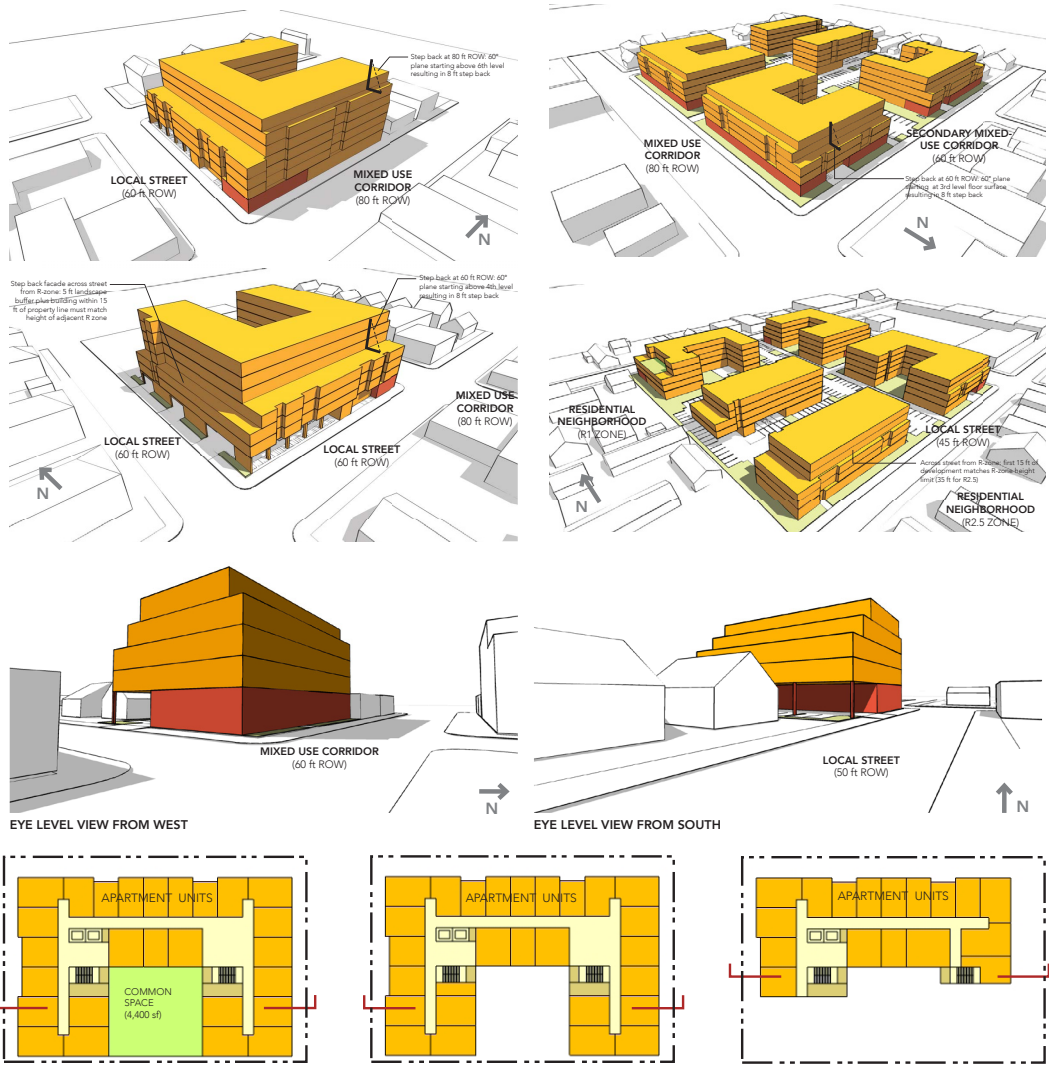


Mixed Use Building Form Prototypes and Financial Analysis

April 2015



Prepared for the
CITY OF PORTLAND

DYETT & BHATIA
Urban and Regional Planners

Deca Architecture, Inc.
Johnson Economics

Mixed Use Building Form Prototypes and Financial Analysis

April 2015

Prepared for the
CITY OF PORTLAND

DYETT & BHATIA
Urban and Regional Planners

Deca Architecture, Inc.

Johnson Economics

Table of Contents

1	Introduction	1
1.1	Conceptual Mixed Use Zones	1
1.2	Key Implications for Community Design.....	2
1.3	Cost Implications.....	6
2	Building Form Prototypes	9
2.1	Options for the CMI Zone	9
2.2	Options for the CM2 Zone	23
2.3	Options for the CM3 Zone	53
2.4	Options for the CE Zone.....	54
3	Financial Analysis of the Mixed Use Zones	71
3.1	General Overview of Issues	71
3.2	Financial Analysis	72
3.3	Summary of Findings.....	75
	Appendix A: Glossary of Terms	89
	Appendix B: Pro Formas	91
	Appendix C: Additional Economic Analysis	123

List of Figures

Figure 2-1A: Option 1A.....	15
Figure 2-1B: Option 1B.....	17
Figure 2-2A: Option 2A.....	19
Figure 2-2B: Option 2B.....	21
Figure 2-3A: Option 3A.....	25
Figure 2-3B: Option 3B.....	27
Figure 2-3C: Option 3C.....	32
Figure 2-3D: Option 3D.....	34
Figure 2-4A: Option 4A.....	36
Figure 2-4B: Option 4B.....	41
Figure 2-5A: Option 5A.....	47
Figure 2-5B: Option 5B.....	49
Figure 2-6A: Option 6A.....	55
Figure 2-6B: Option 6B.....	58
Figure 2-7A: Option 7A.....	61
Figure 2-7B: Option 7B.....	63
Figure 2-8A: Option 8A.....	65
Figure 2-8B: Option 8B.....	68

List of Tables

Table 2-1: Building Form Prototypes and Site Modeling Options.....	11
Table 3-1: General Characteristics of Bonus Elements.....	72
Table 3-2: Building Prototypes Studied.....	73
Table 3-3: Financial Assumptions.....	74
Table 3-4: Income Assumptions.....	74
Table 3-5: Summary of Scenario Results: Market Rate Scenarios.....	76
Table 3-6: Financial Summary of Options 2A and 2B.....	78
Table 3-7: Financial Summary of Options 3A and 3B.....	79
Table 3-8: Financial Summary of Options 6A and 6B.....	82
Table 3-9: Financial Summary of Options 7A and 7B.....	83
Table 3-10: Estimated Cost of Meeting Affordable Housing Requirements.....	86
Table 3-11: Summary of Development Scenarios – Affordable Housing Targets.....	87
Table 3-12: Estimated Cost of Reduced Commercial Rents.....	88

I Introduction

I.1 Conceptual Mixed Use Zones

The City of Portland is in the process of updating its Comprehensive Plan, which will orient future growth along “corridors” and in “centers” throughout Portland. To help ensure that new development contributes positively to the urban fabric, the City is developing a new palette of mixed use zones to replace the current commercial zones outside the central city. As described in the Mixed Use Zones Preliminary Zoning Concept, a set of four zoning districts is proposed to replace the current array of nine zones. The new Mixed Use Zones (MUZ) framework would include zones that allow “small” “medium” and “large” scale mixed-use development, as well as a medium-scale zone that would allow a broader array of commercial and employment uses. Each of the conceptual zoning districts would provide base development standards as well as FAR and/or height bonuses, or incentives, for the provision of public benefits or meeting performance objectives.

- The **Commercial Mixed Use 1 (CM1)** zone is intended for sites in smaller-scale centers and corridors and in smaller mixed use nodes within lower-density residential areas. This zone allows a mix of commercial and residential uses. Buildings are generally expected to be up to three stories. Development is intended to be pedestrian-oriented and generally compatible with the scale of surrounding residentially zoned areas.
- **Commercial Mixed Use 2 (CM2)** is intended for sites in a variety of centers and corridors, and in smaller mixed use areas that are well served by frequent transit or that are within a larger area zoned for multi-dwelling development. The zone allows a mix of commercial and residential uses, as well as other employment uses that have limited off-site impacts. Buildings are generally expected to be three to four stories unless bonuses are used to provide additional public benefits. Development is intended to be pedestrian-oriented and complement the scale of surrounding residentially zoned areas.
- **Commercial Mixed Use 3 (CM3)** is intended for sites in larger centers and Civic Corridors, particularly in locations close to the Central City or in high-capacity transit station areas. The zone allows a mix of commercial and residential uses, as well as other employment uses that have limited off-site impacts. Buildings are generally expected to be four to six stories unless bonuses are used to provide additional public benefits. Development is intended to be pedestrian-oriented, but buildings may be larger than those allowed in lower-intensity zones. Design review is typically required.

- The **Commercial Employment (CE)** zone is intended for sites along corridors in areas in between centers, especially along Civic Corridors that are also Major Truck Streets or Priority Truck Streets. The zone allows a mix of commercial and residential uses, as well as some light manufacturing and distribution/employment uses that have few off-site impacts. Buildings are generally expected to be up to four stories. Development is intended to be pedestrian-oriented, but also auto-accommodating, and complement the scale of surrounding areas.

A Centers Overlay zone would also be created and applied to core areas of centers, with regulations that limit or prohibit drive-through development and other uses that do not contribute to pedestrian activity; enhanced ground-floor window requirements; and minimum floor area or residential density.

The work was based on initial development parameters set by the Bureau of Planning and Sustainability (BPS) with advice from Dyett & Bhatia Urban and Regional Planners, based on research into Portland's current zoning code, and best practices from other cities in the U.S. The proposed set of zoning districts is intended to balance community, developer, architect and business stakeholder feedback about development in centers and corridors of various scales called out in the Comprehensive Plan.

The conceptual set of new mixed use zoning districts is detailed under separate cover in the Mixed Use Zones Code Concepts Report. The Code Concepts Report includes information on both the Preliminary Zoning Concept (November 2014) which was the subject of the planning team's analysis of building form and economic feasibility contained herein, and a Revised Zoning Concept (February 2015), a refined version of the zoning concept that resulted from the planning team prototype and economic analysis.

1.2 Key Implications for Community Design

In order to understand the way draft development standards for the new mixed use zones would affect building form, a set of building prototypes was designed. For each of the proposed zones (CM1, CM2, CM3, and CE), a selection of typical sites was chosen to reflect a range of development contexts: smaller and larger sites, narrower and wider streets, locations in inner and outer neighborhoods. For each site, at least two buildings were modeled, to show a building form that would result from use of the draft "base" standards and a building form that would result from the draft "bonus" standards. For some sites, additional modeling was done to test different approaches to upper level setbacks or building articulation. Altogether, 18 building forms were modeled. This exercise will help the City adjust the draft standards to result in building forms that are successful from a community standpoint and viable from a development standpoint.

SITE PLANNING ASSUMPTIONS

The building prototypes are meant to reflect realistic design and development choices in the context of mixed use corridors in inner and outer neighborhoods of Portland. In each case, these buildings generally seek to maximize development under either base or bonus provisions of the draft zones. All of the prototypes also have two features in common with regard to parking. First, vehicle parking spaces are mainly provided at or near the minimum required parking level ; for some small building prototypes with unit counts under 30, no vehicle parking is provided and in other cases the prototypes include parking that is not required by code but might be included in a development. When provided, parking would meet current parking code requirements (ranging from 0.20 to 0.33 spaces per unit for developments with more than 30 units). Second, parking is provided at surface level, either in the rear or to the side of buildings or tucked under upper-level housing and behind street facing commercial space. Structured, above- or below-grade parking is not included even in the highest-density prototypes. The combination of limited parking and accommodation at ground level is seen as helping to make these projects viable. In some cases, it plays a role in limiting the project from maximizing allowed development.

DEVELOPMENT MEETING THE DRAFT BASE ALLOWANCES

In each of the proposed zoning districts, mixed use building forms that maximize development under preliminary base Floor Area Ratio (FAR) standards leave substantial building envelope (i.e., development to the maximum height and setbacks) unused. Buildings that meet the draft base standards are often one or even two stories lower than would be allowed by the draft height limits, and are not constrained by limits on building coverage or required setbacks from rear lot lines. This phenomenon allows for considerable variation in building form and site planning without sacrificing floor area. Building features that are desirable from a community design perspective such as façade articulation and upper level stepbacks may be incorporated without the loss of development capacity.

DEVELOPMENT MEETING THE DRAFT BONUS ALLOWANCES

On the other hand, prototypical mixed use buildings that would maximize the preliminary “bonus” FAR in each of the conceptual zones would also reach or approach the maximum building envelope allowed with the bonus. Thus, if the preliminary thresholds were to be used, buildings that include affordable housing or a combination of other performance bonuses would be likely to use the maximum height, occupy nearly the maximum allowed amount of the site, and extend toward the rear lot line as far as allowed. With building envelope regulations playing a constraining role, less variation in building form and more limited options for community design enhancements may be expected.

Development on large sites (200 by 200 feet and larger) will be unlikely to achieve the maximum FAR due to the need for space, light and air between buildings. Large sites in outer locations are likely to be dominated by ground level parking, if building sizes approach maximum FAR. The

market will likely not drive structured parking solutions at most sites. To allow development on large sites to achieve allowable FAR, the City could consider relating the FAR limit to site size, increasing height allowances on large sites, or creating a Transfer of Development Rights (TDR) style system.

Non-residential projects in the draft CE zone may have difficulty achieving maximum FAR in locations where the zoning code requires parking for commercial space (areas with infrequent transit service) and where market demand for parking is high.

OTHER OBSERVATIONS

Several specific observations were made during prototype development about the relationship of the preliminary development standards and the building forms likely to result. These are summarized below.

Viability of Mixed Use Development

True mixed use may be an unlikely outcome in the base CM1 zone. Low FAR limits combined with the construction complexities of mixed-use may result in more all-residential and all-commercial development in this zone.

Required Outdoor Space and Public Plazas

Balconies will likely be a more cost-effective option for meeting the required outdoor space requirement for smaller developments (more than 30 units), due to the expense of constructing elevated outdoor space. 48 square feet is relatively large for a balcony; a smaller area may be more appropriate for buildings with only a few units.

The proposed rule for required outdoor space to be adjacent to living units makes it difficult to locate on the ground level and limits its contribution to any public plaza or other ground level green space.

Public open space will be easier to achieve on larger sites (200 by 200 feet and larger), since the scale of the site will require gaps between building massing.

Landscaping

Due to Portland's small block size and the need for apartment unit windows to be set back from property lines, required landscaping will likely take the form of thin strips along building edges.

Required Setbacks from Lot Lines

The 5 to 14 foot setback from residential zones required under the draft development standards may be overly restrictive, especially on side lot lines where mixed use zones abut residential zones along a mixed-use corridor. In this scenario, a smaller setback may be more appropriate.

Stepbacks

For certain building prototypes, variations on upper level stepbacks were tested. “Daylight planes” extending at a 45-degree angle from a point 20 feet above the rear property line, and at a 60-degree angle from the top of a specified upper floor on the street-facing facade were modeled to understand how such geometric regulations would shape buildings. More substantial stepbacks were also tested for certain prototypes. Required stepbacks would have a clear relationship to building form, especially where building envelope standards are the primary constraint. Several observations were made about stepback requirements:

- While providing flexibility in design, angled plane step-backs at front facades may result in odd “wedding cake” shaped urban forms. The structural, waterproofing and roof drainage challenges posed by multiple stepbacks are a factor that may deter this building shape. A dimensional approach to step-backs may be more appropriate.
- In upper level stepback scenarios, allowances should be made for a small (perhaps 20 percent) amount of façade that does not meet the requirement. Offsetting stairs, shafts and other vertical elements to meet this requirement could be challenging. A small allowance for deviation could also drive a more sculptural urban form.
- Stepbacks on two sides (front and back) increase the challenges posed by the stepback. The City should consider allowing a larger rear stepback or façade articulation measures to be utilized in lieu of front stepbacks. Allowing other measures such as public plazas to be provided in lieu of stepbacks could be a good incentive.
- Front stepbacks of 6 to 8 feet are unlikely to have a large impact on achievable FAR, unit count or the ability to lay out units efficiently.
- Care should be taken in creating stepback regulations that affect two adjacent facades (side street and front street). Differing stepbacks between the facades may be difficult to resolve and drive undesirable building forms.

Stepbacks can be a valuable mechanism to maintain sunlight in the public realm along mixed use corridors and in adjacent residential lots. Based on feedback from the Project Advisory Committee (PAC), Technical Advisory Group (TAG), and other stakeholders, stepback regulations are likely to be implemented in a more straightforward manner, using dimensions of setback above specified floor levels rather than using angled planes. This should accomplish the same thing with less complexity.

Height

FAR allowances resulting in seventh stories are unlikely to be constructed in the near term. Building code currently allows a maximum of five stories of wood frame construction over a noncombustible base story (podium construction). Achieving seven stories currently requires switching to more expensive construction types (steel or concrete).

Current zoning code methodology for measuring building height references an outdated building code standard and is confusing. Measuring to roof surface instead of parapet would allow more flexibility in parapet height, driving more variation in building massing.

Ground-Floor Windows

Ground floor window standards should be crafted with a recognition that smaller (1- to 3-story buildings) will likely use a framed shear wall system and require more solid wall area than larger (5- to 6-story) buildings. On tight urban sites with a single frontage, accommodation for trash rooms, electrical rooms and other windowless spaces should be considered.

Bike Storage

Long-term bike storage may occupy a significant amount of space at larger building scales, reducing ground level commercial space. Although bikes are sometimes stored within apartment units, the resulting wear and tear on the building poses a management challenge.

1.3 Cost Implications

Building Form Characteristics

For the most part, the prototypes are concrete podium buildings with wood-frame construction above, although the smaller prototypes (4 stories or less) would likely be built as all wood frame construction. The Code does not require a podium for buildings this small, and light frame wood is the most economical construction type.

The cost implications of required setbacks relative to total project construction costs will vary for different building scenarios. For a 4-story, 32,000-square foot, \$4.8 million building on a 100-by 100-foot lot, a required fourth-floor setback might represent \$20,000 to \$80,000 in added construction costs, or approximately 2 to 8 percent of the cost of building the floor. This would be true whether the required setback were on the front or rear façade.

As with setbacks, the cost implications of required open space would likely depend substantially on the site and the project. On some sites, there may be enough land to meet the requirement at the ground level with no loss of buildable area, so the cost would be almost nothing. On tight urban sites built to a higher density, buildings would need to include roof decks and/or balconies to meet the open space requirement, which could be \$60 to \$90 per square foot to construct. At 48 square feet per unit, that would represent a cost of \$3,000 to \$4,500 per unit; however, providing these features would also likely command a higher rent.

Analysis of Performance Bonuses

The financial analysis of mixed use building prototypes addresses the relationship between the value of performance bonuses for affordable housing and other features, and the cost to provide those features. The analysis is “pro forma driven,” viewing the variables (e.g., the value of additional floor area, the cost of providing bonus features) from the perspective of a developer evaluating a project. A primary assumption is that the developer’s decisions will reflect a desire to maximize return on investment.

The Value of Additional FAR

The value of an increase in allowable Floor Area Ratio (FAR) varies significantly, and is dependent upon a series of financial, market and site-specific variables. These include:

- Achievable pricing, or the rents that can be achieved on a given site;
- Capitalization rate, or the rate of return acceptable in the local development market;
- The physical configuration of the site, including size, shape and setback requirements;
- Other characteristics of the site that affect its market value, including visibility, access, exposure.

In general, the value of additional FAR is greater in areas where higher rents can be charged (i.e., where “achievable pricing” is higher). This means that the FAR bonus will be more valuable for developers of sites in inner Portland neighborhoods, and less valuable in outer neighborhoods.

The Cost of Bonus Requirements

The estimated cost of meeting the requirements for additional FAR is primarily a function of lost revenue. For affordable housing, affordable commercial space, or community services, reduced rental income is the primary “cost”. Reduced income would be measured as the difference between achievable market rents and rents that would be allowed under the affordability requirement or that could be paid by a community service tenant. The cost of providing affordable housing or affordable commercial space is greatest in areas with higher achievable pricing – in other words, where higher rents can be charged.

There may be other costs associated with affordable housing, such as increased administrative costs for compliance and a potential reduction in the marketability of the remainder of the project; these were not factored into the analysis. On the other hand, a number of programs are available to improve the viability of affordable housing, including Low Income Housing Tax Credits (LIHTC), System Development Charge (SDC) waivers, and the Multiple-Unit Limited Tax Exemption (MULTE) program. In addition, many affordable housing providers are mission driven, and are not primarily motivated by return.

Other potential bonus features, including historic preservation, public plazas, and high-performance green features, were also considered. For these features, the primary cause of lost revenue is smaller floor area and/or higher upfront construction costs, rather than reduced rents.

Evaluating the Incentives

The analysis finds that additional allowed FAR would only be an effective incentive for providing affordable housing or other bonus features in central markets, where higher rents would support higher-density development. An FAR bonus would not be expected to be effective in outer markets with lower lease rates. In other words, the bonus provisions would be likely to be used in inner Portland neighborhoods, resulting in higher-density buildings and performance features such as affordable housing and public open space. New development in outer Portland would be more likely to stay within the “base” standards, and less likely to result in bonus features.

The base and bonus FARs that were initially modeled were a starting place. Based on questions about the financial viability of development under the conceptual base and bonus thresholds, expressed by stakeholders, the Project Advisory Committee and Technical Advisory Group for the MUZ project, additional financial feasibility testing has been conducted. This is included in Appendix C.

2 Building Form Prototypes

The planning team developed architectural diagrams that illustrate building form that would result from conceptual zoning districts. The building prototypes were designed to apply to situations that capture a broad range of development contexts: in inner and outer neighborhoods; on narrower (60 feet) and wider (80 feet) streets; and on lots ranging from 5,000 square feet to over 200,000 square feet, or about 4.6 acres. Eight sites were defined based on these characteristics. For each site, between two and four variations were modeled, to allow for visualization and testing of different building heights, setbacks, and massing. In total, 18 options were modeled. These are summarized in Table 2-1.

For each option, 3-dimensional, plan, and section views of the prototype building are accompanied by data on the building, and draft standards for the conceptual zone in which the building would be developed. In this way, the maximum floor area and building envelope (height, required setbacks or setbacks, etc.) that would be allowed in the zone can be directly compared to development forms that “fill out” that maximum floor area and envelope, either using the “base” allowance or a “bonus” allowance associated with meeting performance standards or providing public benefits such as affordable housing or community open space.

2.1 Options for the CM1 Zone

The conceptual CM1 zone would have a maximum base FAR of 1:1 and a maximum bonus FAR of 2.5:1, with utilization of performance bonuses providing defined public benefits. In either case, maximum height would be 35 feet (three stories). Two sites were modeled for the conceptual CM1 zone, and two options were modeled for each site. These are summarized below and shown in Figures 2-1A through 2-2B.

OPTIONS 1A AND 1B

Options 1A and 1B show two variations on a 5,000 square foot site on a narrow (60-foot) street in an inner neighborhood. Option 1A shows a two-story building occupying 50 percent of the lot area, resulting in a building FAR at the base maximum (1:1) for the proposed CM1 zone. While the building would maximize allowable floor area, it would be one story lower than allowed, well beneath the amount of lot coverage allowed, would provide substantially more open space than required, and would provide a 50-foot rear yard adjacent to the adjoining residential district, substantially more than would be required.

Option 1B shows a three-story building with 83 percent lot coverage, filling out the maximum bonus FAR (2.5:1) and height limit (35 feet) envisioned for the CM1 zone. In this case, the building would nearly maximize the site coverage limit and extend nearly to the extent allowed while providing the minimum rear yard.

OPTIONS 2A AND 2B

Options 2A and 2B show two variations on a 10,000-square foot site on a corner lot on a 60-foot street in an inner neighborhood. As in the first set of options, the base (1:1) and bonus (2.5:1) FAR limits translate to two- and three-story buildings, respectively.

Option 2A reaches the base FAR limit without including a third story, covers 50 percent of the lot (compared to the 85 percent allowed), and provides substantially more than the required rear yard. Option 2A includes only the minimum amount of outdoor space, as the remainder is occupied by parking.

Option 2B shows that on this site, a building that fills out the allowable envelope under bonus FAR conditions may not achieve the full 2.5 FAR that would be allowed with the bonus. This means that a developer wishing to make use of the bonus provisions would have limited flexibility in building form. The modeled prototype features non-required parking. Because parking is not required at this unit count, a developer may choose to omit this feature, potentially allowing more flexibility in design and the ability to utilize the maximum bonus FAR.

Table 2-1: Building Form Prototypes and Site Modeling Options

<i>Site Features</i>				<i>Building Features</i>					<i>Design Features</i>				
<i>Option</i>	<i>Pattern</i>	<i>ROW</i>	<i>Lot size</i>	<i>Building Height</i>	<i>Footprint / Building Coverage</i>	<i>Building Area</i>	<i>Building FAR</i>	<i>Program</i>	<i>Height Transitions</i>	<i>Façade % limits</i>	<i>Setbacks</i>	<i>Minimum Land-scaping</i>	<i>Required Outdoor Space</i>
Commercial Mixed Use 1 (CM1) Zone													
1A	Inner	60 ft	50x100 ft / 5,000 sf	2 stories / 24 ft	2,500 sf / 50%	5,000 sf	1:1	Ground level commercial with apartments above (3-4 units)	no	no	5-14 ft at R-zone	no	yes
1B	Inner	60 ft	50x100 ft / 5,000 sf	3 stories / 35 ft	4,166 sf / 83%	12,500 sf	2.5:1	Ground level commercial with 2 floors of apartments above (8-10 units), limited parking	no	no	5-14 ft at R-zone	no	yes
2A	Inner	60 ft	100x100 ft / 10,000 sf	2 stories / 25 ft	5,000 sf / 50%	10,000 sf	1:1	Ground level commercial with apartments above (6-8 units), limited parking	no	no	5-14 ft at R-zone	no	yes
2B	Inner	60 ft	100x100 ft / 10,000 sf	3 stories / 35 ft	8,500 sf / 85%	22,200	2.2:1	Ground level commercial with 2 floors of apartments above (16-18 units), with limited parking	no	yes	5-14 ft at R-zone	no	yes
Commercial Mixed Use 2 (CM2) Zone													
3A	Inner	60 ft	100x100 ft / 10,000 sf	3 stories / 35 ft	6,666 sf / 67%	20,000 sf	2:1	Ground level commercial with 2 floors of apartments above (14-16 units), with parking	no	no	5-14 ft at R-zone	no	yes
3B	Inner	60 ft	100x100 ft / 10,000 sf	5 stories / 55 ft	8,600 sf / 86%	29,7650 sf	2.97:1	Ground level commercial with 3 floors of apartments	step back above 3rd floor	yes	5-14 ft at R-zone	no	yes

Table 2-1: Building Form Prototypes and Site Modeling Options

<u>Site Features</u>				<u>Building Features</u>					<u>Design Features</u>				
Option	Pattern	ROW	Lot size	Building Height	Footprint / Building Coverage	Building Area	Building FAR	Program	Height Transitions	Façade % limits	Setbacks	Minimum Land-scaping	Required Outdoor Space
								above (30-40 units), with parking					
3C	Inner	80 ft	100x100 ft / 10,000 sf	3 stories / 35 ft	6,666 sf / 67%	20,000 sf	2:1	Ground level commercial with 2 floors of apartments above (14-16 units), with parking	no	no	5-14 ft at R-zone	no	yes
3D	Inner	80 ft	100x100 ft / 10,000 sf	5 stories / 55 ft	7,000 sf / 70%	35,000 sf	3.5:1	Ground level commercial with 4 floors of apartments above (24-28 units), with parking	step back above 4th floor	yes	5-14 ft at R-zone	no	yes
4A	Outer	80 ft	150x220 ft / 33,000 sf	3 stories / 35 ft	16,500 sf / 50%	66,000 sf	2:1	Ground level commercial with 2 floors of apartments above (38-44 units), with parking	no	yes	10 ft at street, 5-14 ft at R-zone	minimum 15%	yes
4B	Outer	80 ft	150x220 ft / 33,000 sf	5 stories / 55 ft	23,100 sf / 70%	115,500	3.5:1	Ground level commercial with 4 floors of apartments above (100-120 units), with tuck-under parking	step back above 4th floor	yes	10 ft at street, 5-14 ft at R-zone	minimum 15%	yes
5A	Outer	80 ft	450x450 ft / 202,500 sf	3 stories / 35 ft	135,000 sf / 67%	405,000 sf	2:1	Likely two buildings, GF commercial towards front of site, apartments above and in rear.	no	yes	10 ft at street, 5-14 ft at R-zone	minimum 15%	yes

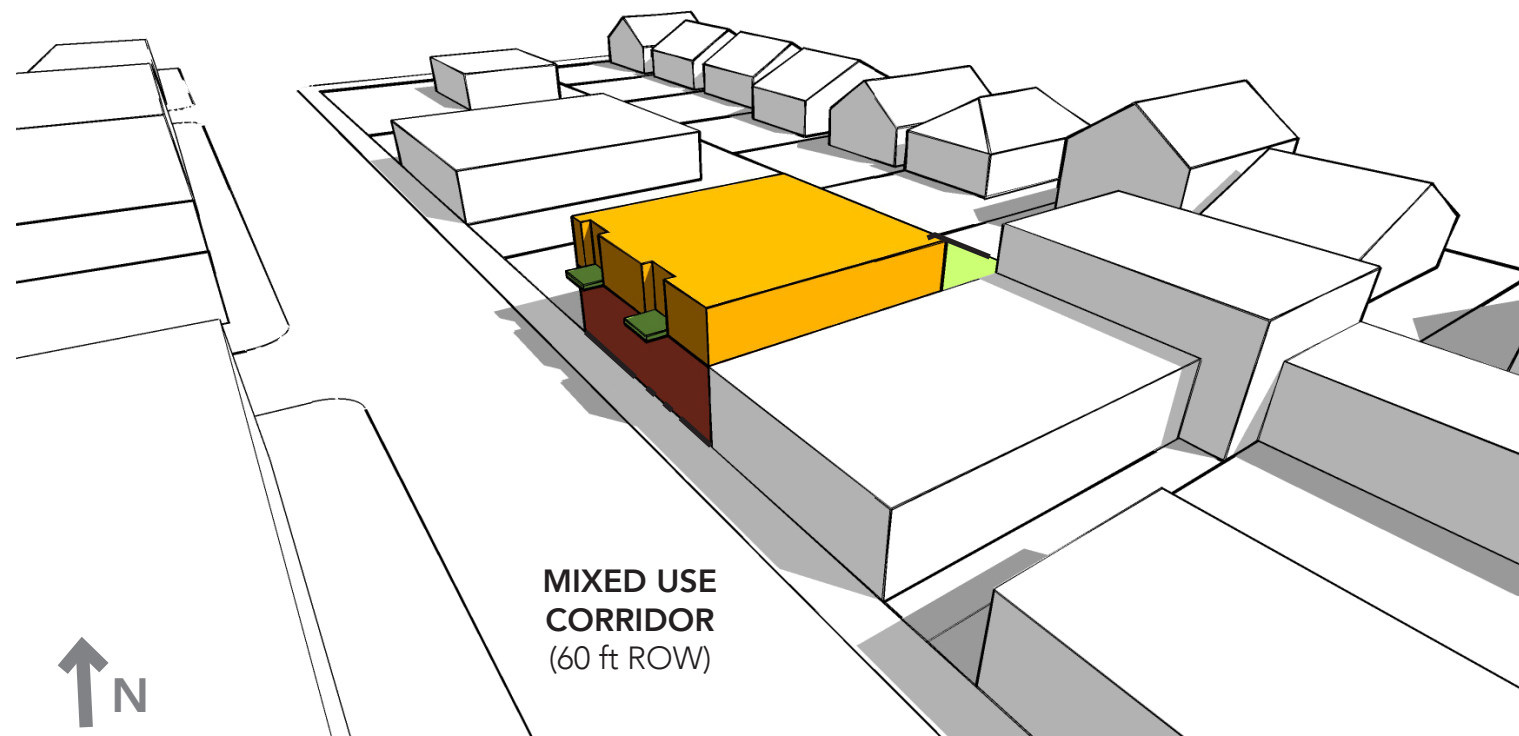
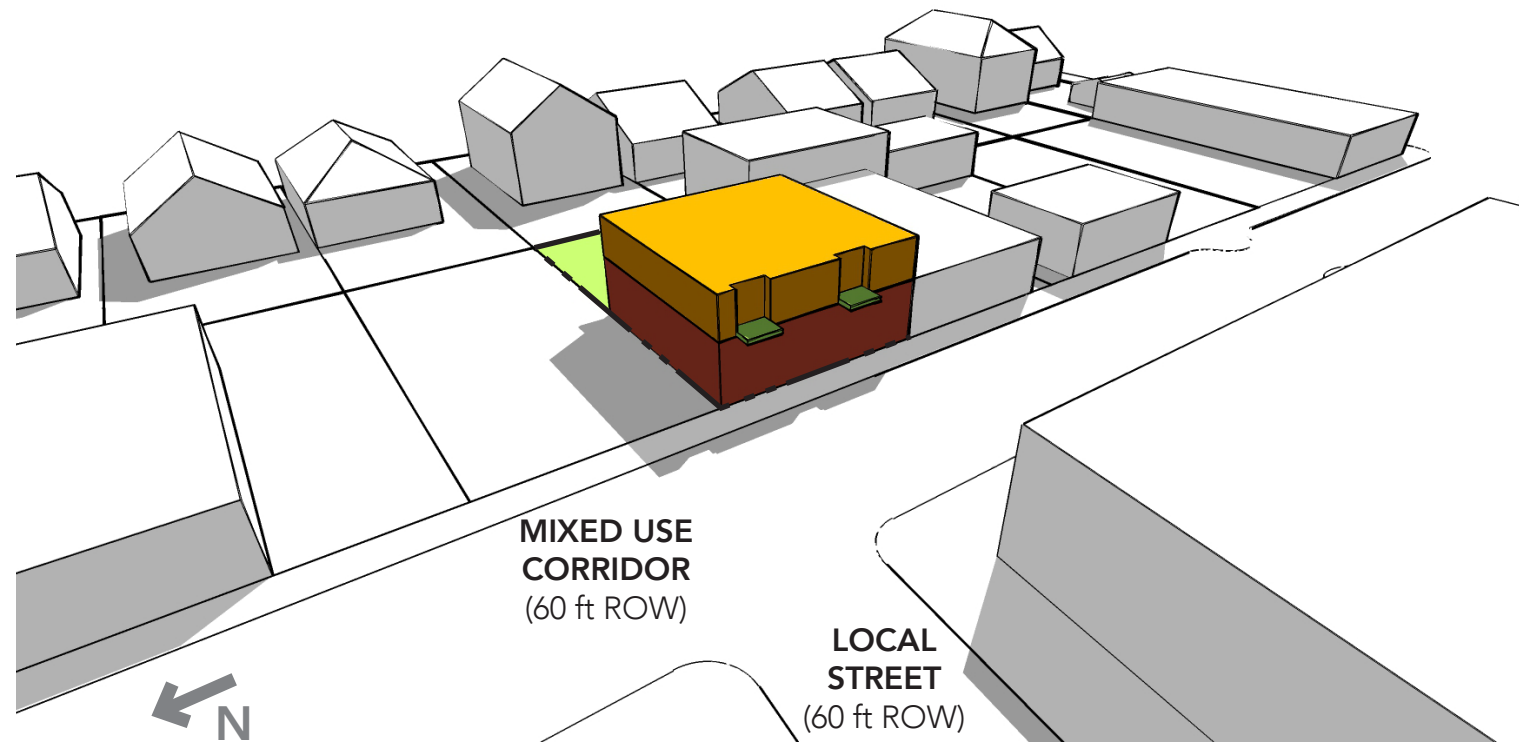
Table 2-1: Building Form Prototypes and Site Modeling Options

<i>Site Features</i>				<i>Building Features</i>					<i>Design Features</i>				
<i>Option</i>	<i>Pattern</i>	<i>ROW</i>	<i>Lot size</i>	<i>Building Height</i>	<i>Footprint / Building Coverage</i>	<i>Building Area</i>	<i>Building FAR</i>	<i>Program</i>	<i>Height Transitions</i>	<i>Façade % limits</i>	<i>Setbacks</i>	<i>Minimum Land-scaping</i>	<i>Required Outdoor Space</i>
5B	Outer	80 ft	450x450 ft / 202,500 sf	5 stories / 55 ft	141,750 sf / 70%	708,750 sf	3.5:1	Likely multiple buildings, GF commercial towards front of site, apartments above and in rear.	step back above 4th floor	yes	10 ft at street, 5-14 ft at R-zone	minimum 15%	yes
Commercial Mixed Use 3 (CM3) Zone													
6A	Inner	60 ft	100x100 ft / 10,000 sf	4 stories / 45 ft	8,600 sf / 86%	31,550 sf	2.79:1	Ground level commercial with 3 floors of apartments above (26 units), limited parking	yes	yes	5-14 ft at R-zone	no	yes
6B	Inner	60 ft	100x100 ft / 10,000 sf	7 stories / 75 ft	8,600 sf / 86%	48,550 sf	4.39:1	Ground level commercial with 6 floors of apartments above (48 units), limited parking	yes	yes	5-14 ft at R-zone	no	yes
7A	Inner	80 ft	200x200 ft / 40,000 sf	5 stories / 55 ft	36,000 sf / 90%	133,000 sf	2.9:1	Ground level commercial with 4 floors of apartments above (121 units), limited parking	yes	yes	5-14 ft at R-zone	no	yes
7B	Inner	80 ft	200x200 ft / 40,000 sf	7 stories / 75 ft	36,000 sf / 90%	184,700 sf	3.98:1	Ground level commercial with 6 floors of apartments above (192 units), limited parking	yes	yes	5-14 ft at R-zone	no	yes

Table 2-1: Building Form Prototypes and Site Modeling Options

<i>Site Features</i>				<i>Building Features</i>					<i>Design Features</i>				
<i>Option</i>	<i>Pattern</i>	<i>ROW</i>	<i>Lot size</i>	<i>Building Height</i>	<i>Footprint / Building Coverage</i>	<i>Building Area</i>	<i>Building FAR</i>	<i>Program</i>	<i>Height Transitions</i>	<i>Façade % limits</i>	<i>Setbacks</i>	<i>Minimum Land-scaping</i>	<i>Required Outdoor Space</i>
Commercial Employment (CE) Zone													
8A	Outer	80 ft	150x220 ft / 33,000 sf	3 stories / 35 ft	22,000 sf / 67%	66,000 sf	2:1	Ground level commercial with 2 floors apartments above (52-60 units), limited parking	TBD	yes	10 ft at street, 5-14 ft at R-zone	minimum 15%	yes
8B	Outer	80 ft	150x220 ft / 33,000 sf	4 stories / 45 ft	24,750 sf / 75%	99,000 sf	3:1	Ground level commercial with 3 floors apartments above (96-110 units), limited parking	TBD	yes	10 ft at street, 5-14 ft at R-zone	minimum 15%	yes

Figure 2-1A: Option 1A



CM1 ZONE STANDARDS

ROW width: 60 ft
 Max Height: 35 ft / 3 stories
 Additional GF Height: 3 ft (for active use)
 Step-backs: none

Max FAR: 1:1 (no bonus)
 Max Building Coverage: 85%
 Req'd Landscaping: none
 Req'd Outdoor Space: 48 sf / unit

Required Parking:
 Vehicle: none
 Short-term bike: 4 spaces
 Long-term bike: 7 spaces

Front Setback: none
 Side Setbacks: 5-14 ft @ R-zone
 Rear Setback: 5-14 ft @ R-zone

BUILDING PROTOTYPE

Site Area: 5,000 sf / 50x100
 Height: 25 ft / 2 stories

Step-backs: none

Building Area:	Residential	3,150 gsf
	Commercial	1,850 gsf
	Total	5,000 gsf

FAR: 1:1
 Building Coverage: 2,500 sf / 50%
 Landscaping: 0 sf / 0%
 Outdoor Space: 2500 sf (shared)

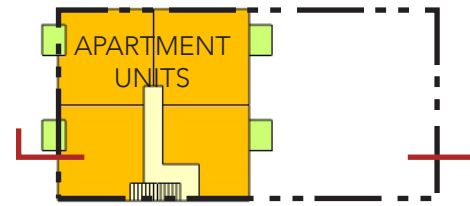
Parking Provided:
 Vehicle: none
 Short-term bike: 4 spaces
 Long-term bike: 7 spaces

Front Setback: none
 Side Setbacks: none
 Rear Setback: 50 ft

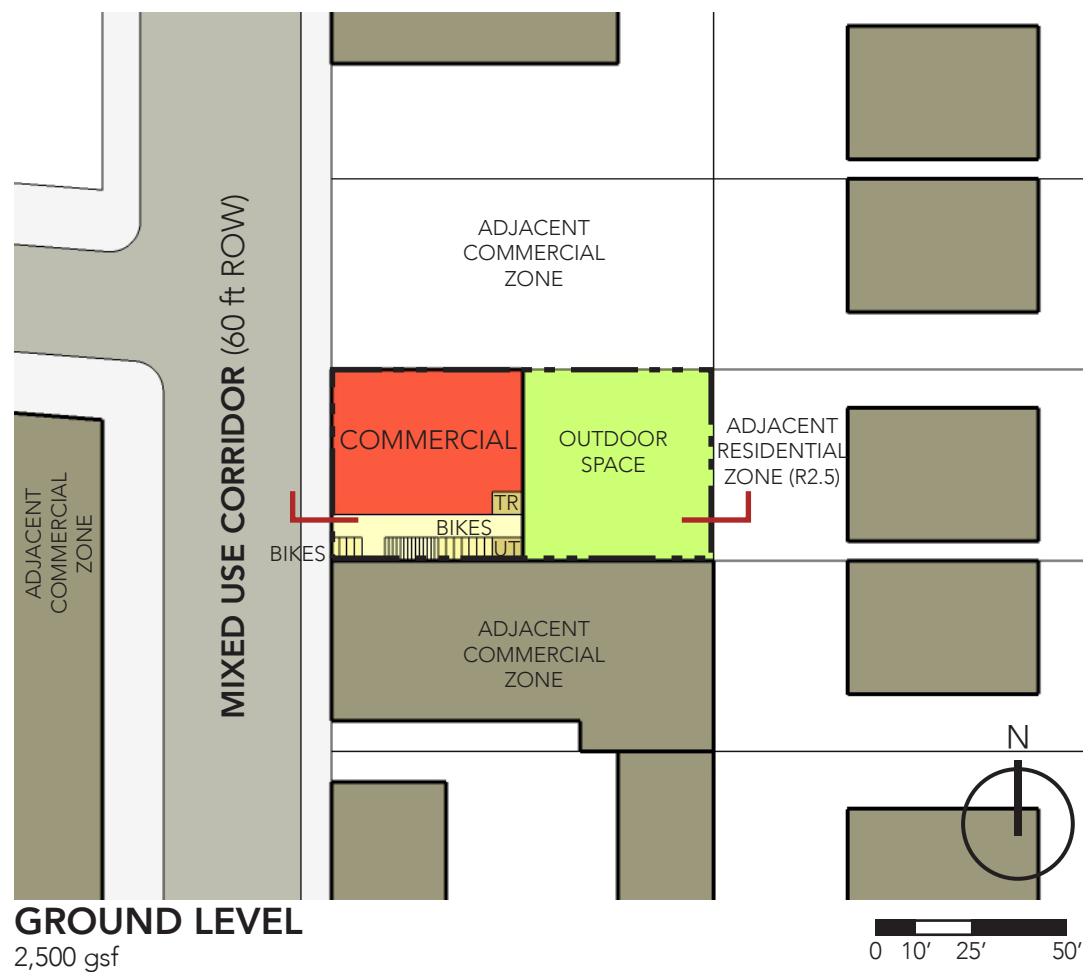
Apartment Units: 4 (790 gsf per unit overall)

MUZ BUILDING PROTOTYPES OPT 1A

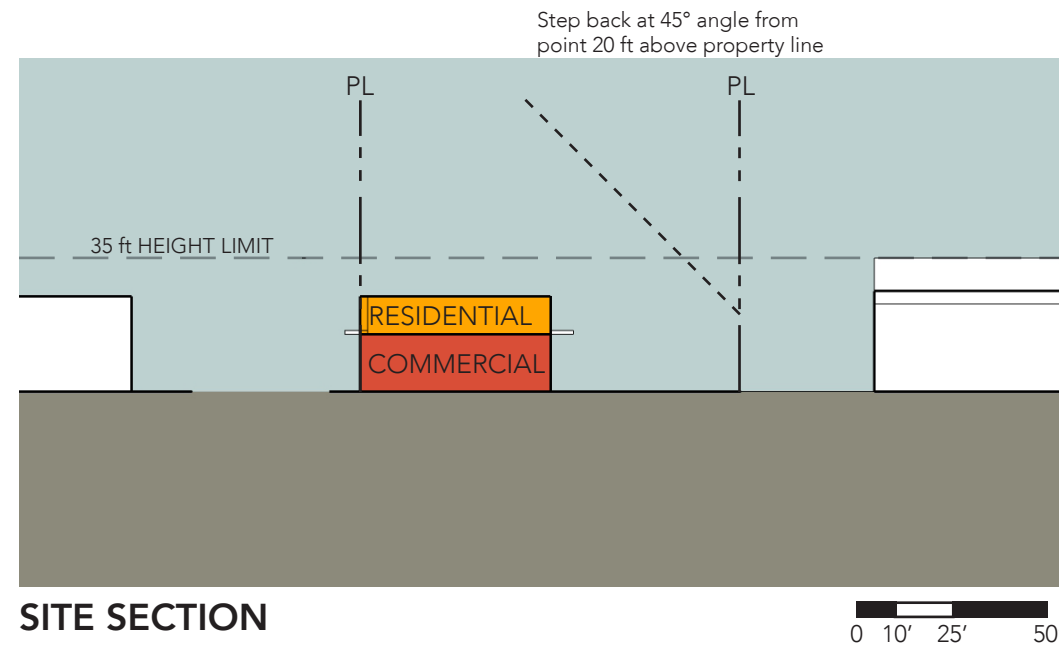
Figure 2-1A: Option 1A



LEVEL 2
2,500 gsf



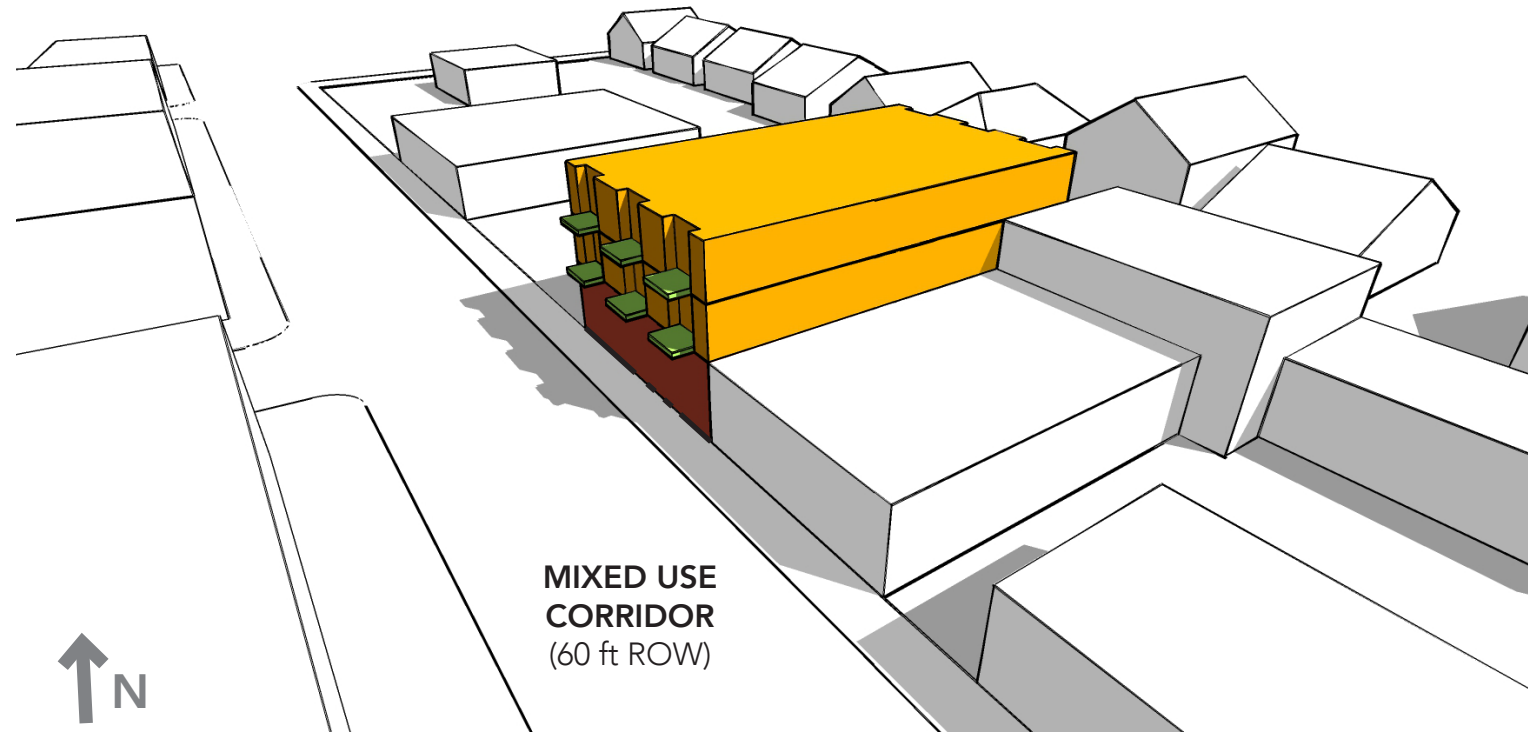
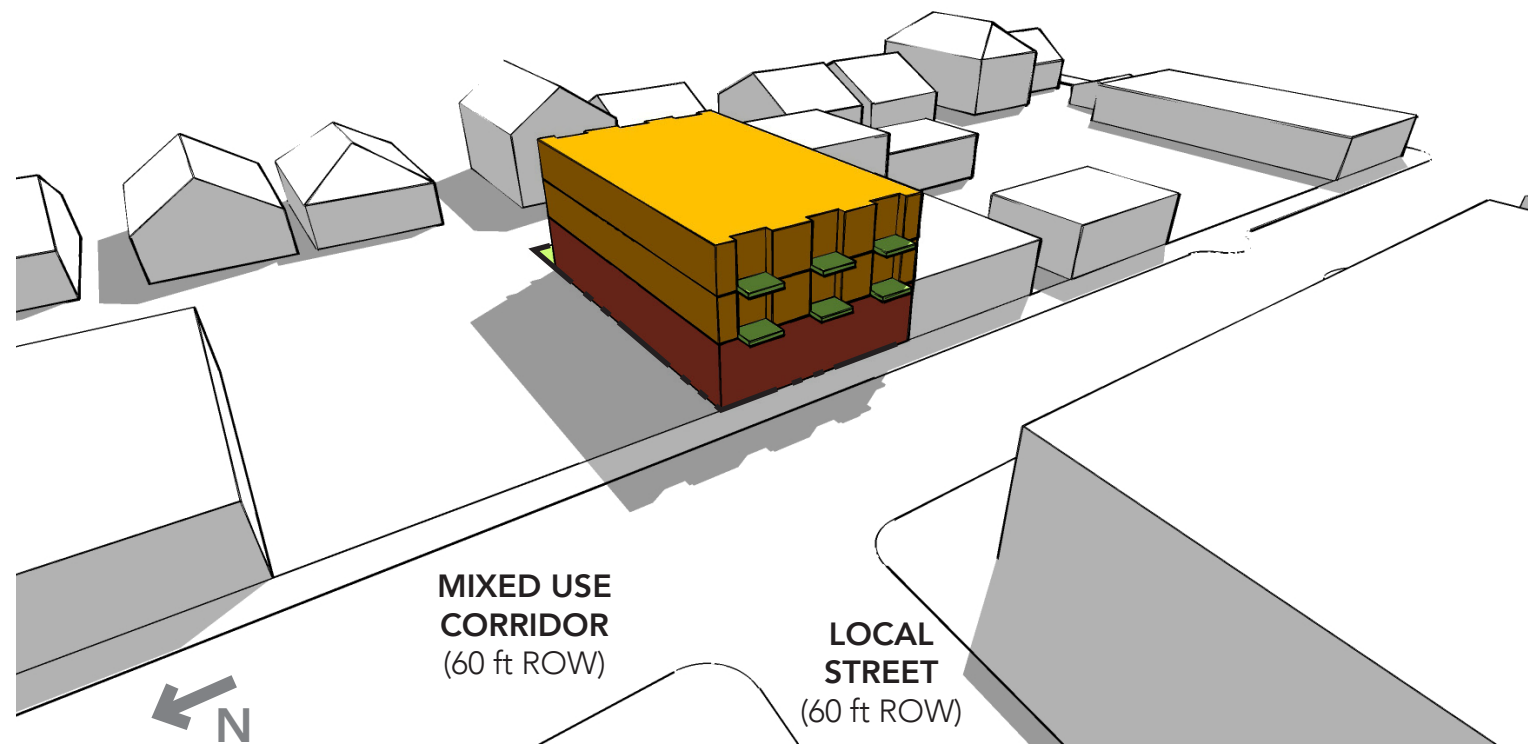
GROUND LEVEL
2,500 gsf



SITE SECTION

MUZ BUILDING PROTOTYPES **OPT 1A**

Figure 2-1B: Option 1B



CM1 ZONE STANDARDS

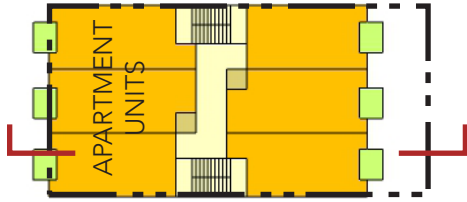
ROW width:	60 ft
Max Height:	35 ft / 3 stories
Additional GF Height:	3 ft (for active use)
Step-backs:	none
Max FAR:	2.5:1 (with bonus)
Max Building Coverage:	85%
Req'd Landscaping:	none
Req'd Outdoor Space:	48 sf / unit
Required Parking:	
Vehicle:	none
Short-term bike:	4 spaces
Long-term bike:	18 spaces
Front Setback:	none
Side Setbacks:	5-14 ft @ R-zone
Rear Setback:	5-14 ft @ R-zone

BUILDING PROTOTYPE

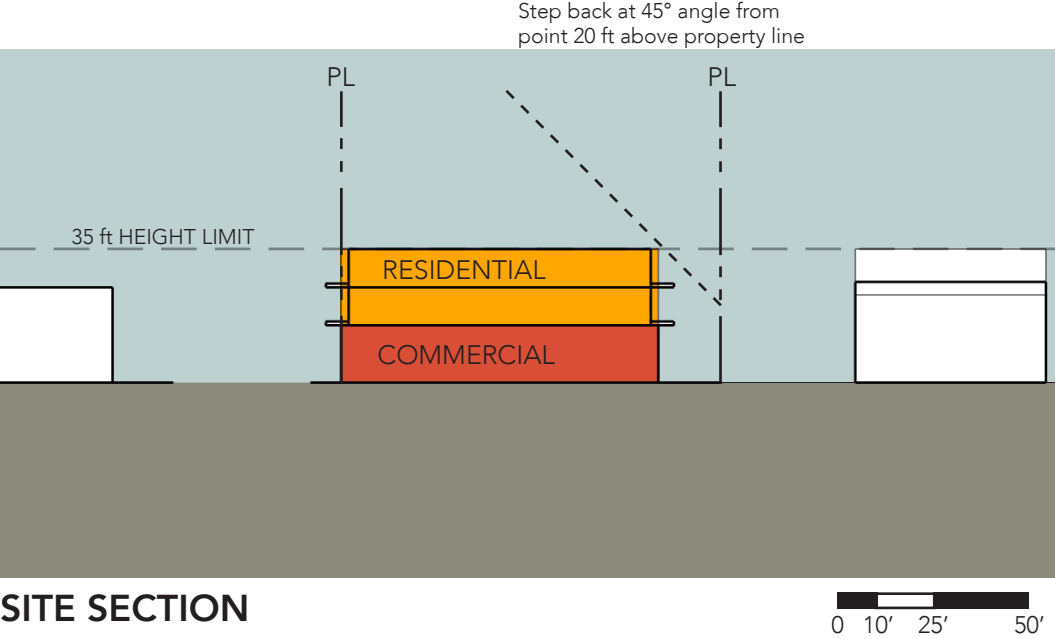
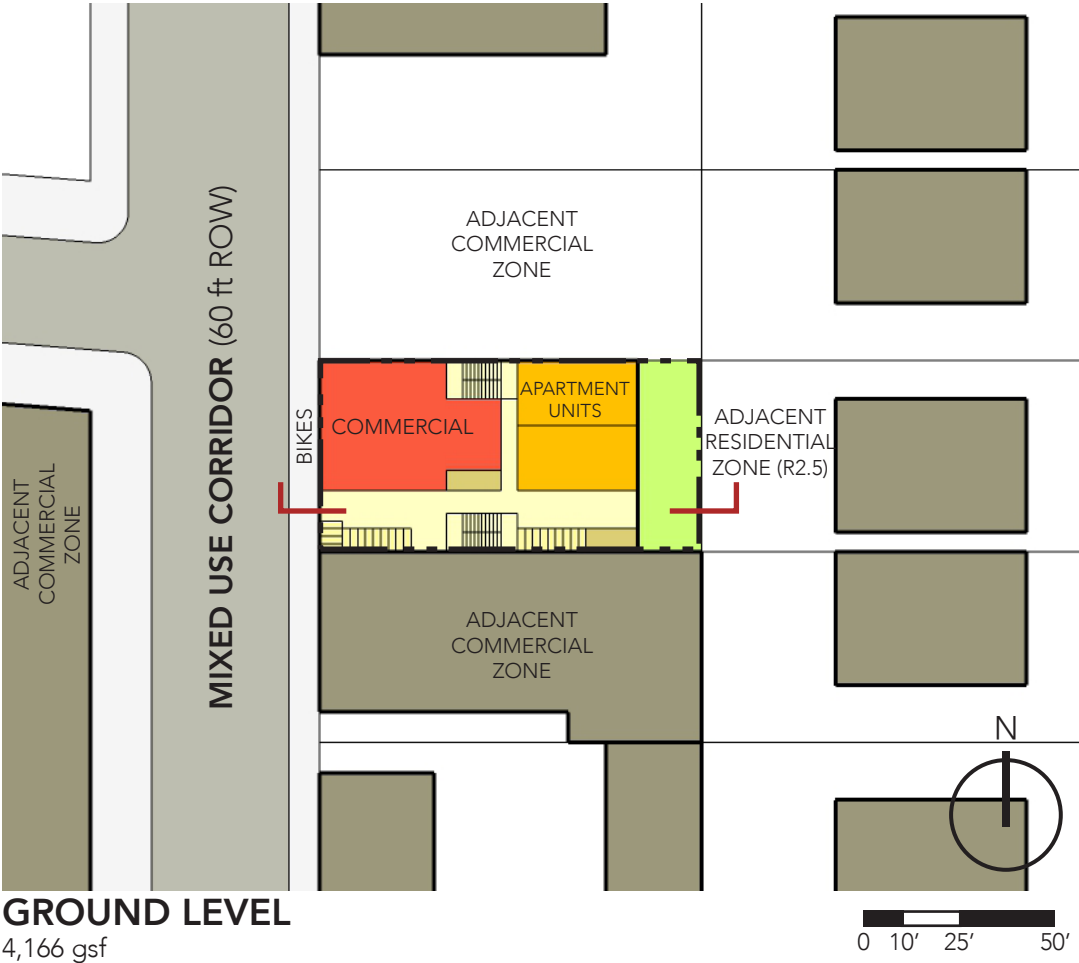
Site Area:	5,000 sf / 50x100
Height:	35 ft / 3 stories
Step-backs:	none
Building Area:	Residential 11,100 gsf Commercial 1,400 gsf Total 12,500 gsf
FAR:	2.5:1
Building Coverage:	4,166 sf / 83.3%
Landscaping:	0 sf / 0%
Outdoor Space:	1,400 sf
Parking Provided:	
Vehicle:	none
Short-term bike:	4 spaces
Long-term bike:	18 spaces
Front Setback:	none
Side Setbacks:	none
Rear Setback:	16.66 ft
Apartment Units:	14 (793 gsf per unit overall)

MUZ BUILDING PROTOTYPES **OPT 1B**

Figure 2-1B: Option 1B

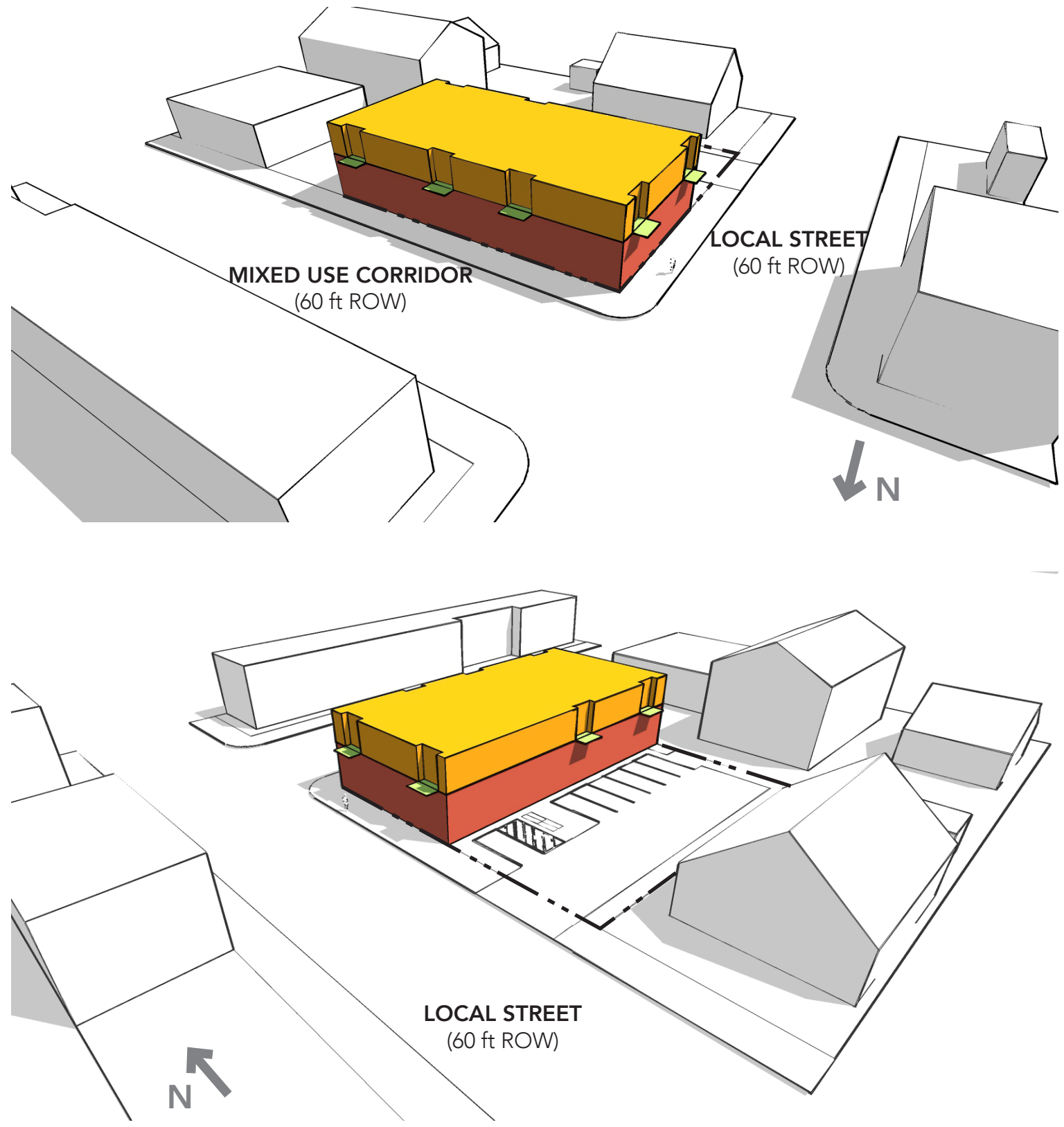


LEVELS 2-3
4,166 gsf



MUZ BUILDING PROTOTYPES **OPT 1B**

Figure 2-2A: Option 2A



CM1 ZONE STANDARDS

ROW width:	60 ft
Max Height:	35 ft / 3 stories
Additional GF Height:	3 ft (for active use)
Step-backs:	none
Max FAR:	1:1 (no bonus)
Max Building Coverage:	85%
Req'd Landscaping:	none
Req'd Outdoor Space:	48 sf / unit
Required Parking:	
Vehicle:	none
Short-term bike:	4 spaces
Long-term bike:	11 spaces
Front Setback:	none
Side Setbacks:	none
Rear Setback:	5-14 ft @ R-zone

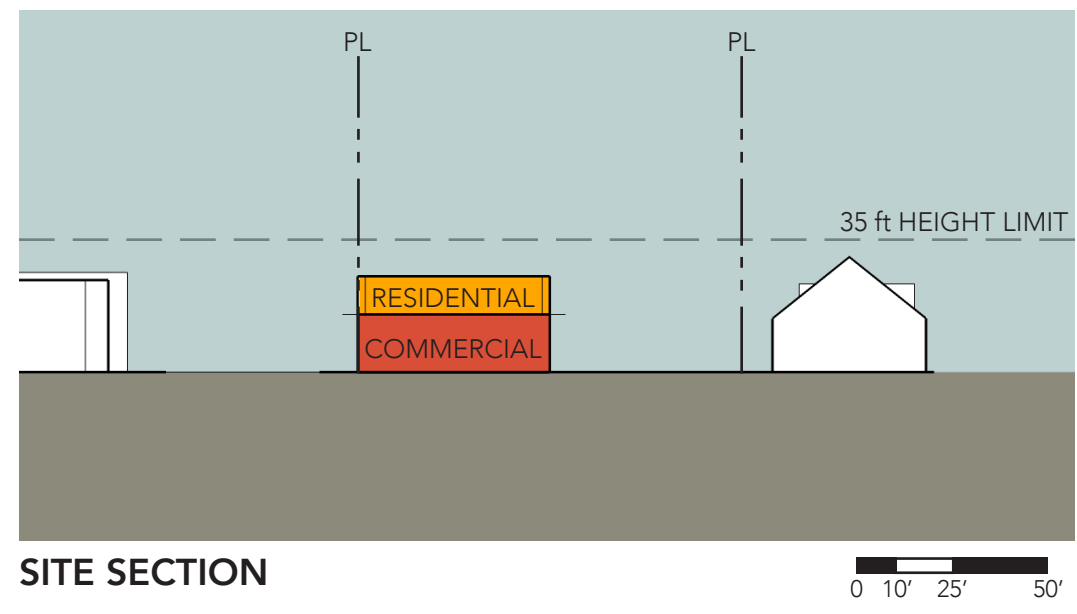
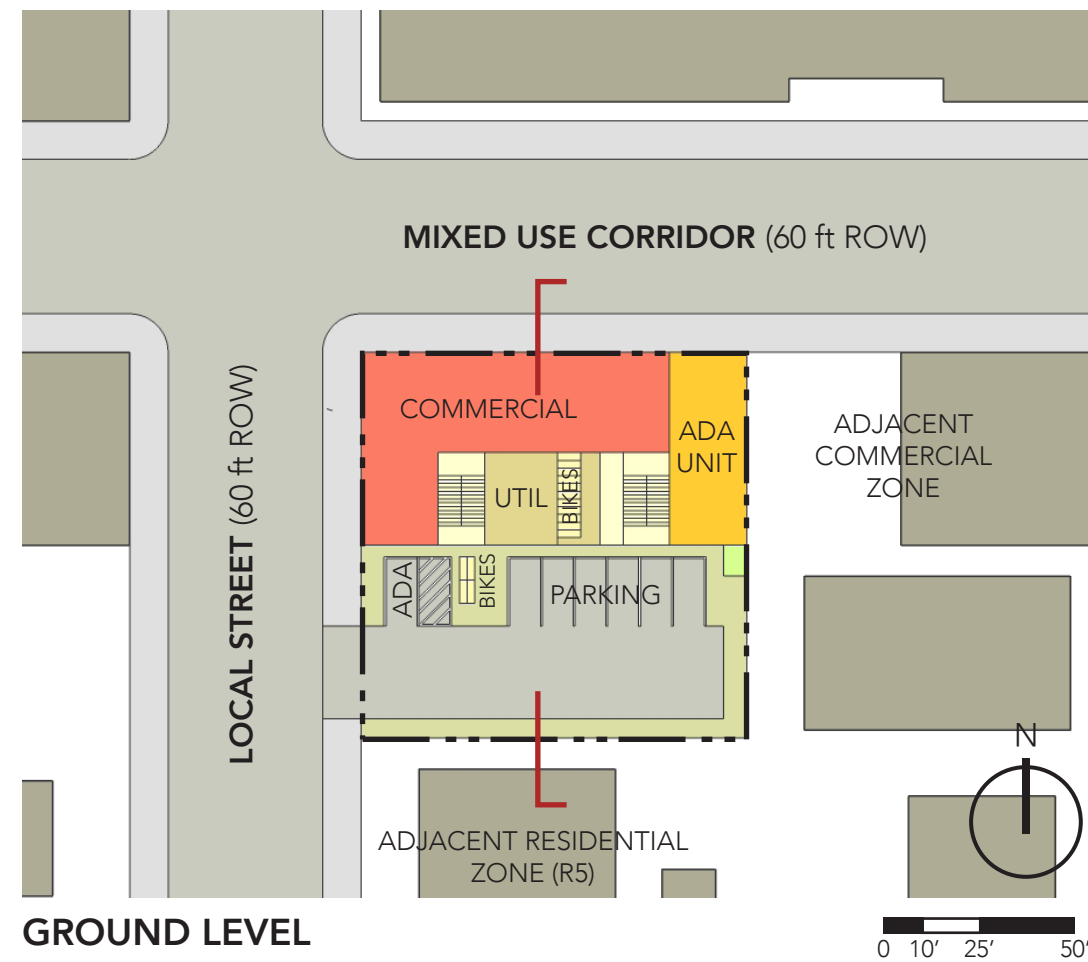
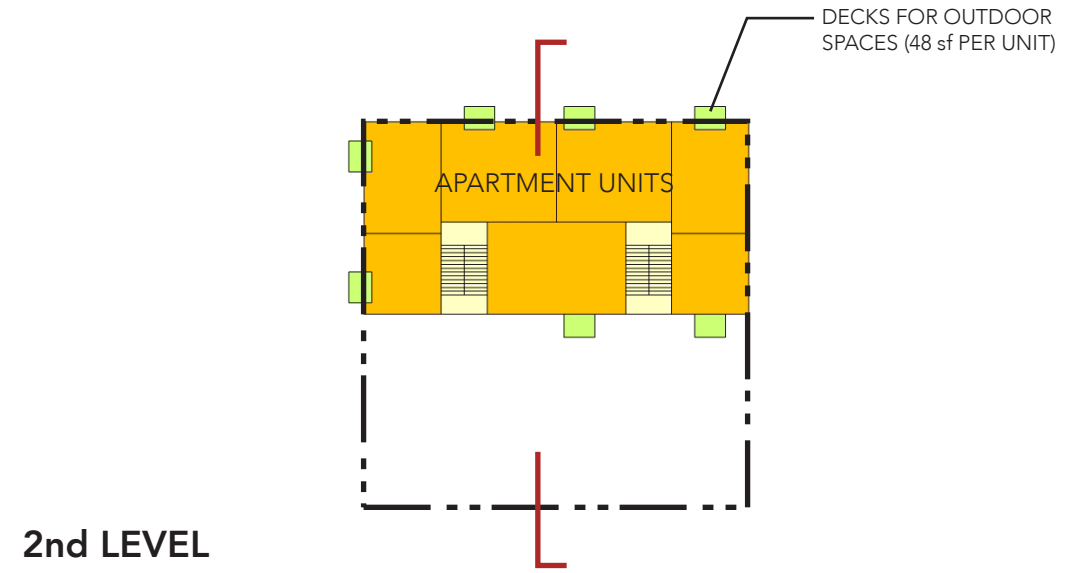
BUILDING PROTOTYPE

Site Area:	10,000 sf / 100x100
Height:	25 ft / 2 stories
Step-backs:	none
Building Area:	Residential 7,200 gsf Commercial 2,800 gsf
	Total 10,000 gsf
FAR:	1:1
Building Coverage:	5,000 sf / 50%
Landscaping:	1,600 sf / 16%
Outdoor Space:	384 sf (8 decks x 48 sf ea.)
Parking Provided:	
Vehicle:	6 stalls + 1 ADA
Short-term bike:	4 spaces
Long-term bike:	11 spaces
Front Setback:	none
Side Setbacks:	none
Rear Setback:	50 ft
Apartment Units:	8 (900 gsf per unit overall)

NOTE: In non-commercial districts, an all residential scheme is likely

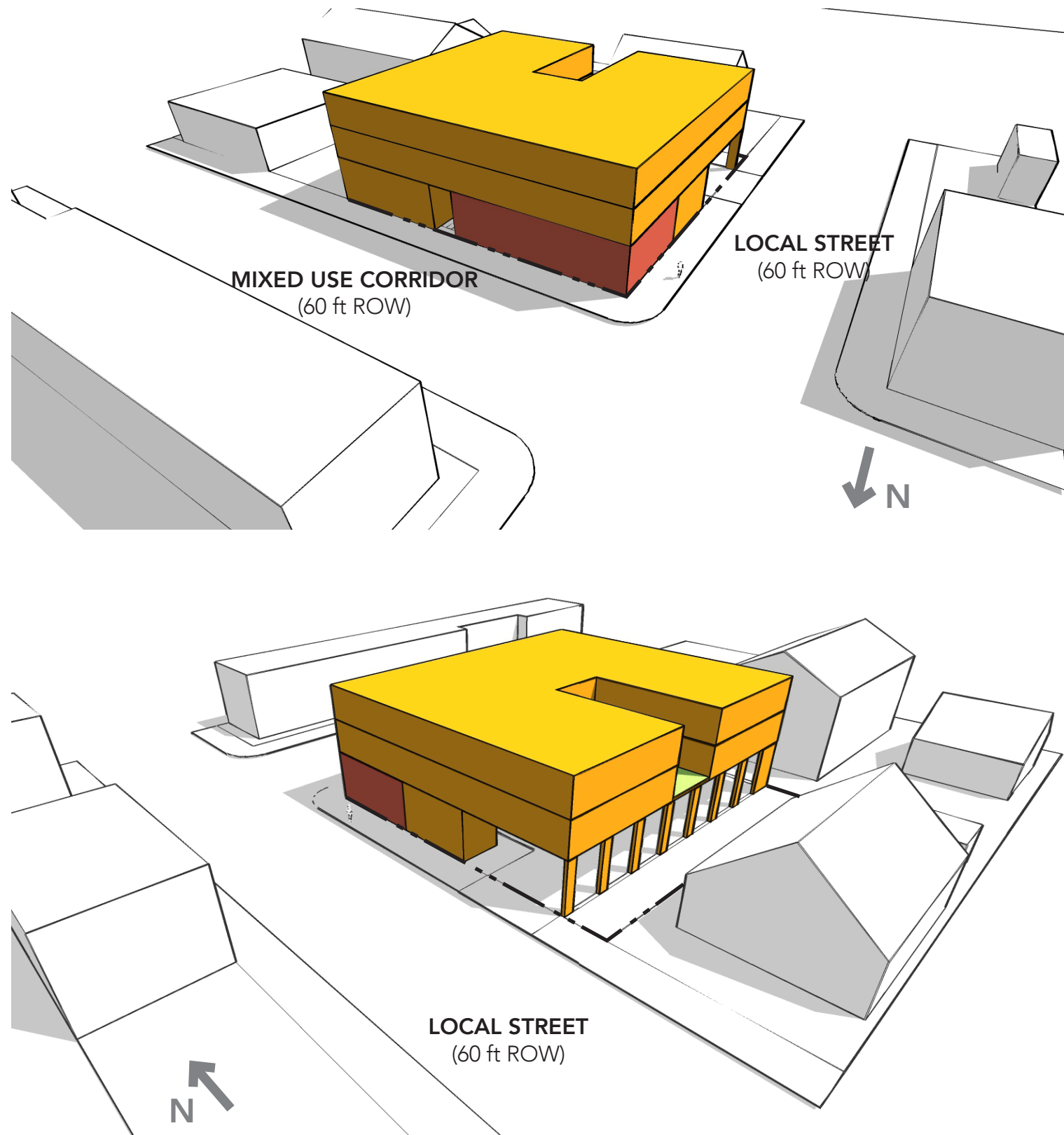
MUZ BUILDING PROTOTYPES OPT 2A

Figure 2-2A: Option 2A



MUZ BUILDING PROTOTYPES **OPT 2A**

Figure 2-2B: Option 2B



CM1 ZONE STANDARDS

ROW width: 60 ft
 Max Height: 35 ft / 3 stories
 Additional GF Height: 3 ft (for active use)
 Step-backs: none

Max FAR: 2.5:1 (w/ bonus)
 Max Building Coverage: 85%
 Req'd Landscaping: none
 Req'd Outdoor Space: 48 sf / unit

Required Parking:
 Vehicle: none
 Short-term bike: 4 spaces
 Long-term bike: 25 spaces

Front Setback: none
 Side Setbacks: none
 Rear Setback: 5-14 ft @ R-zone

BUILDING PROTOTYPE

Site Area: 10,000 sf / 100x100
 Height: 35 ft / 3 stories

Step-backs: none

Building Area:
 Residential 19,800 gsf
 Commercial 2,400 gsf
 Parking 4,300 gsf

Total 26,500 gsf

FAR: 2.22:1 (not including parking)
 Building Coverage: 8,500 sf / 85%
 Landscaping: 1,500 sf / 15%
 Outdoor Space: 768 sf shared area

Parking Provided:
 Vehicle: 6 stalls + 1 ADA
 Short-term bike: 4 spaces
 Long-term bike: 25 spaces

Front Setback: none
 Side Setbacks: none
 Rear Setback: 14 ft

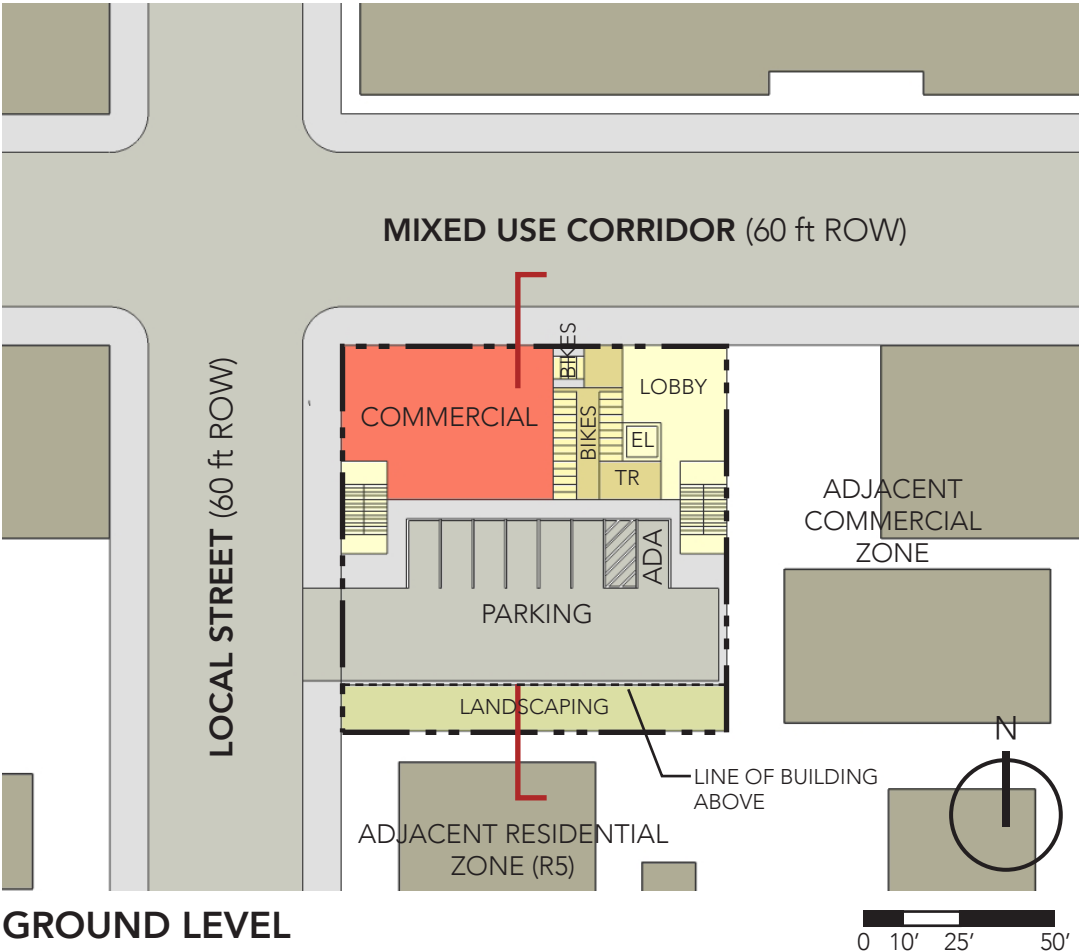
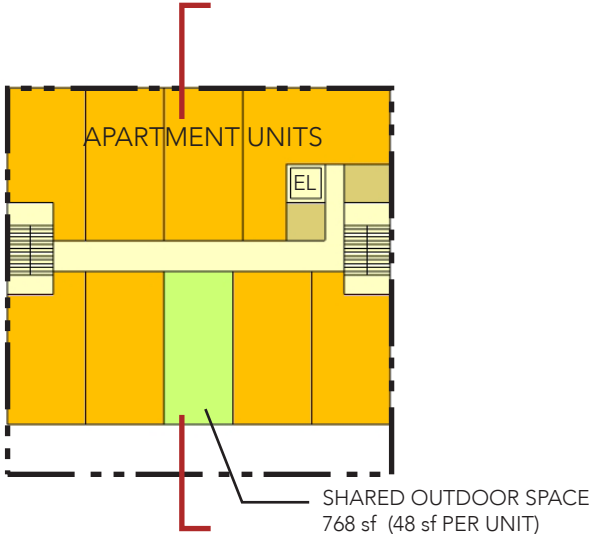
Apartment Units: 16 (1,237 gsf per unit overall)

MUZ BUILDING PROTOTYPES **OPT 2B**

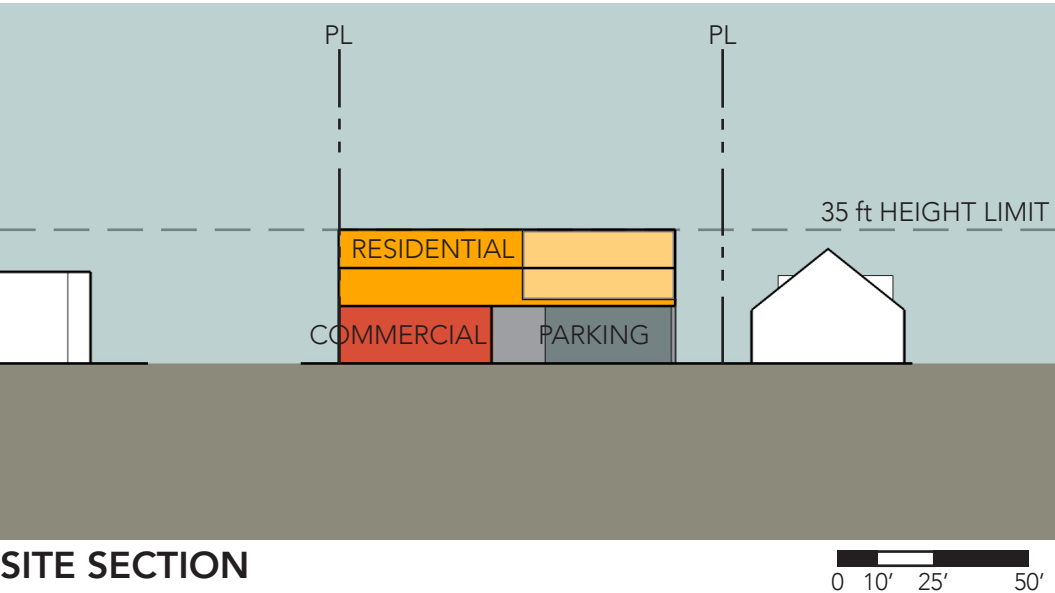


Figure 2-2B: Option 2B

2nd LEVEL



GROUND LEVEL



SITE SECTION

MUZ BUILDING PROTOTYPES **OPT 2B**

2.2 Options for the CM2 Zone

The CM2 zone would have a maximum base FAR and height of 2:1 and 45 feet (four stories), and a maximum bonus FAR and height of 3.5:1 and 55 feet (five stories), with the provision of performance measures with defined public benefits. Three sites and a total of eight variations were modeled for the conceptual CM2 zone, summarized below and shown in Figures 2-3A through 2-5B.

OPTIONS 3A, 3B, 3C, AND 3D

The third prototypical site is a 10,000 square on a corner lot in an inner neighborhood; options 3A and 3B would be on a 60-foot street, while 3C and 3D would be on an 80-foot street.

Options 3A and 3C show a three-story building that would maximize allowed FAR under base conditions (2:1). This building would come close to lot coverage limits (75 or 80 percent compared to an allowed 90 percent), but would still leave more rear yard than required and would be one story lower than allowed. Parking is provided at surface level, tucked under upper story residential units. Stepback requirements would only apply above a fourth level, and are not needed for either 3A or 3C.

Options 3B and 3D show a five-story building that would nearly maximize allowed FAR under bonus conditions (3.5:1). The building would also reach the height limit and the minimum rear yard, and nearly maximize allowed lot coverage. Parking would be “tucked under” upper story housing, and ten (Option 3B) or eleven (3D) vehicle spaces would be provided for 35 housing units (which exceeds required parking standards). For Option 3B, the building would “step back” above the third floor, on both the front and rear facades, approximating a “daylight plane” to provide more light and air to both the narrow street and adjoining houses. Variations are shown for how these stepbacks may be designed. Option 3D would employ similar stepbacks as 3B on the rear of the building, but the front stepback would only occur on the top level, because the additional daylight would be less of an issue on a wide street.

OPTIONS 4A AND 4B

The fourth site is a 33,000-square foot site on a wide street in an outer neighborhood. The deep lot modeled here is typical of outer eastside Portland, where the street grid is less fully developed than in inner neighborhoods.

Option 4A shows a building that maximizes base FAR (2:1). This building also reaches the height limit (four stories) and the minimum rear setback, and comes close to maximizing lot coverage. The design provides 35 vehicle parking spaces for 69 units, at ground level tucked under upper-level apartments. Variation in building height and articulation of the front façade break up the large building mass, and a sizable (4,400-square foot) common open space is provided in a courtyard at the second level, above parking.

Option 4B shows a building designed to make use of the bonus FAR (3.5:1). The building reaches the five-story height limit and nearly fills out the allowed building envelope, but falls short of maximum FAR, only achieving 2.86:1, while providing 35 vehicle parking spaces for 104 units. Stepbacks and building articulation are less successful in breaking up the volume of this building, which is more massive than Option 4A. Variations are shown for side yard stepbacks above the third level. These would achieve greater separation from adjoining residential lots, while reducing FAR to 2.66:1 or 2.62:1.

OPTIONS 5A AND 5B

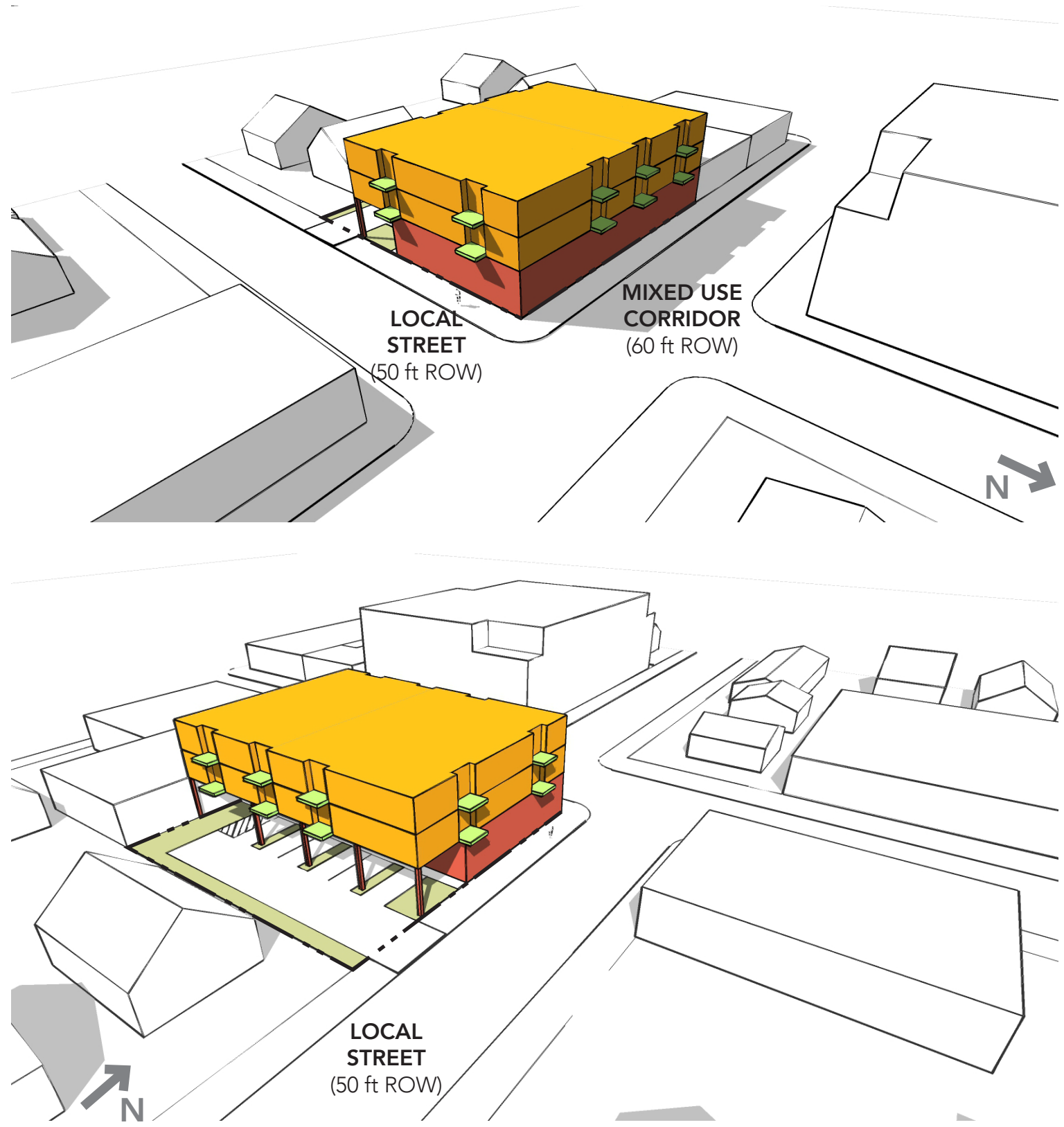
The fifth site is the largest site studied, at 202,500 square feet on a 450-by-450-foot lot. The site is in an outer neighborhood, at the intersection of wide (80-foot) and narrow (60-foot) corridors. For this site, a complex of multiple buildings is shown in two options, with 5A designed for the base FAR and 5B designed for the bonus FAR. Notably, neither design is able to maximize allowable development.

Option 5A shows a complex of four, four-story buildings arranged around a surface parking area in the site interior. The buildings would step back above the third level at the rear lot frontage and along the narrower street frontage, while building articulation would break up long facades along the wider street. At 1.56 FAR, the conceptual project would fall short of the 2:1 FAR allowed, while translating to only 40 percent lot coverage compared to 85 percent allowed. Much of the site area is used for surface parking, though only 121 vehicle spaces are provided for 348 units. This is reasonably seen as the most viable outcome on this site, despite not achieving full FAR.

Option 5B shows a complex of five, five-story buildings that make use of the height bonus provision, but reach only the base FAR allowance of 2.0. Buildings are set back from the rear property line and along street facades, with the stepback occurring above the third level along the narrow street and above the fourth level along the wide street. As with 5A, the project would cover far less of the site than allowed; remaining lot area is used to accommodate 159 vehicle parking spaces for 482 units.

It is notable that achieving the maximum FAR allowed with bonuses is increasingly difficult on large sites given the height limits specified in the CM2 zone. This is largely due to the need for parking and site circulation on large sites where a large number of residential units may be developed. For large sites (generally over one acre), additional height would likely be needed to accommodate the allowed bonus floor area.

Figure 2-3A: Option 3A



CM2 ZONE STANDARDS

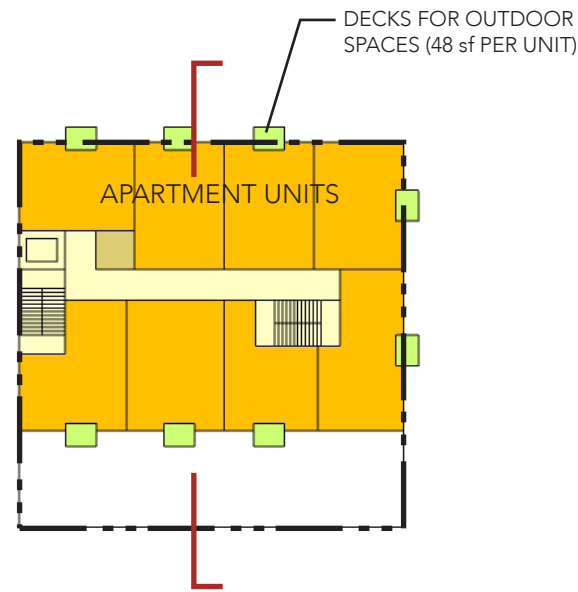
Pattern Area:	Inner
ROW width:	60 ft
Max Height:	45 ft / 4 stories
Additional GF Height:	3 ft (for active use)
Step-backs:	60' ROW facades step back above 3rd level
Max FAR:	2:1 (no bonus)
Max Building Coverage:	90%
Req'd Landscaping:	none
Req'd Outdoor Space:	48 sf / unit
Required Parking:	
Vehicle:	none
Short-term bike:	4 spaces
Long-term bike:	20 spaces
Front Setback:	none
Side Setbacks:	5-14 ft @ R-zone
Rear Setback:	5-14 ft @ R-zone

BUILDING PROTOTYPE

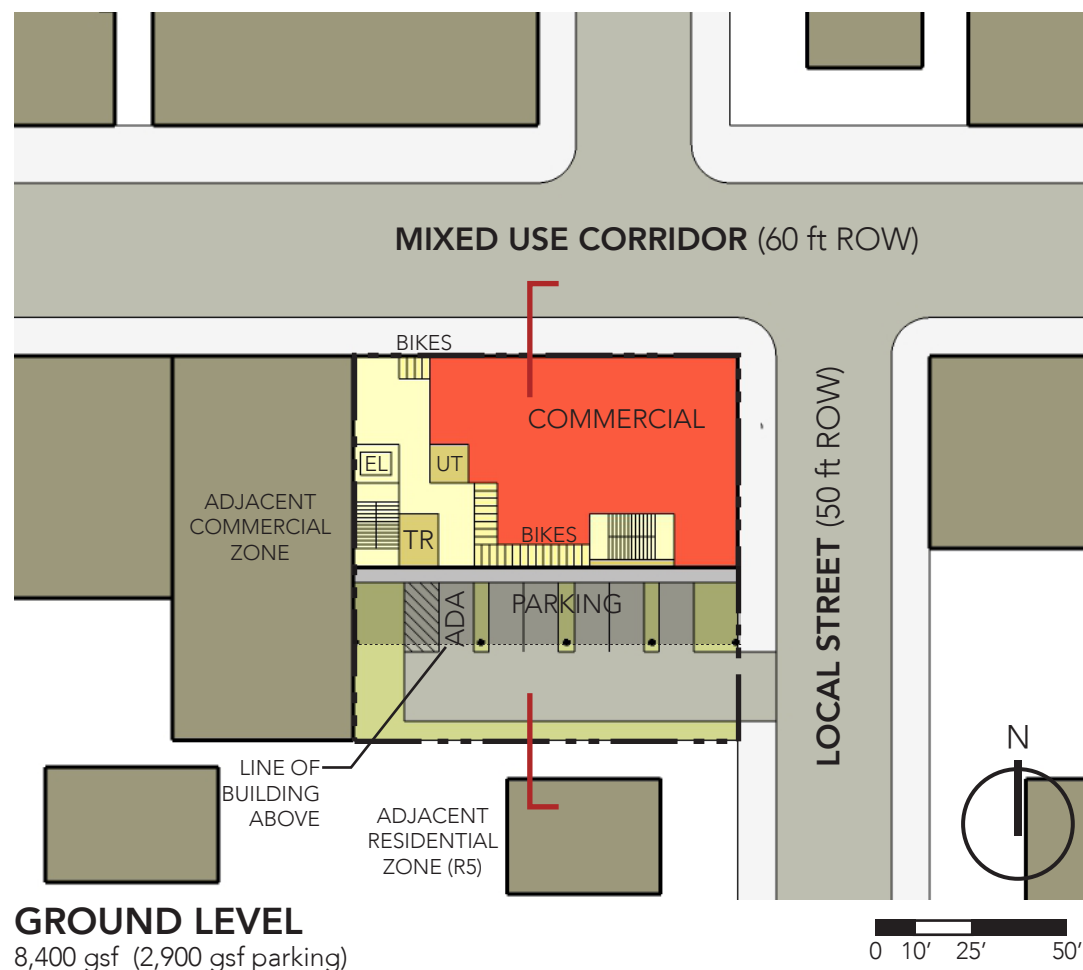
Site Area:	10,000 sf / 100x100
Height:	35 ft / 3 stories
Step-backs:	none
Building Area:	Residential 16,600 gsf Commercial 3,400 gsf Parking 2,900 gsf
Total	22,900 gsf
FAR:	2:1 (not including parking)
Building Coverage:	7,500 sf / 75%
Landscaping:	1,400 sf / 14%
Outdoor Space:	768 sf (16 decks x 48 sf ea.)
Parking Provided:	
Vehicle:	5 stalls + 1 ADA
Short-term bike:	4 spaces
Long-term bike:	22 spaces
Front Setback:	none
Side Setbacks:	none
Rear Setback:	25 ft
Apartment Units:	16 (1,038 gsf per unit overall)

MUZ BUILDING PROTOTYPES **OPT 3A**

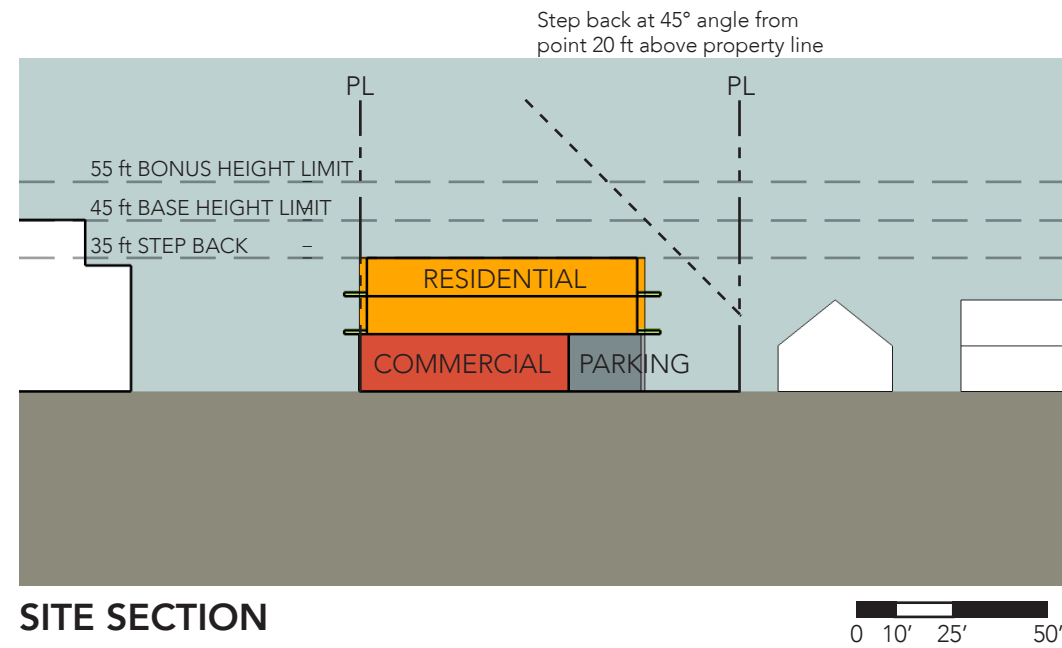
Figure 2-3A: Option 3A



LEVELS 2-3
7,250 gsf



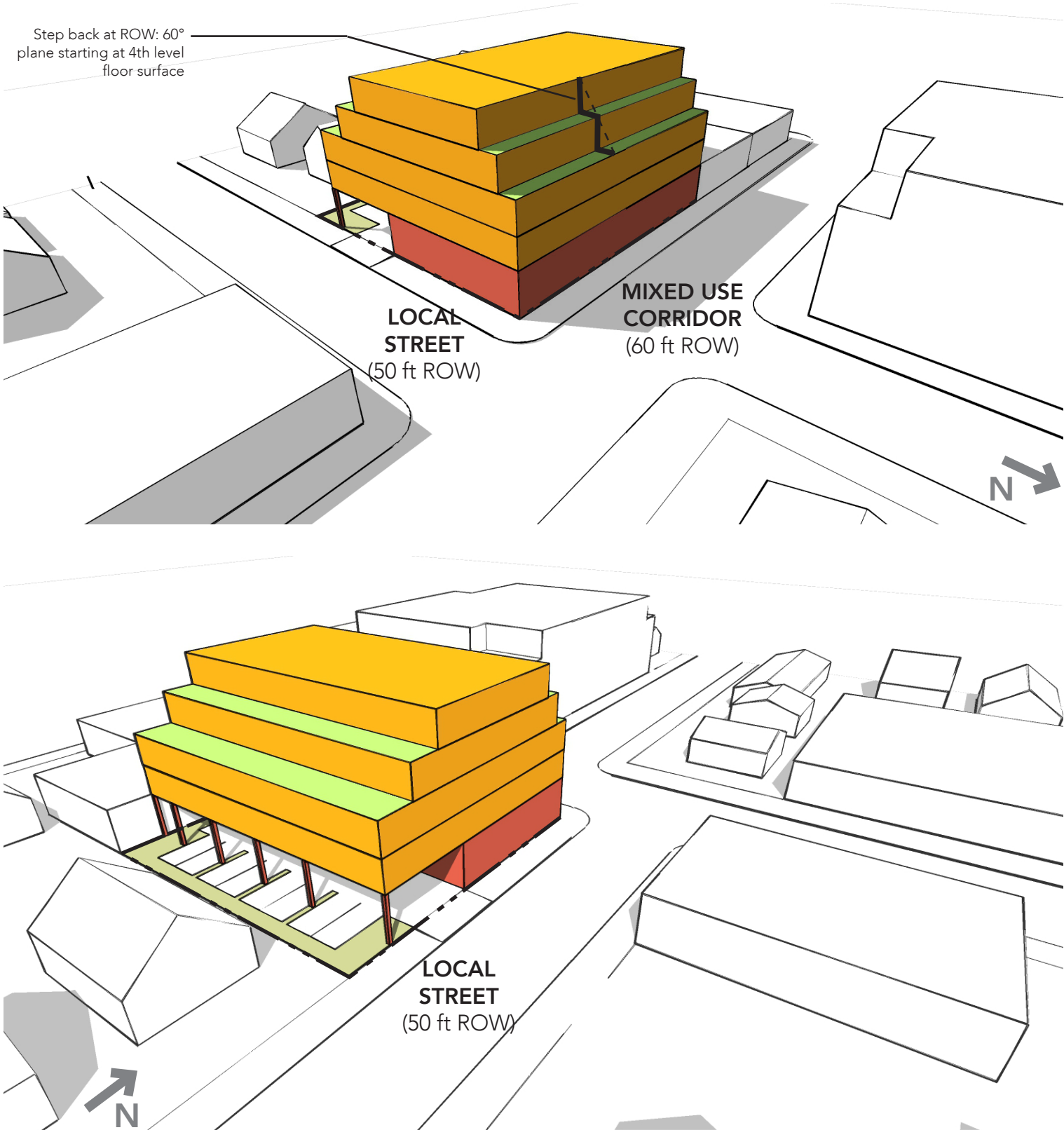
GROUND LEVEL
8,400 gsf (2,900 gsf parking)



SITE SECTION

MUZ BUILDING PROTOTYPES **OPT 3A**

Figure 2-3B: Option 3B



CM2 ZONE STANDARDS

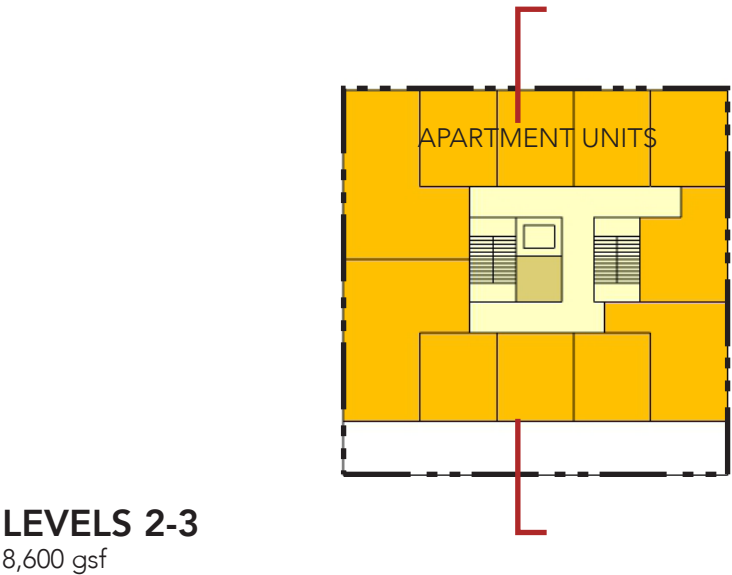
Pattern Area:	Inner
ROW width:	60 ft
Max Height:	55 ft / 5 stories
Additional GF Height:	3 ft (for active use)
Step-backs:	street facades step back above 3rd level
Max FAR:	3.5:1 (w/bonus)
Max Building Coverage:	90%
Req'd Landscaping:	none
Req'd Outdoor Space:	48 sf / unit
Required Parking:	
Vehicle:	6 stalls +1 ADA
Short-term bike:	4 spaces
Long-term bike:	41 spaces
Front Setback:	none
Side Setbacks:	none
Rear Setback:	5-14 ft @ R-zone

BUILDING PROTOTYPE

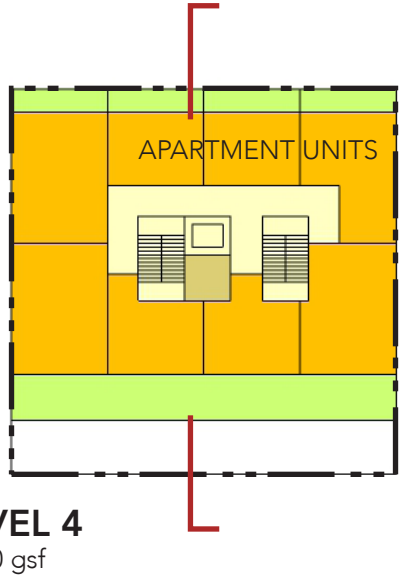
Site Area:	10,000 sf / 100x100
Height:	55 ft / 5 stories
Step-backs:	street facades step back 6 ft above 3rd level
Building Area:	Residential 31,350 gsf Commercial 2,650 gsf Parking 4,000 gsf
	Total 38,000 gsf
FAR:	3.4:1 (not including parking)
Building Coverage:	8,600 sf / 86%
Landscaping:	1,250 sf / 12%
Outdoor Space:	3,400 sf
Parking Provided:	
Vehicle:	9 stalls + 1 ADA
Short-term bike:	4 spaces
Long-term bike:	41 spaces
Front Setback:	none
Side Setbacks:	none
Rear Setback:	14 ft
Apartment Units:	35 (895 gsf per unit overall)

MUZ BUILDING PROTOTYPES **OPT 3B**

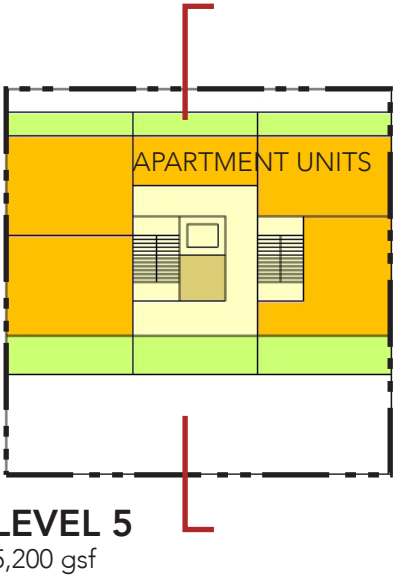
Figure 2-3B: Option 3B



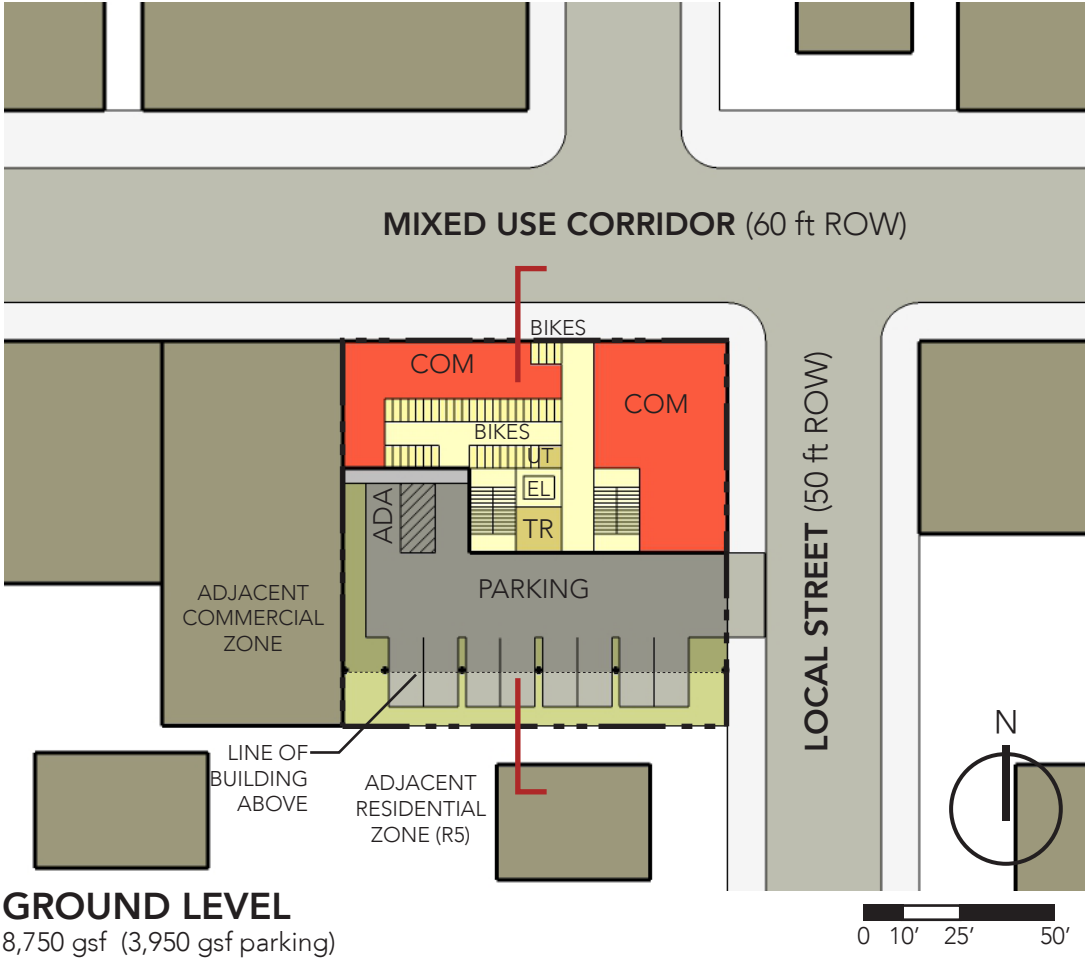
LEVELS 2-3
8,600 gsf



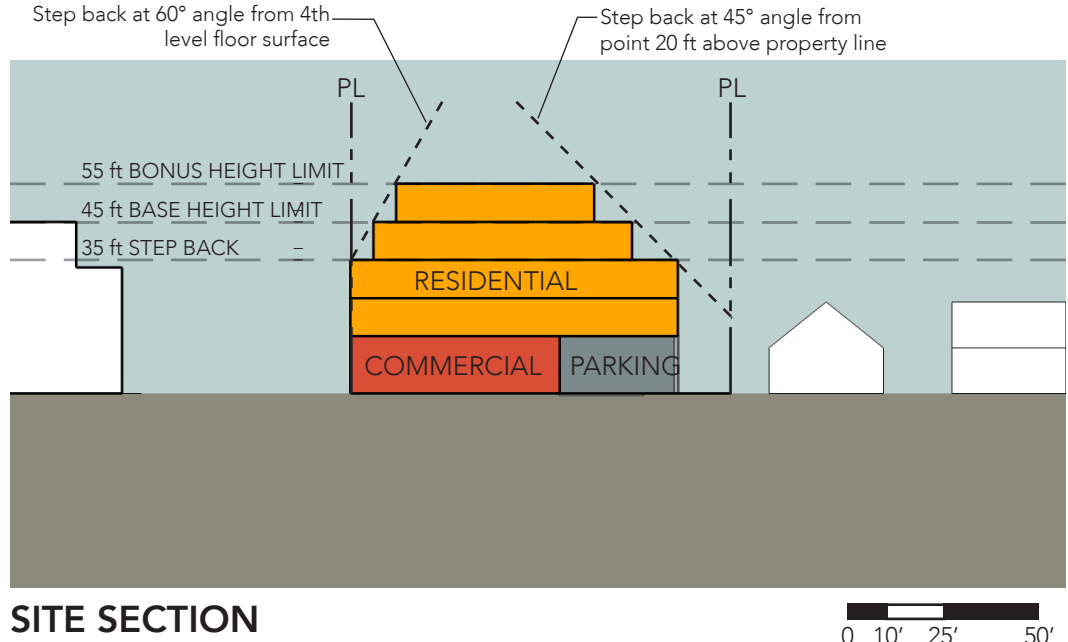
LEVEL 4
6,800 gsf



LEVEL 5
5,200 gsf



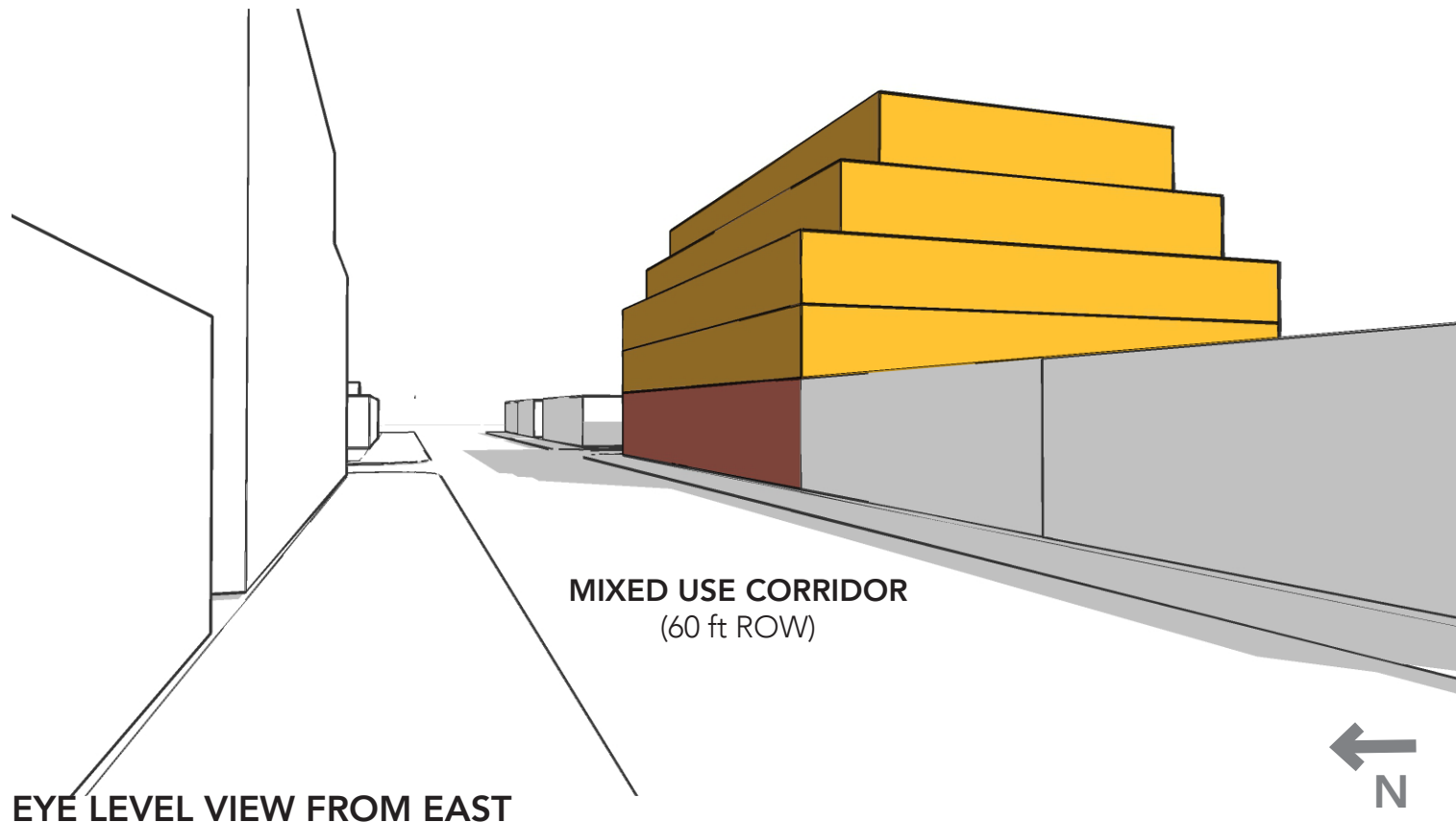
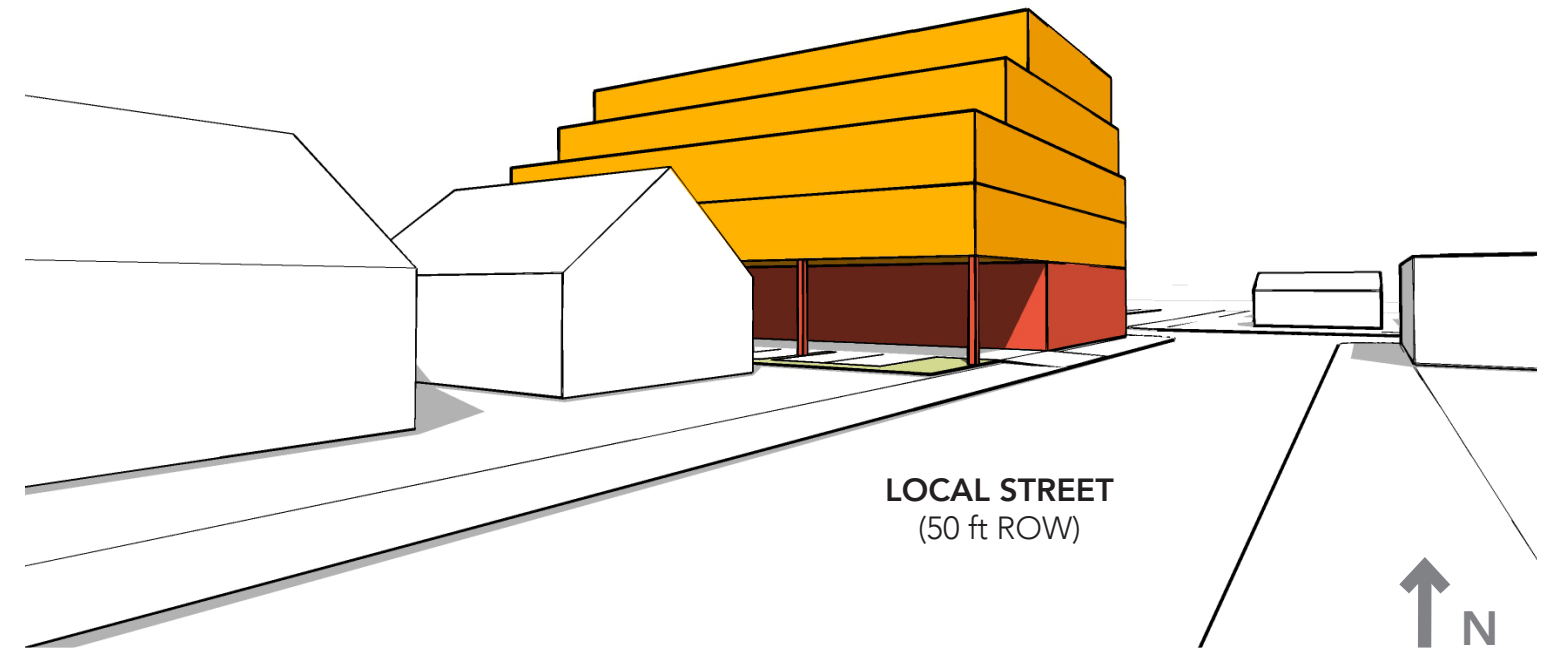
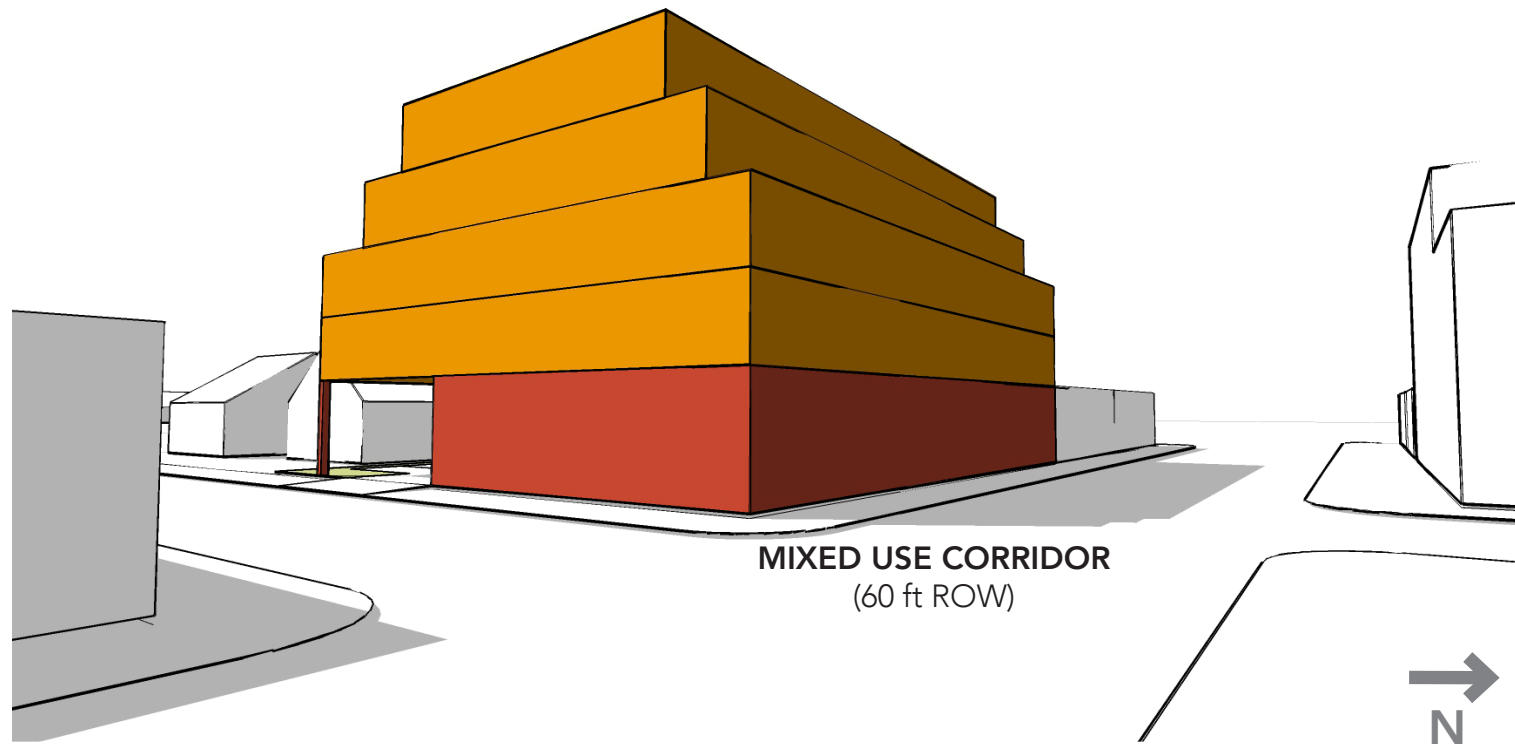
GROUND LEVEL
8,750 gsf (3,950 gsf parking)



SITE SECTION

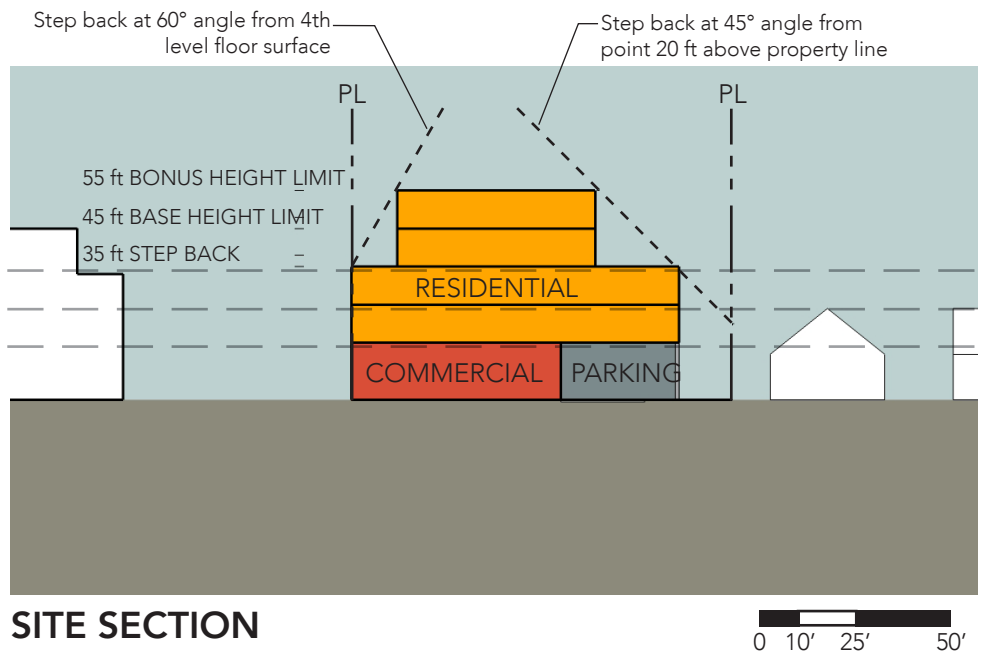
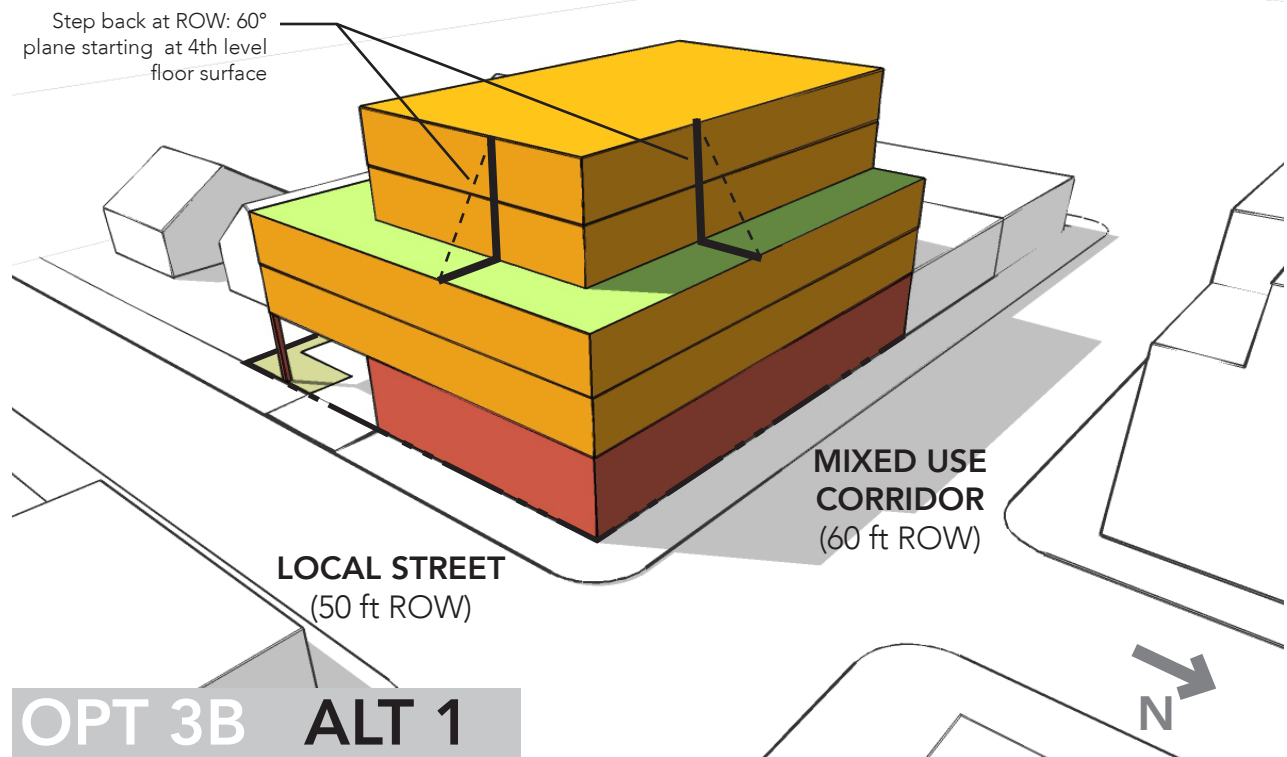
MUZ BUILDING PROTOTYPES **OPT 3B**

Figure 2-3B: Option 3B



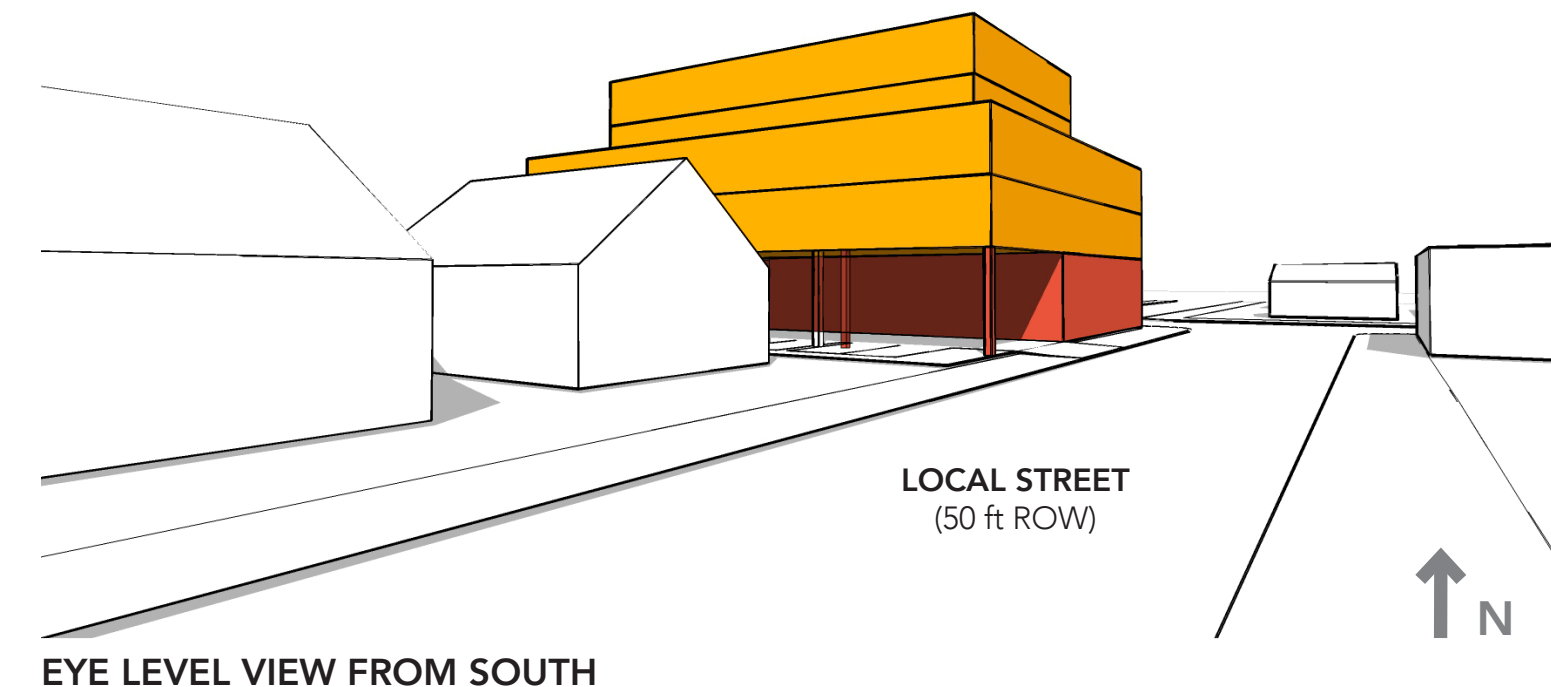
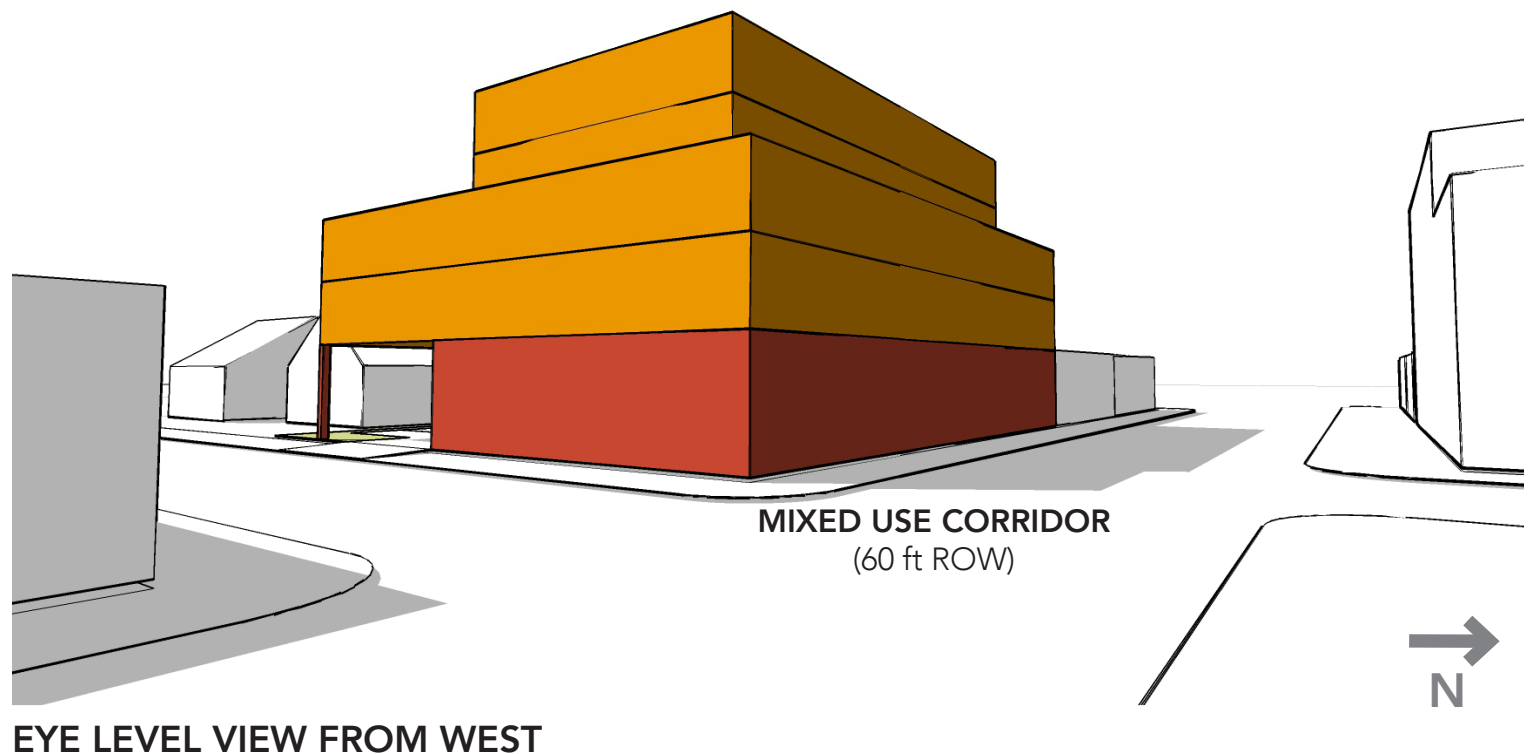
MUZ BUILDING PROTOTYPES **OPT 3B** STREET LEVEL VIEWS

Figure 2-3B: Option 3B



BUILDING PROTOTYPE

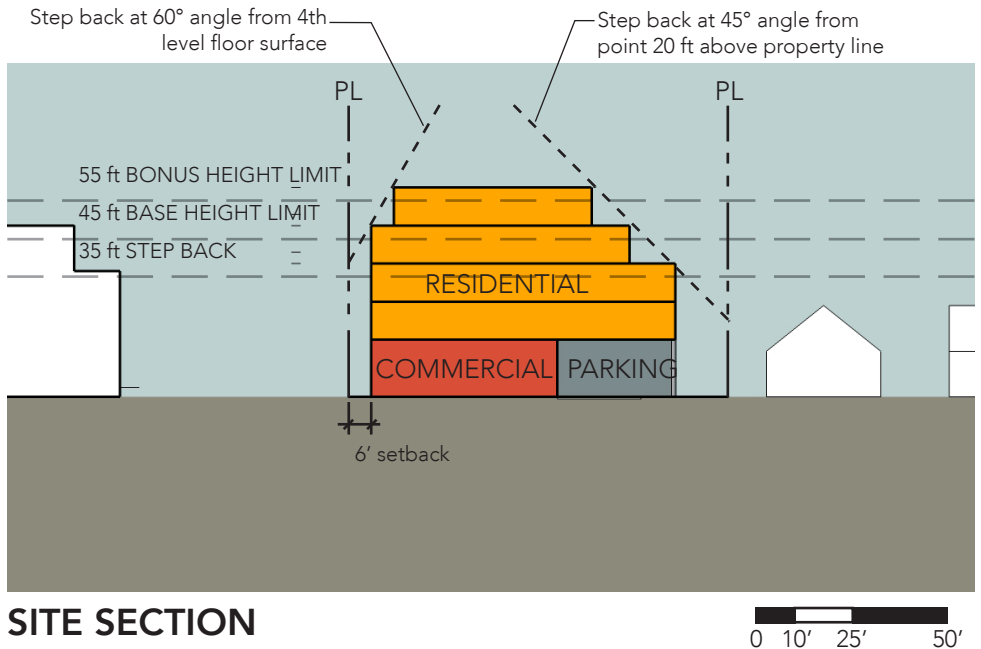
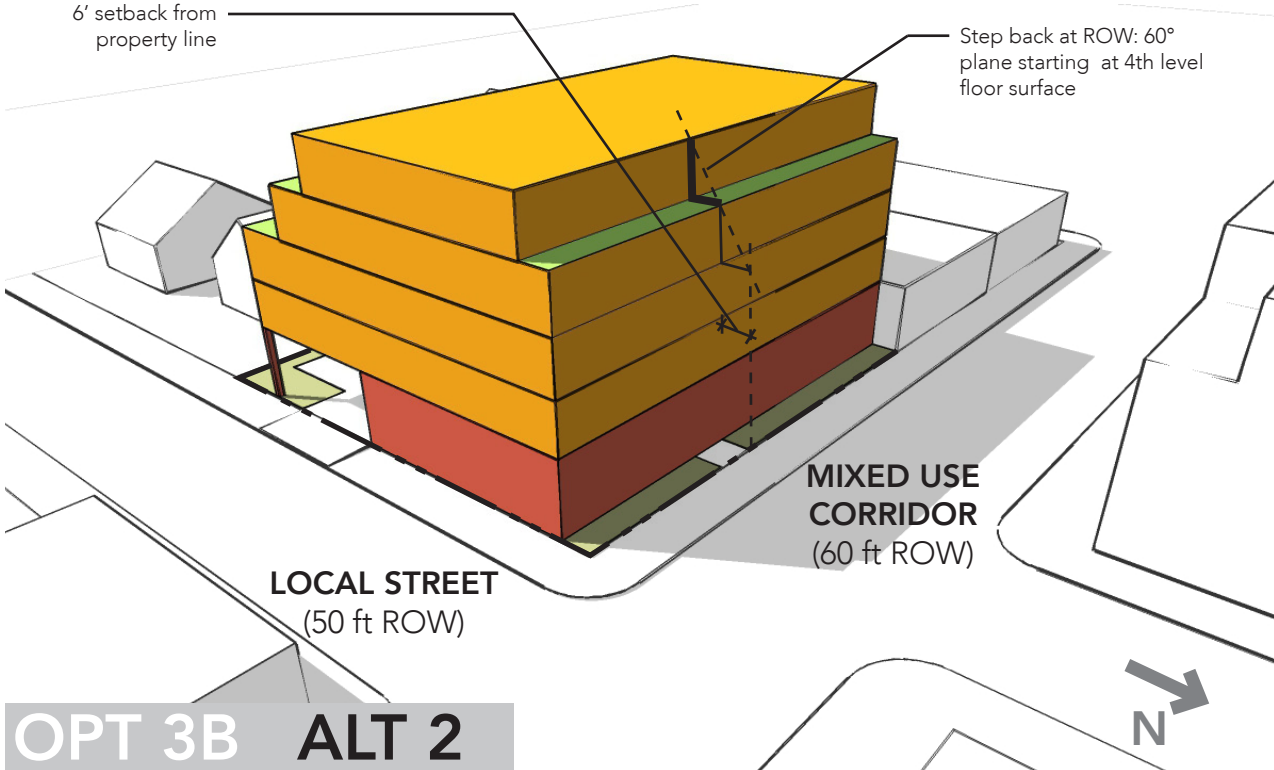
Building Area:	Residential	28,550 gsf (-2,800)
	Commercial	2,650 gsf
	Parking	4,000 gsf
	Total	35,200 gsf (-2,800)
FAR:	3.1:1 (not including parking) (-.3)	
Apartment Units:	30 (-5) (950 gsf per unit overall)	



MUZ BUILDING PROTOTYPES **OPT 3B** STEP BACK TESTING

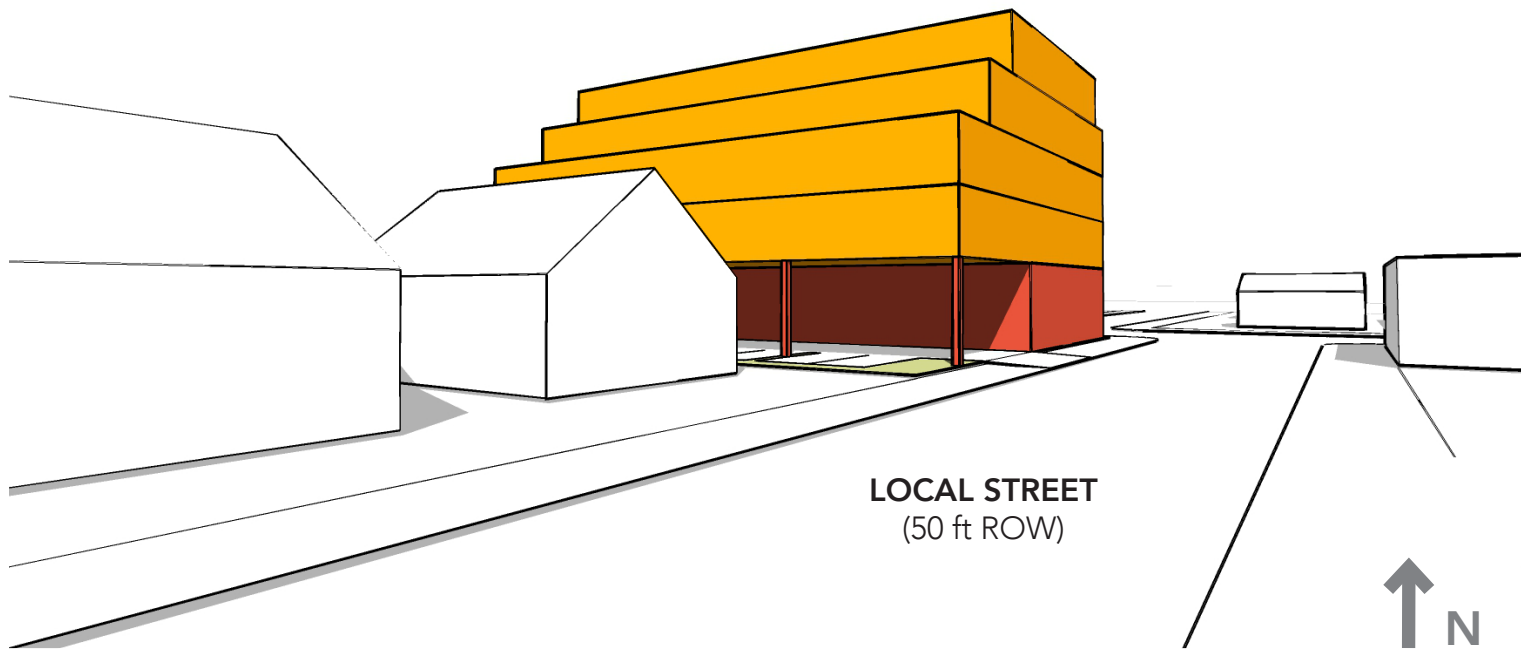
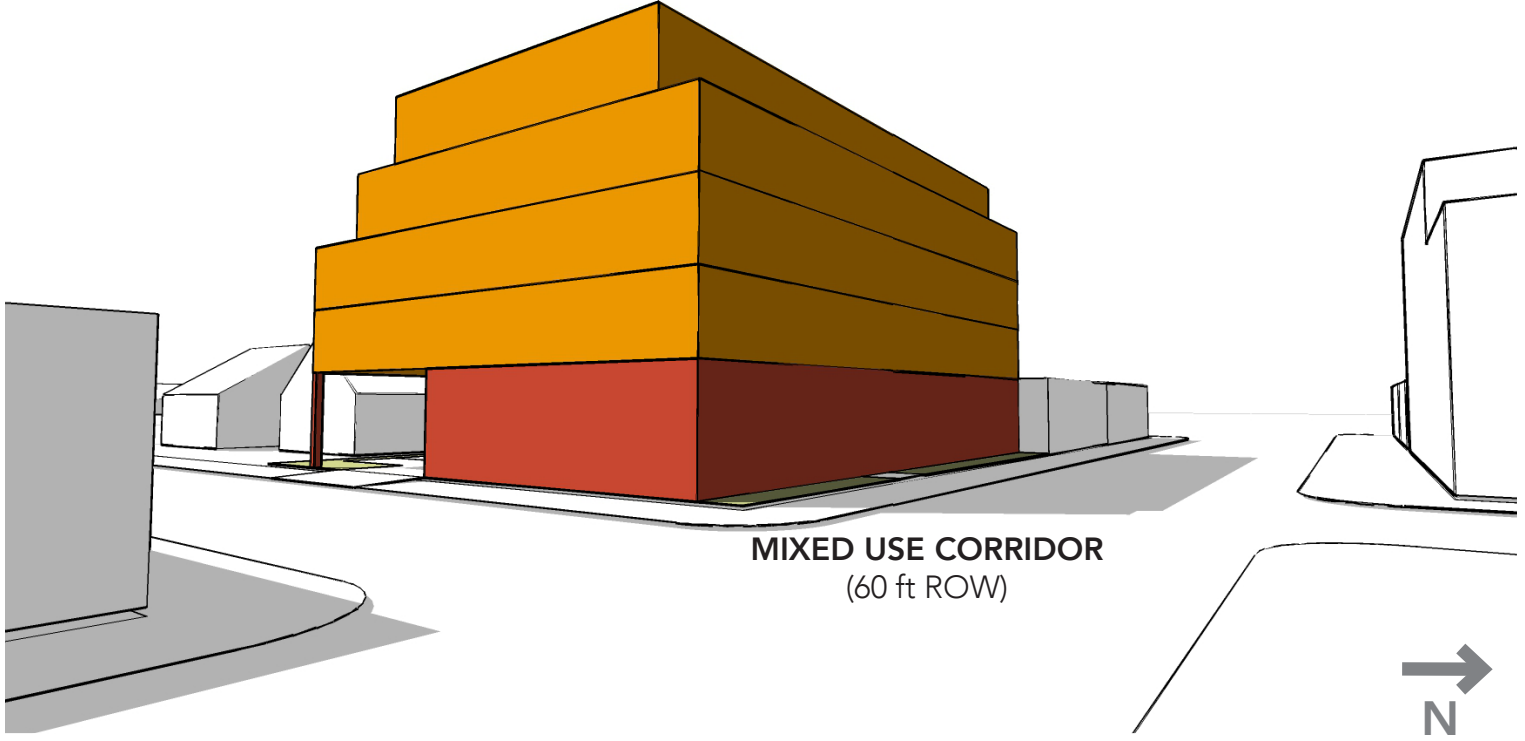


Figure 2-3B: Option 3B



BUILDING PROTOTYPE

Building Area:	Residential	29,500 gsf (-1,850)
	Commercial	2,100 gsf (-550)
	Parking	4,000 gsf
Total		35,600 gsf (-2,400)
FAR:	3.1:1 (not including parking) (-.3)	
Apartment Units:	31 (-4) (950 gsf per unit overall)	

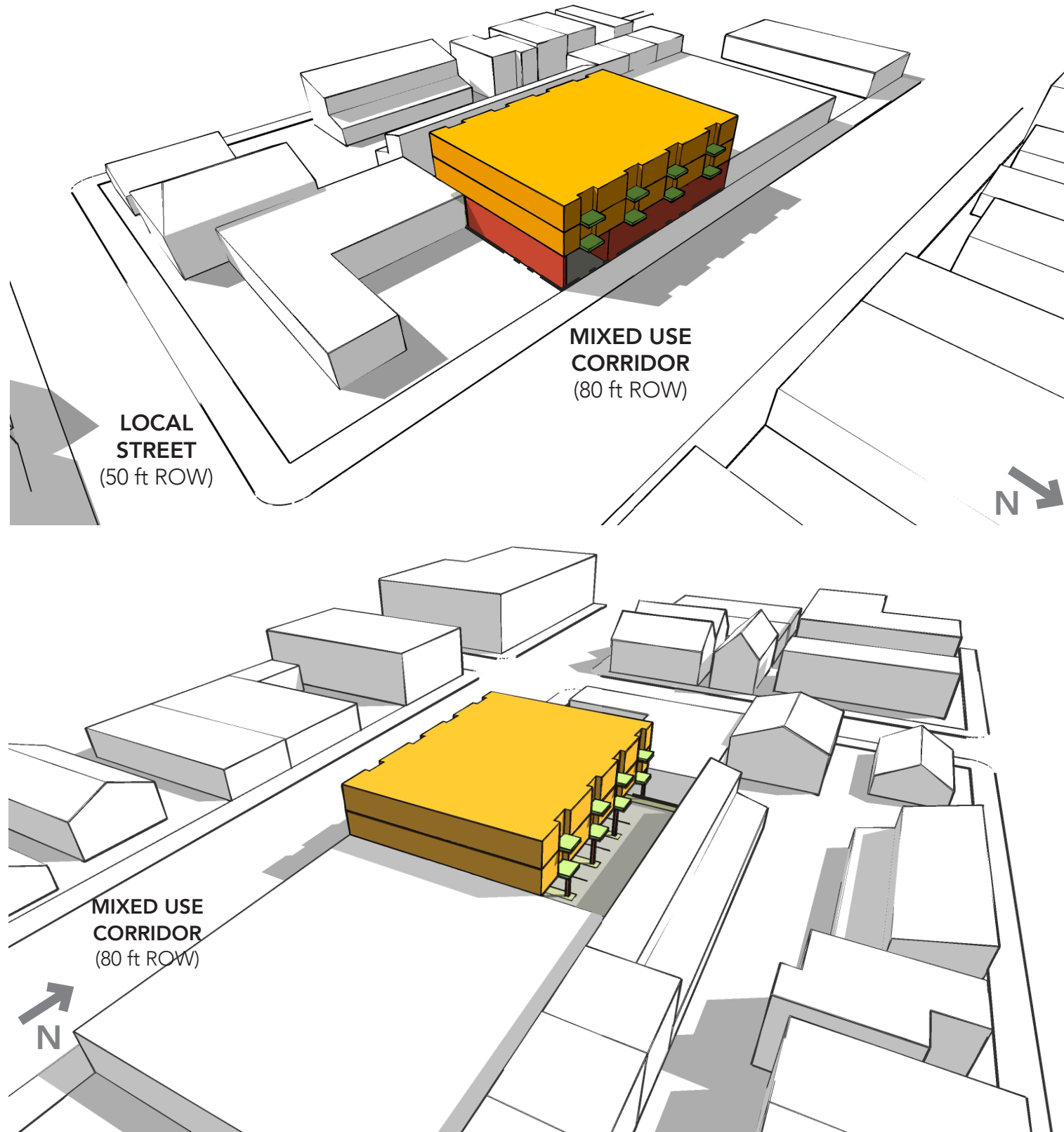


EYE LEVEL VIEW FROM WEST

EYE LEVEL VIEW FROM SOUTH

MUZ BUILDING PROTOTYPES OPT 3B STEP BACK TESTING

Figure 2-3C: Option 3C



CM2 ZONE STANDARDS

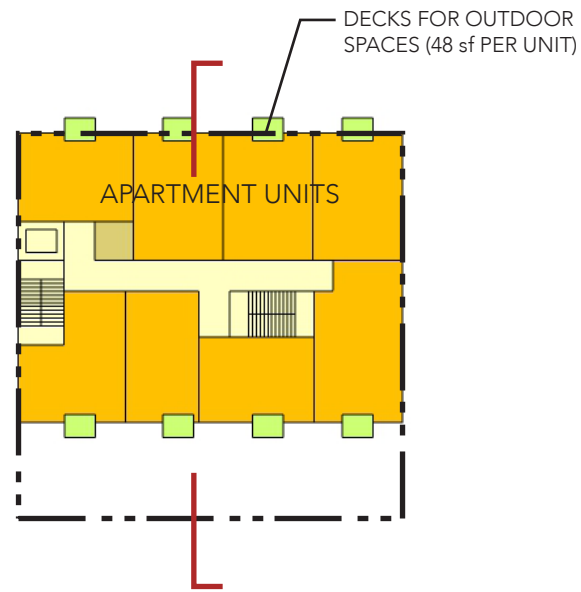
Pattern Area:	Inner
ROW width:	80 ft
Max Height:	45 ft / 4 stories
Additional GF Height:	3 ft (for active use)
Step-backs:	80' ROW facades step back above 3rd level
Max FAR:	2:1 (no bonus)
Max Building Coverage:	90%
Req'd Landscaping:	none
Req'd Outdoor Space:	48 sf / unit
Required Parking:	
Vehicle:	none
Short-term bike:	4
Long-term bike:	20
Front Setback:	none
Side Setbacks:	5-14 ft @ R-zone
Rear Setback:	5-14 ft @ R-zone

BUILDING PROTOTYPE

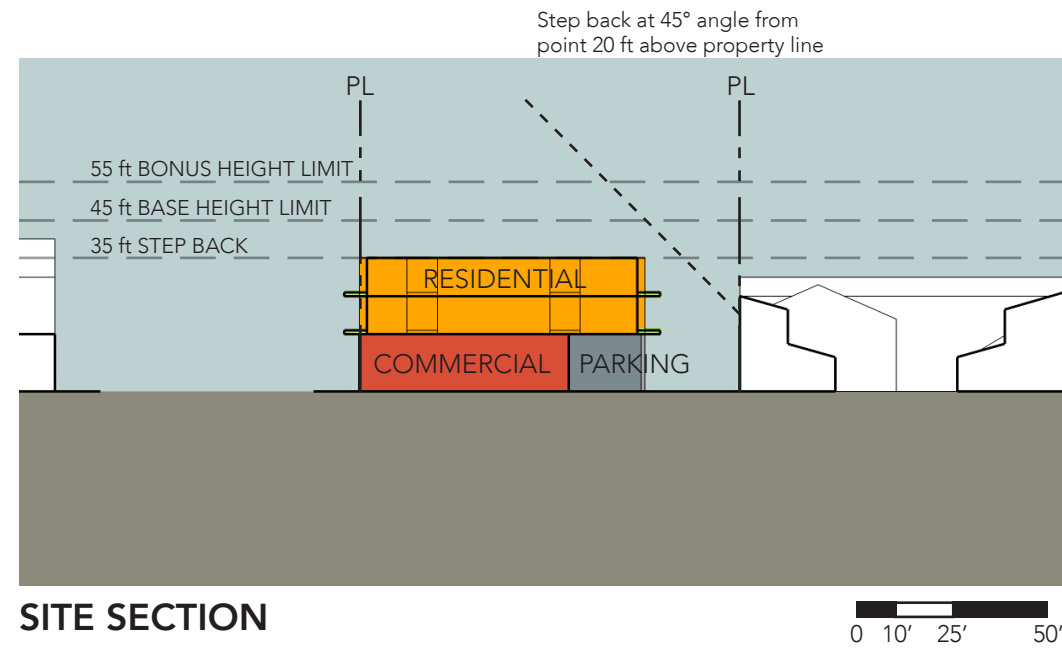
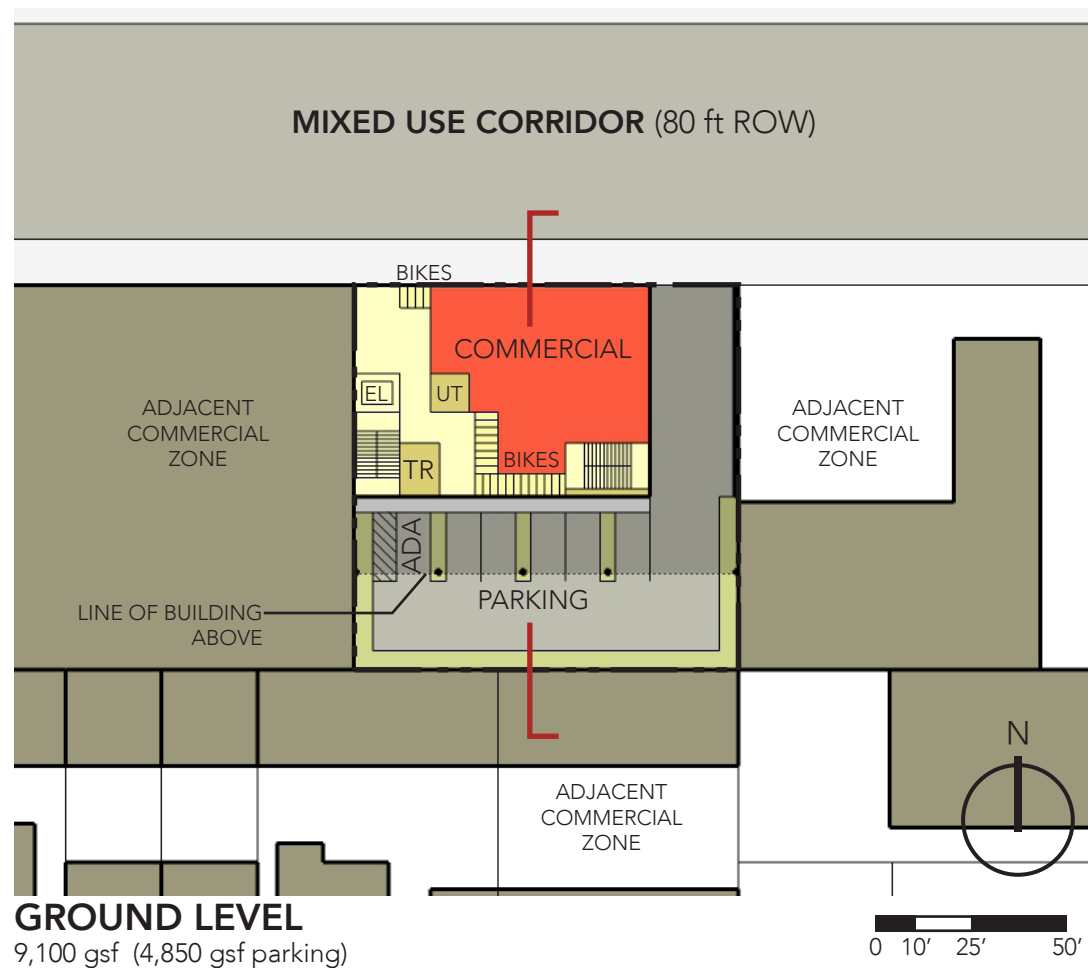
Site Area:	10,000 sf / 100x100
Height:	35 ft / 3 stories
Step-backs:	none
Building Area:	Residential 17,800 gsf Commercial 2,200 gsf Parking 4,350 gsf
Total	24,350 gsf
FAR:	2:1 (not including parking)
Building Coverage:	8,000 sf / 80%
Landscaping:	900 sf / 9%
Outdoor Space:	768 sf (16 decks x 48 sf ea.)
Parking Provided:	
Vehicle:	5 stalls + 1 ADA
Short-term bike:	4 spaces
Long-term bike:	22 spaces
Front Setback:	none
Side Setbacks:	none
Rear Setback:	20 ft
Apartment Units:	16 (1,100 gsf per unit overall)

MUZ BUILDING PROTOTYPES **OPT 3C**

Figure 2-3C: Option 3C

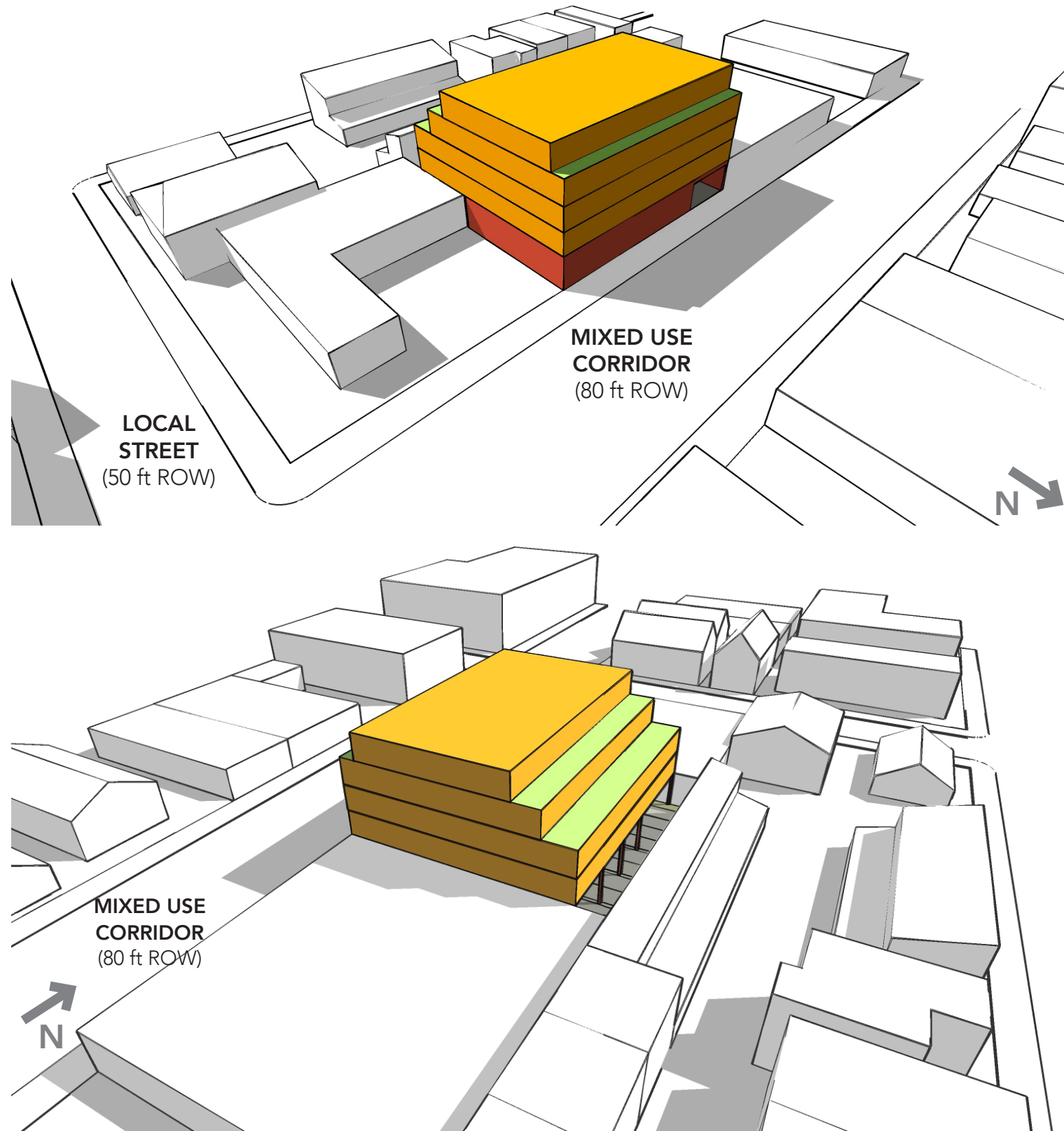


LEVELS 2-3
7,875 gsf



MUZ BUILDING PROTOTYPES **OPT 3C**

Figure 2-3D: Option 3D



CM2 ZONE STANDARDS

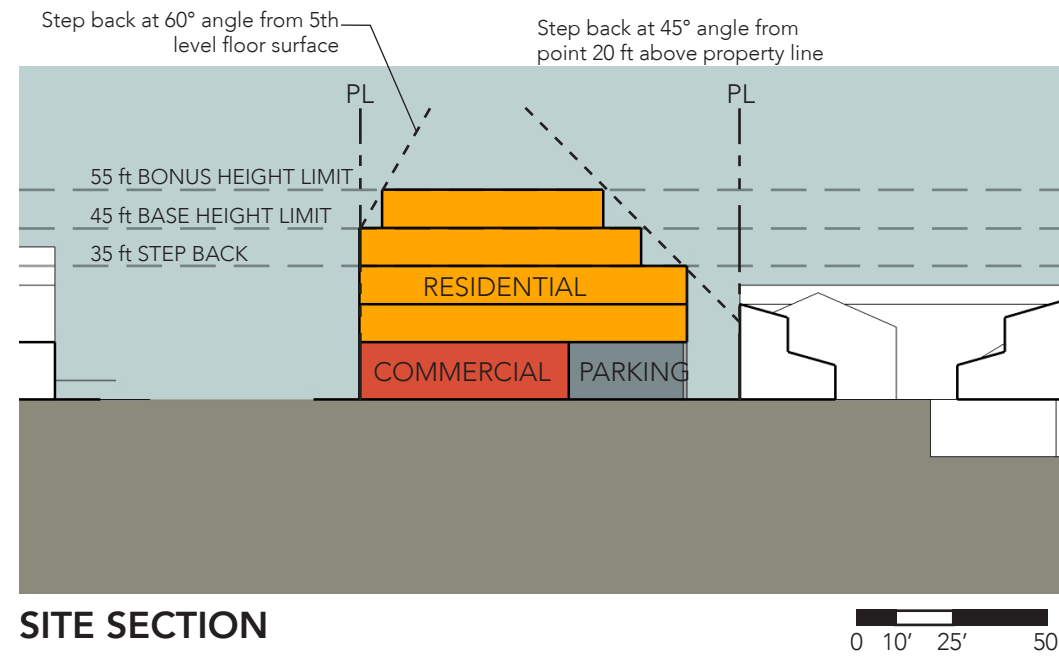
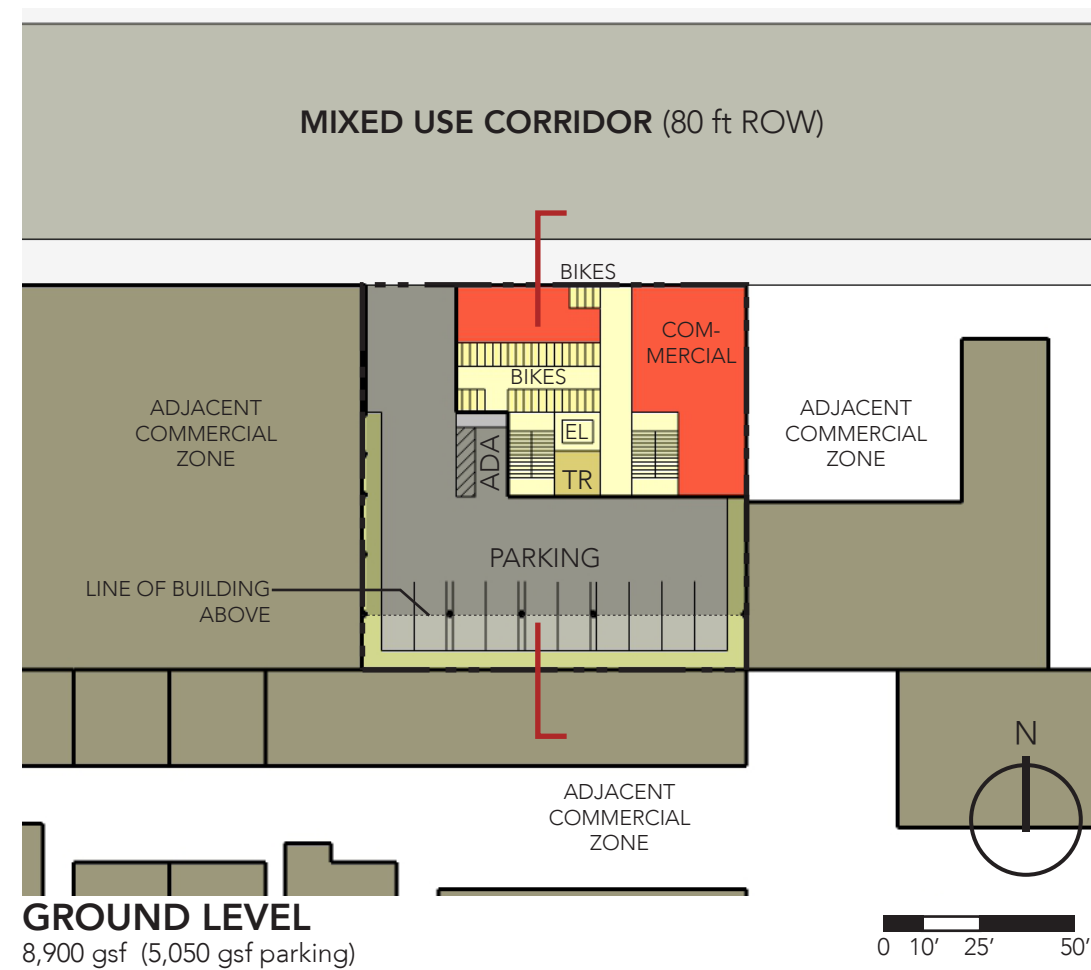
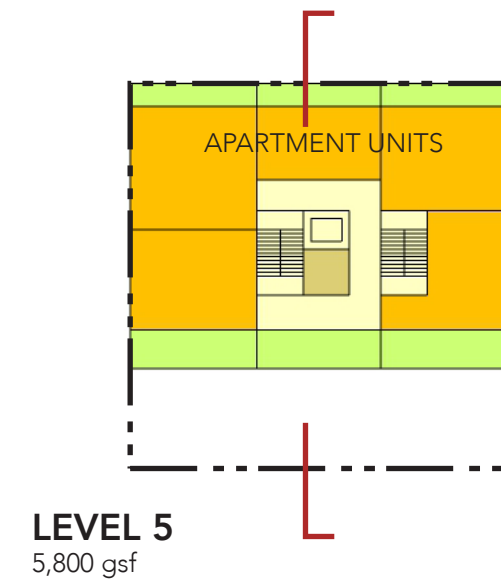
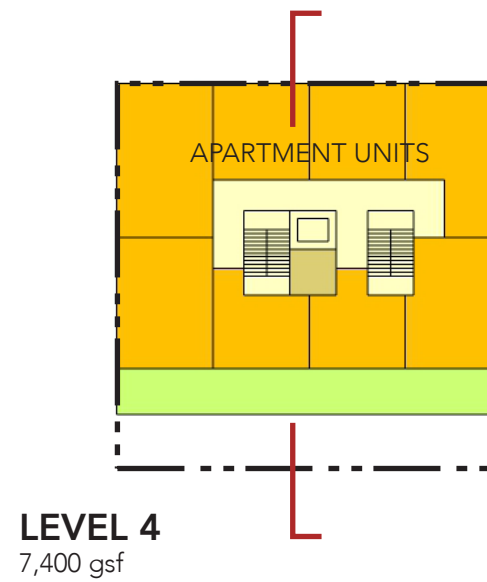
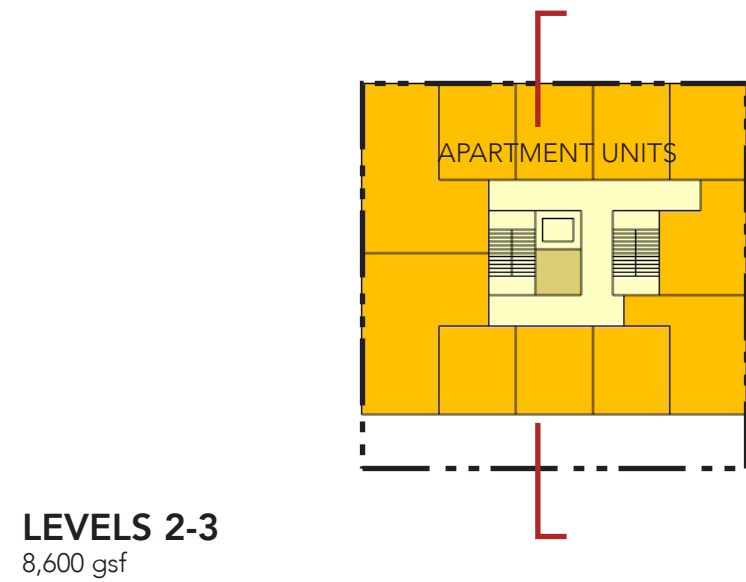
Pattern Area:	Inner
ROW width:	80 ft
Max Height:	55 ft / 5 stories
Additional GF Height:	3 ft (for active use)
Step-backs:	80' ROW facades step back above 4th level
Max FAR:	3.5:1 (w/bonus)
Max Building Coverage:	90%
Req'd Landscaping:	none
Req'd Outdoor Space:	48 sf / unit
Required Parking:	
Vehicle:	6 stalls + 1 ADA
Short-term bike:	4
Long-term bike:	41
Front Setback:	none
Side Setbacks:	5-14 ft @ R-zone
Rear Setback:	5-14 ft @ R-zone

BUILDING PROTOTYPE

Site Area:	10,000 sf / 100x100
Height:	55 ft / 5 stories
Step-backs:	street facades step back 6 ft above 4th level
Building Area:	Residential 32,350 gsf Commercial 1,900 gsf Parking 5,050 gsf
	Total 39,300 gsf
FAR:	3.4:1 (not including parking)
Building Coverage:	8,600 sf / 86%
Landscaping:	1,000 sf / 10%
Outdoor Space:	2800 sf
Parking Provided:	
Vehicle:	10 stalls + 1 ADA
Short-term bike:	4 spaces
Long-term bike:	41 spaces
Front Setback:	none
Side Setbacks:	none
Rear Setback:	14 ft
Apartment Units:	35 (925 gsf per unit overall)

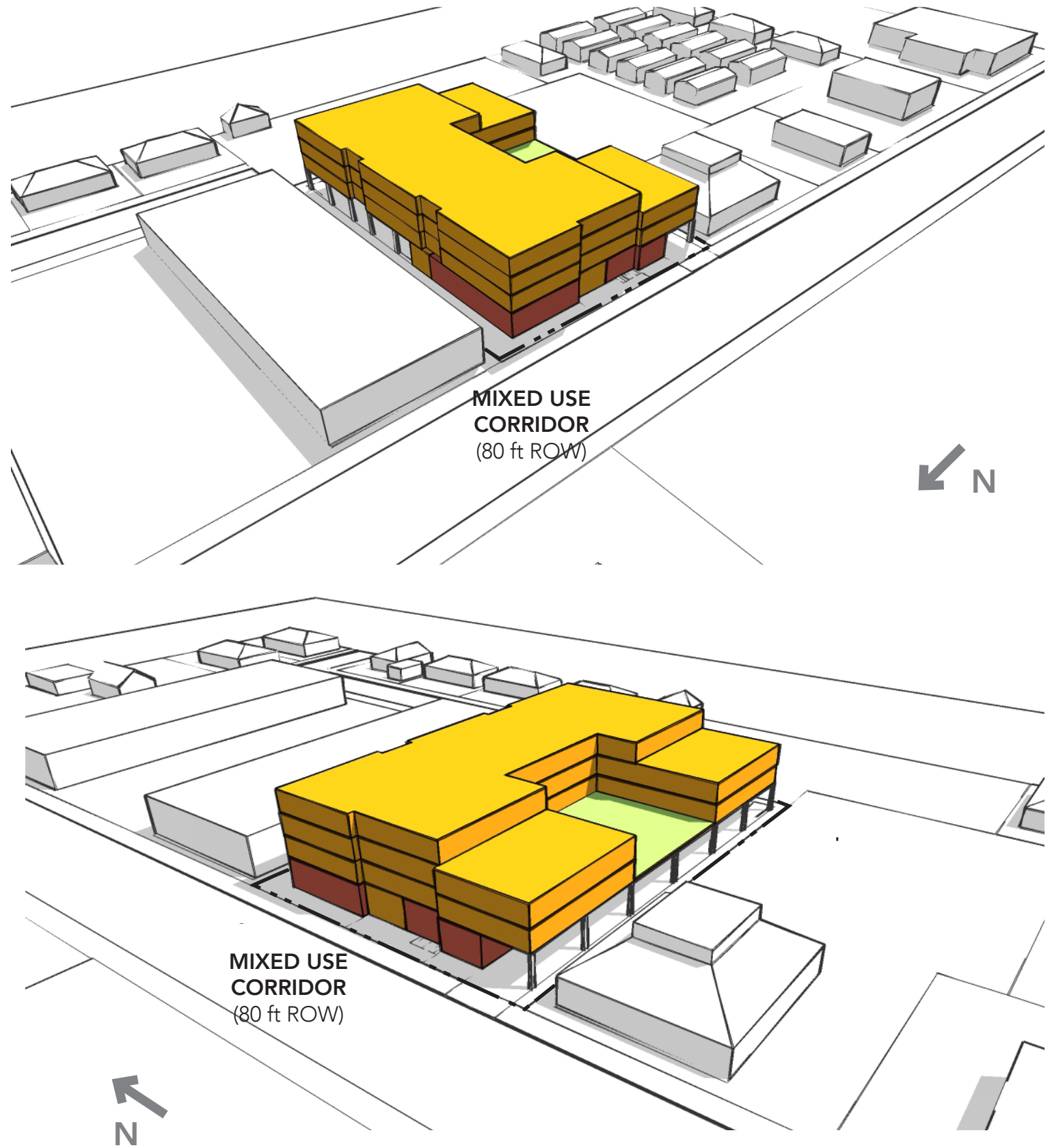
MUZ BUILDING PROTOTYPES OPT 3D

Figure 2-3D: Option 3D



MUZ BUILDING PROTOTYPES **OPT 3D**

Figure 2-4A: Option 4A



CM2 ZONE STANDARDS

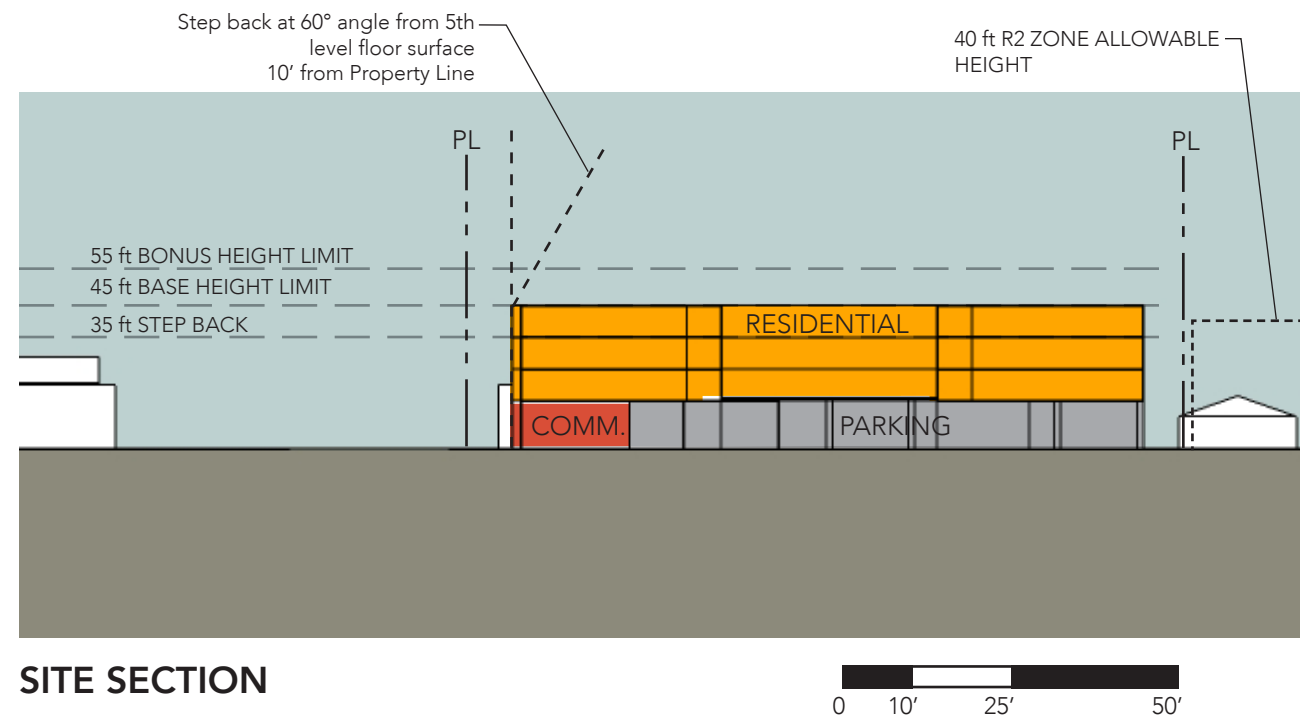
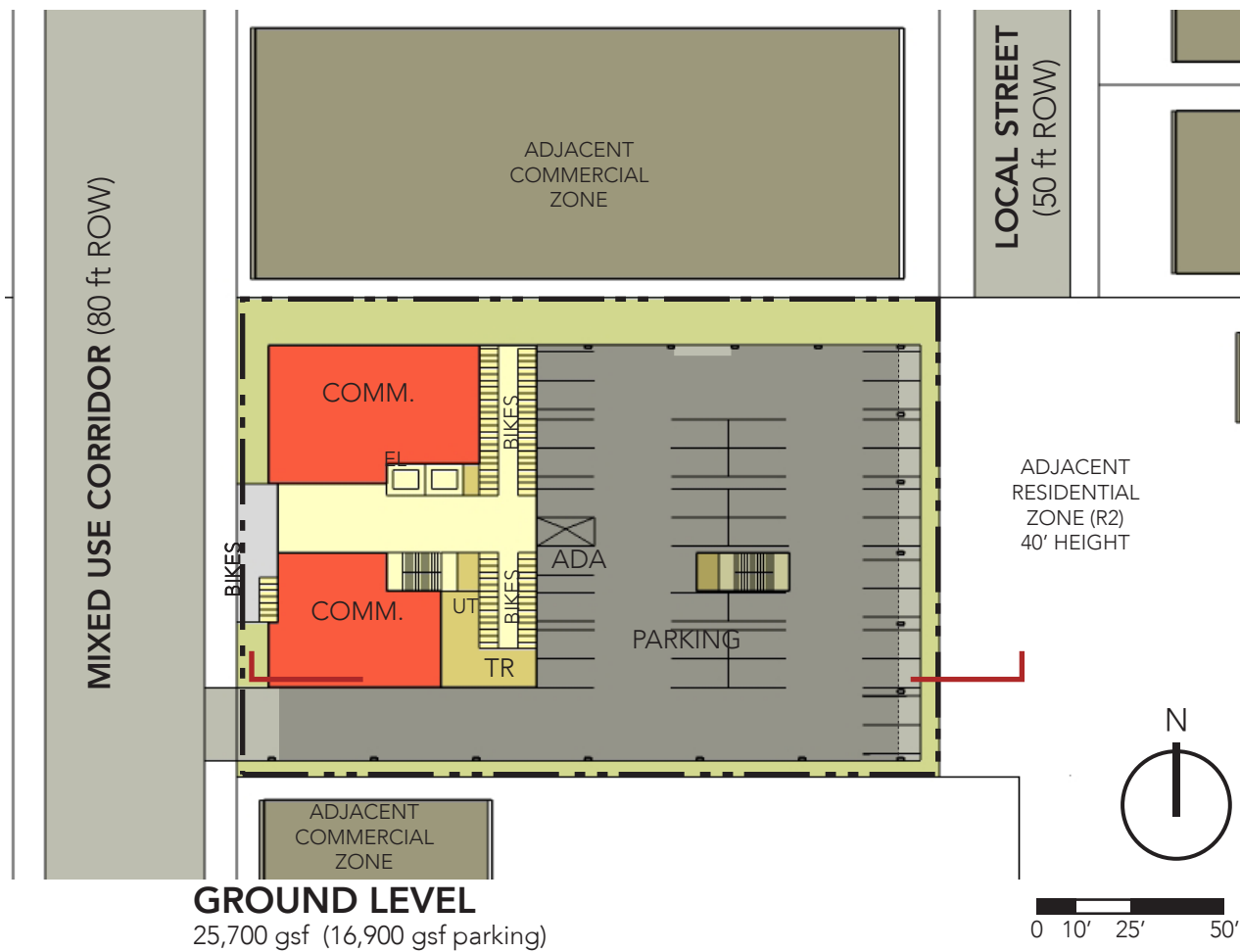
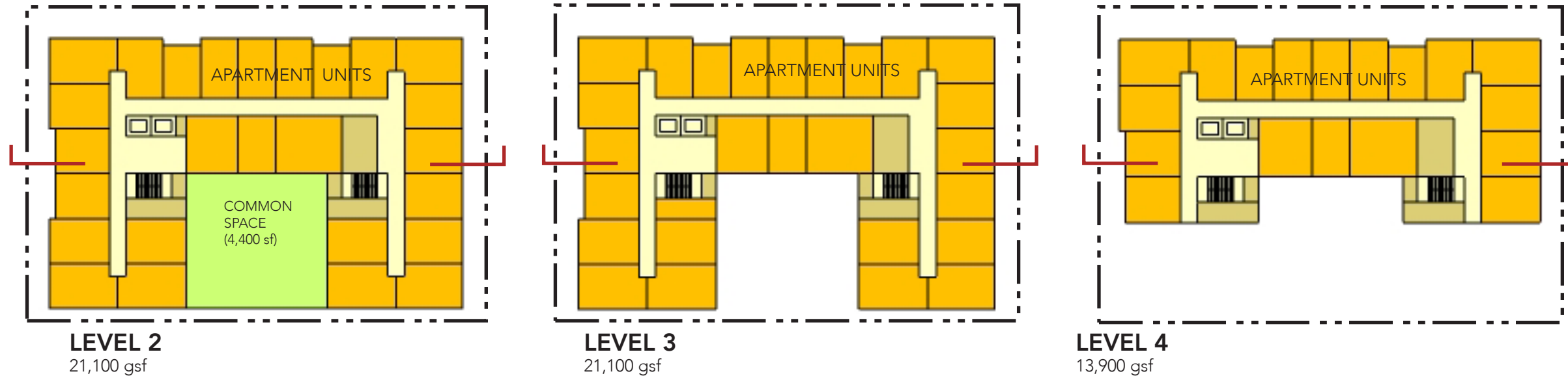
Pattern Area:	Outer
ROW width:	80 ft
Max Height:	45 ft / 4 stories
Additional GF Height:	3 ft (for active use)
Step-backs:	80' ROW facades step back above 4th level
Max FAR:	2:1 (no bonus)
Max Building Coverage:	85%
Req'd Landscaping:	15%
Req'd Outdoor Space:	48 sf / unit
Required Parking:	
Vehicle:	none
Short-term bike:	4 spaces
Long-term bike:	22 spaces
Street Setback:	10 ft
Side Setbacks:	5-14 ft @ R-zone
Rear Setback:	5-14 ft @ R-zone

BUILDING PROTOTYPE

Site Area:	33,000 sf / 150x220
Height:	45 ft / 4 stories
Step-backs:	none
Building Area:	Residential 60,300 gsf Commercial 4,600 gsf Parking 16,900 gsf
Total	81,800 gsf
FAR:	1.97:1 (not including parking)
Building Coverage:	25,700 sf / 77%
Landscaping:	5,600 sf / 17%
Paved:	1,700 sf / 6%
Outdoor Space:	4,400 sf shared area
Parking Provided:	
Vehicle:	33 stalls + 2 ADA
Short-term bike:	7 spaces
Long-term bike:	76 spaces
Front Setback:	10 ft
Side Setbacks:	none
Rear Setback:	11 ft
Apartment Units:	69 (875 gsf per unit overall)

MUZ BUILDING PROTOTYPES OPT 4A

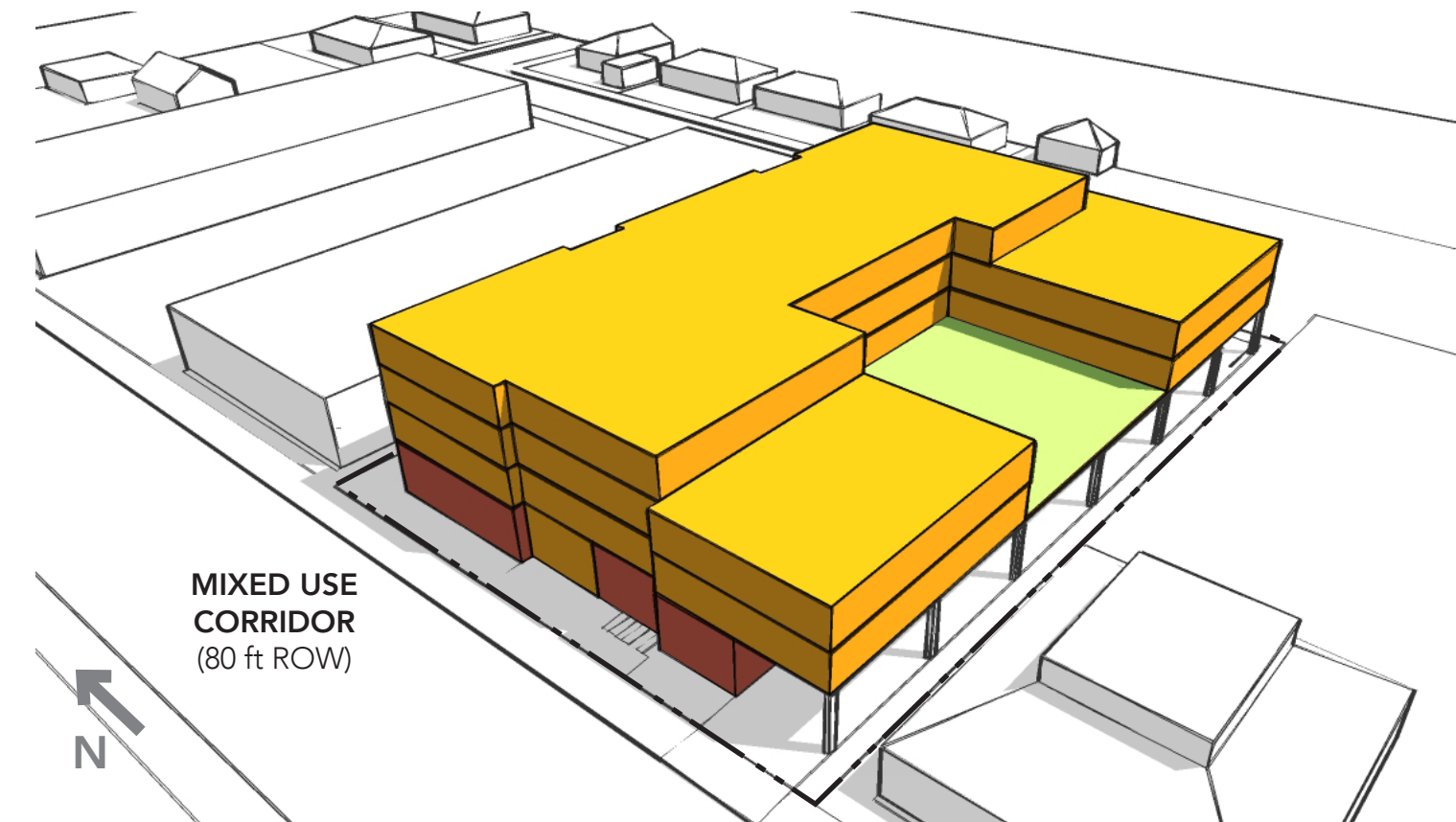
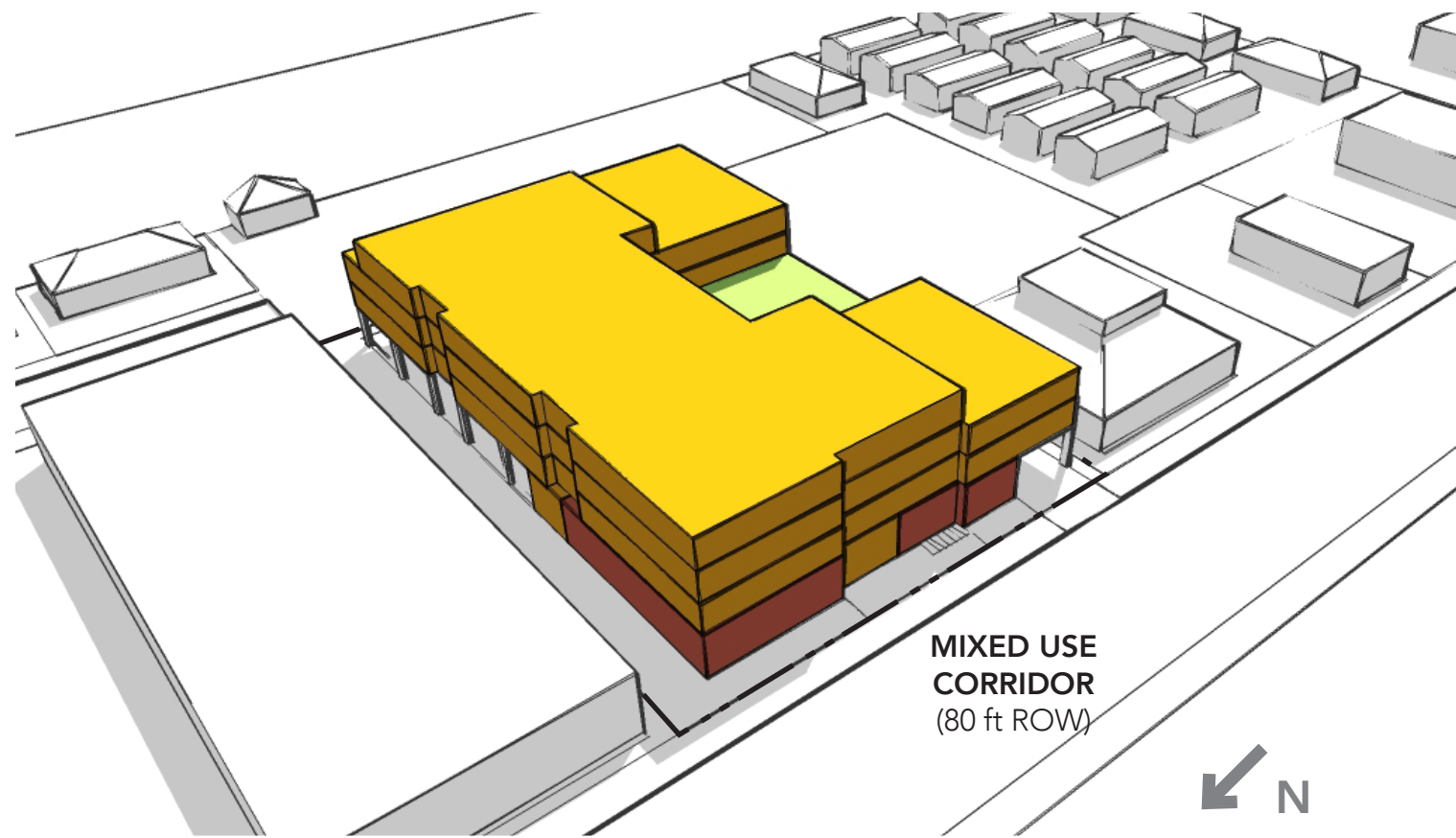
Figure 2-4A: Option 4A



MUZ BUILDING PROTOTYPES **OPT 4A**



Figure 2-4A: Option 4A



CM2 ZONE STANDARDS

Pattern Area: Outer
 ROW width: 80 ft
 Max Height: 45 ft / 4 stories
 Additional GF Height: 3 ft (for active use)
 Step-backs: 80' ROW facades step back above 3rd level

Max FAR: 2:1 (no bonus)
 Max Building Coverage: 90%
 Req'd Landscaping: none
 Req'd Outdoor Space: 48 sf / unit

Required Parking:
 Vehicle: none
 Short-term bike: 4 spaces
 Long-term bike: 22 spaces

Street Setback: 10 ft
 Side Setbacks: 5-14 ft @ R-zone
 Rear Setback: 5-14 ft @ R-zone

BUILDING PROTOTYPE

Site Area: 33,000 sf / 150x220
 Height: 45 ft / 4 stories
 Step-backs: none
 Building Area: Residential 59,950 gsf (-450)
 Commercial 4,600 gsf
 Parking 16,900 gsf

Total 81,450 gsf (-450)

FAR: 1.96:1 (not including parking) (-.01)
 Building Coverage: 25,700 sf / 77%
 Landscaping: 5,600 sf / 17%
 Paved: 1,700 sf / 6%
 Outdoor Space: 4,400 sf shared area

Parking Provided:
 Vehicle: 33 stalls + 2 ADA
 Short-term bike: 7 spaces
 Long-term bike: 76 spaces

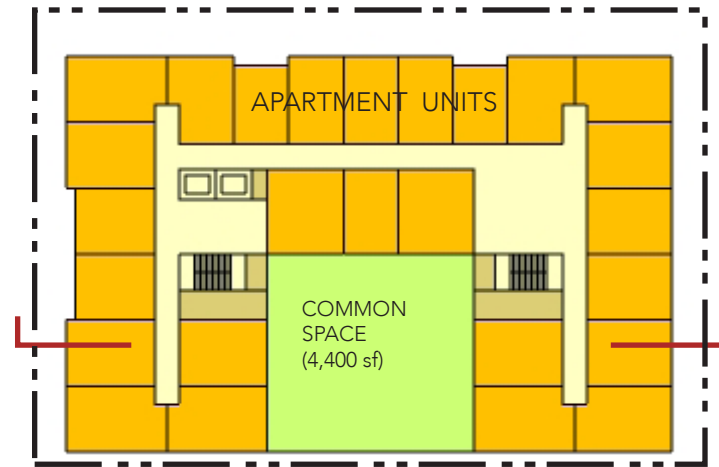
Front Setback: 10 ft
 Side Setbacks: none
 Rear Setback: 11 ft

Apartment Units: 69
 (870/gsf per unit overall)

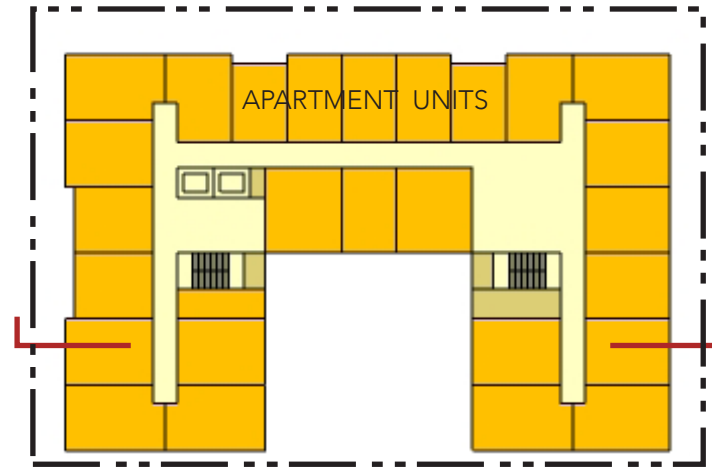
MUZ BUILDING PROTOTYPES **OPT 4A**

R2.5 ZONE AT REAR

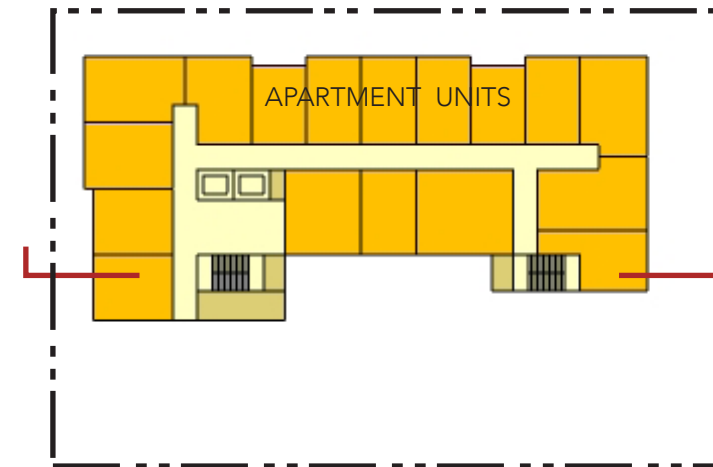
Figure 2-4A: Option 4A



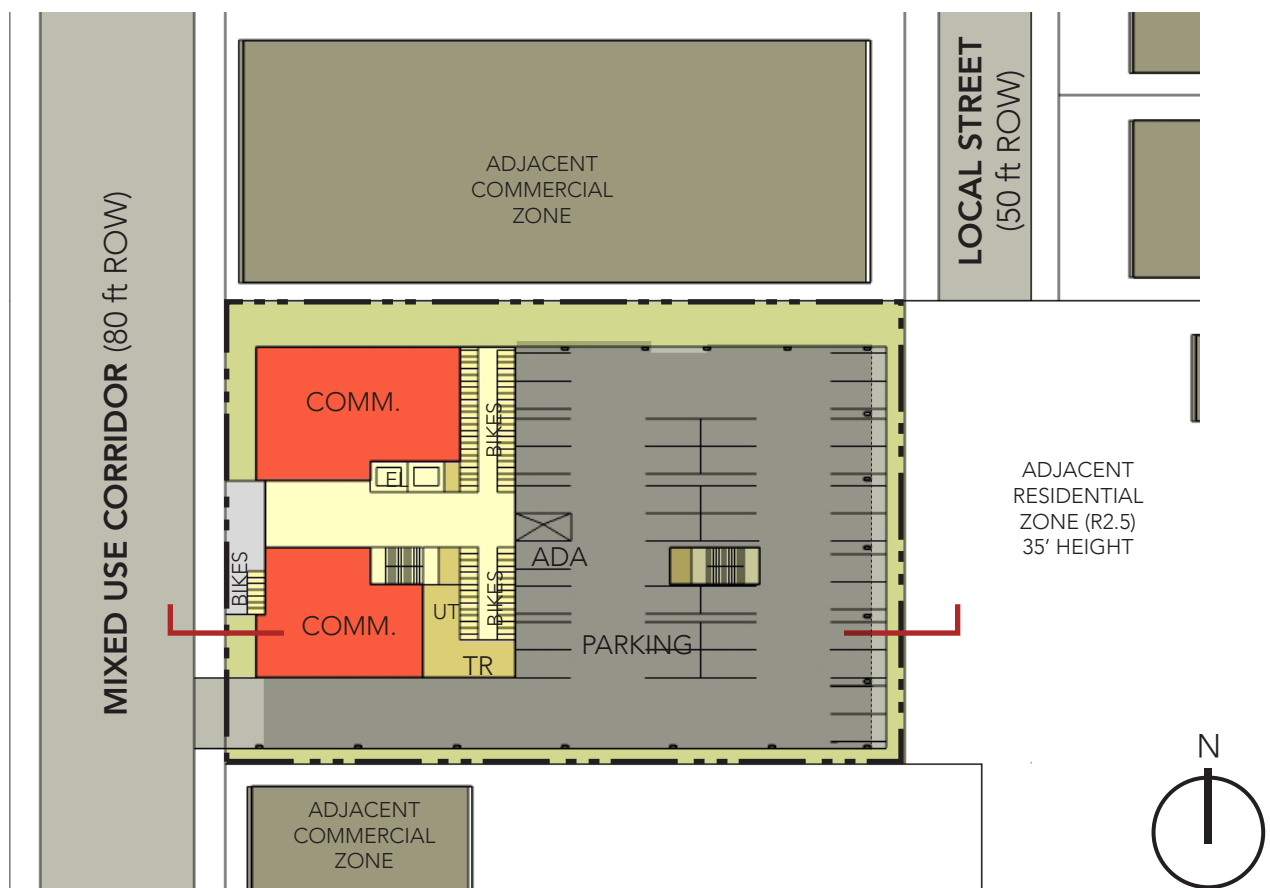
LEVEL 2
21,100 gsf



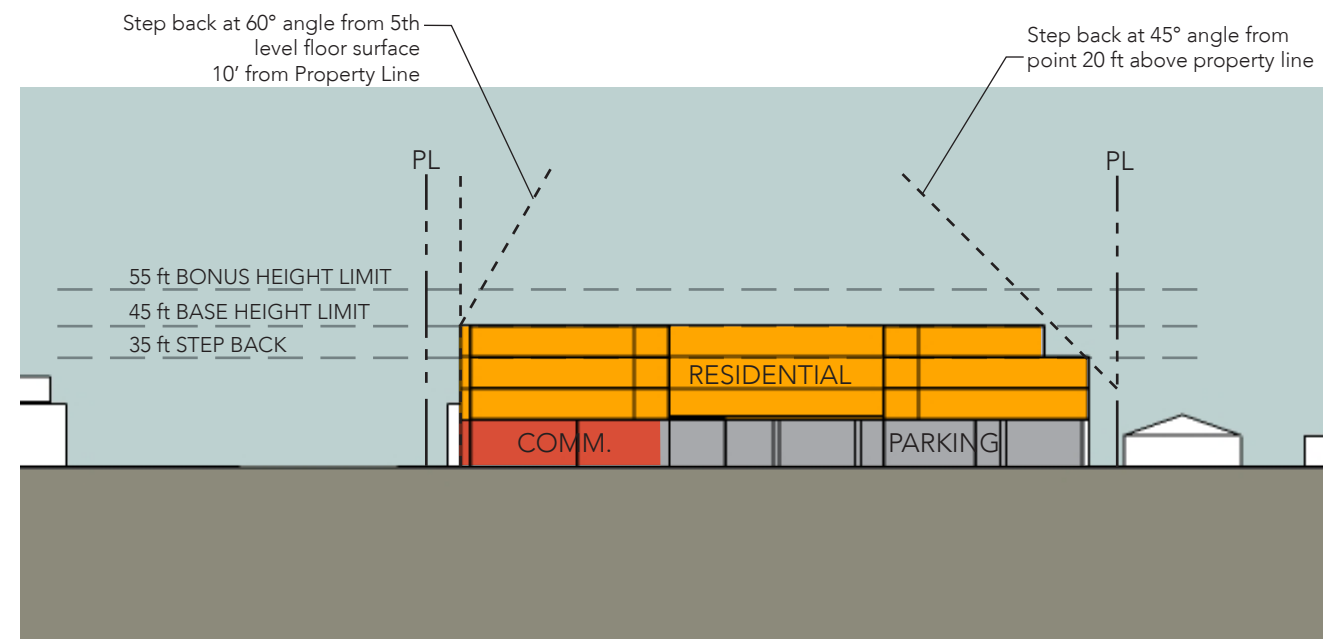
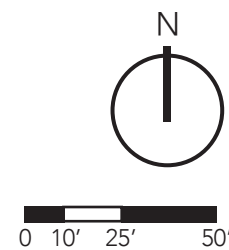
LEVEL 3
21,100 gsf



LEVEL 4
13,350 gsf



GROUND LEVEL
25,700 gsf (16,900 gsf parking)



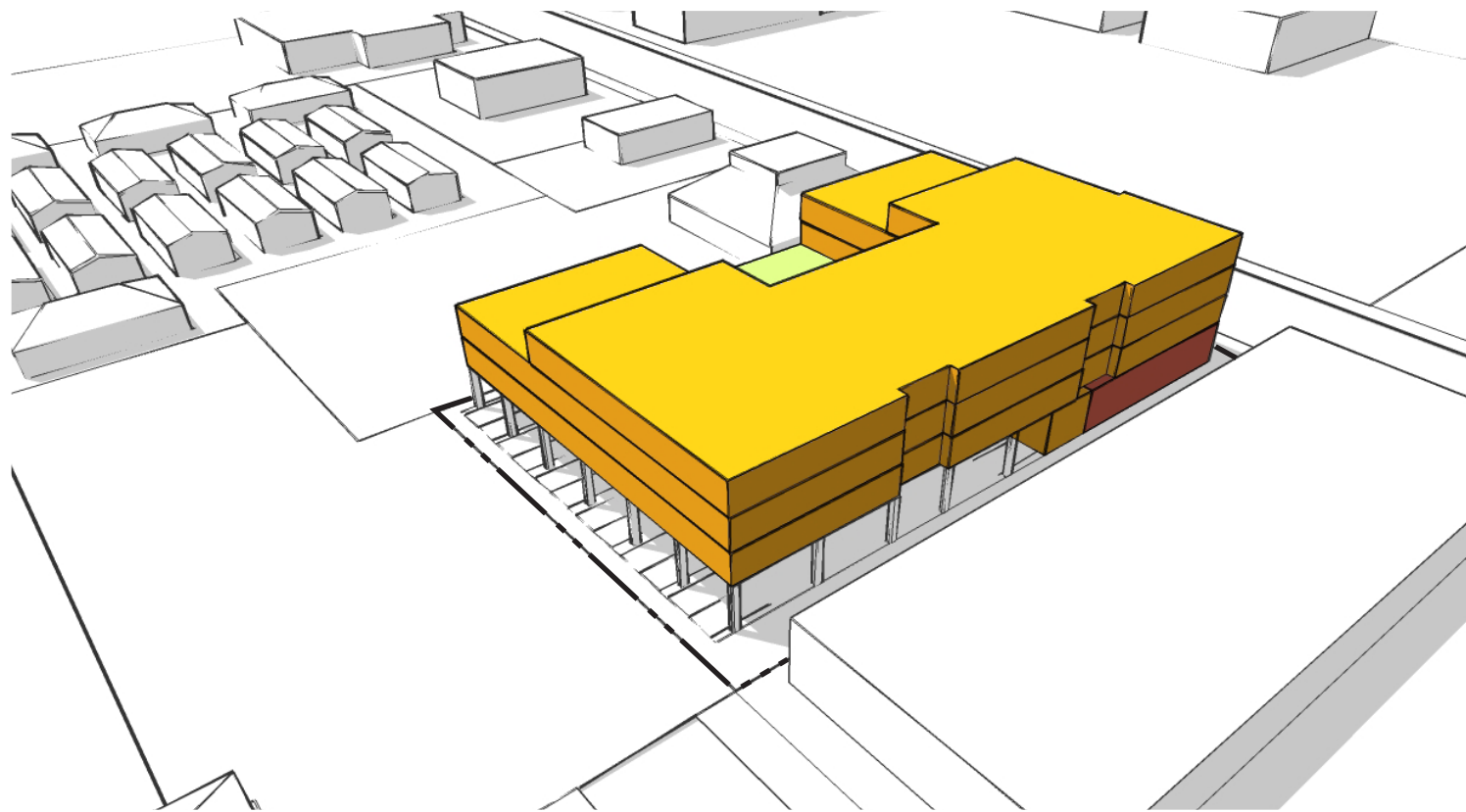
SITE SECTION



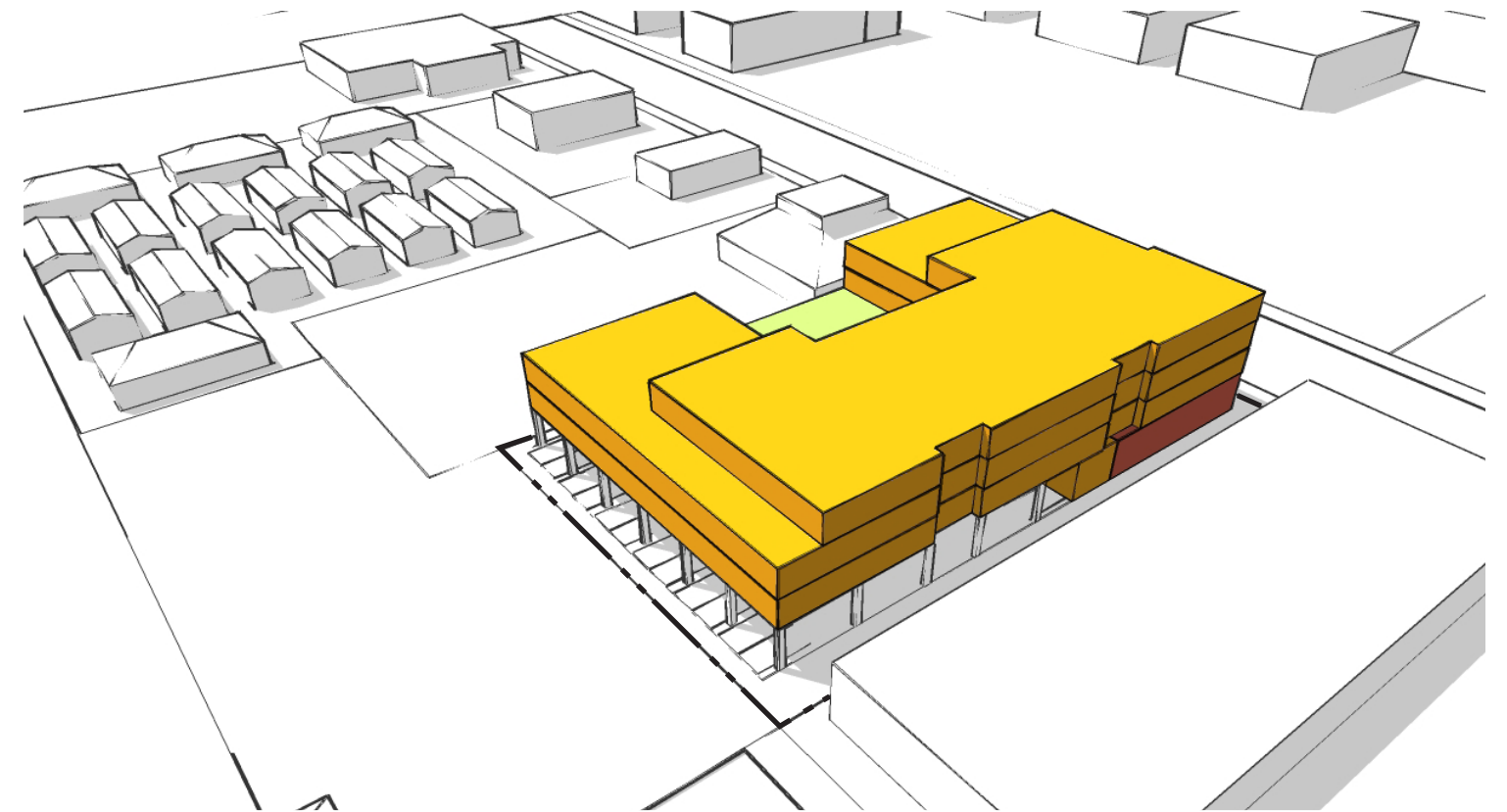
MUZ BUILDING PROTOTYPES **OPT 4A** R2.5 ZONE AT REAR



Figure 2-4A: Option 4A

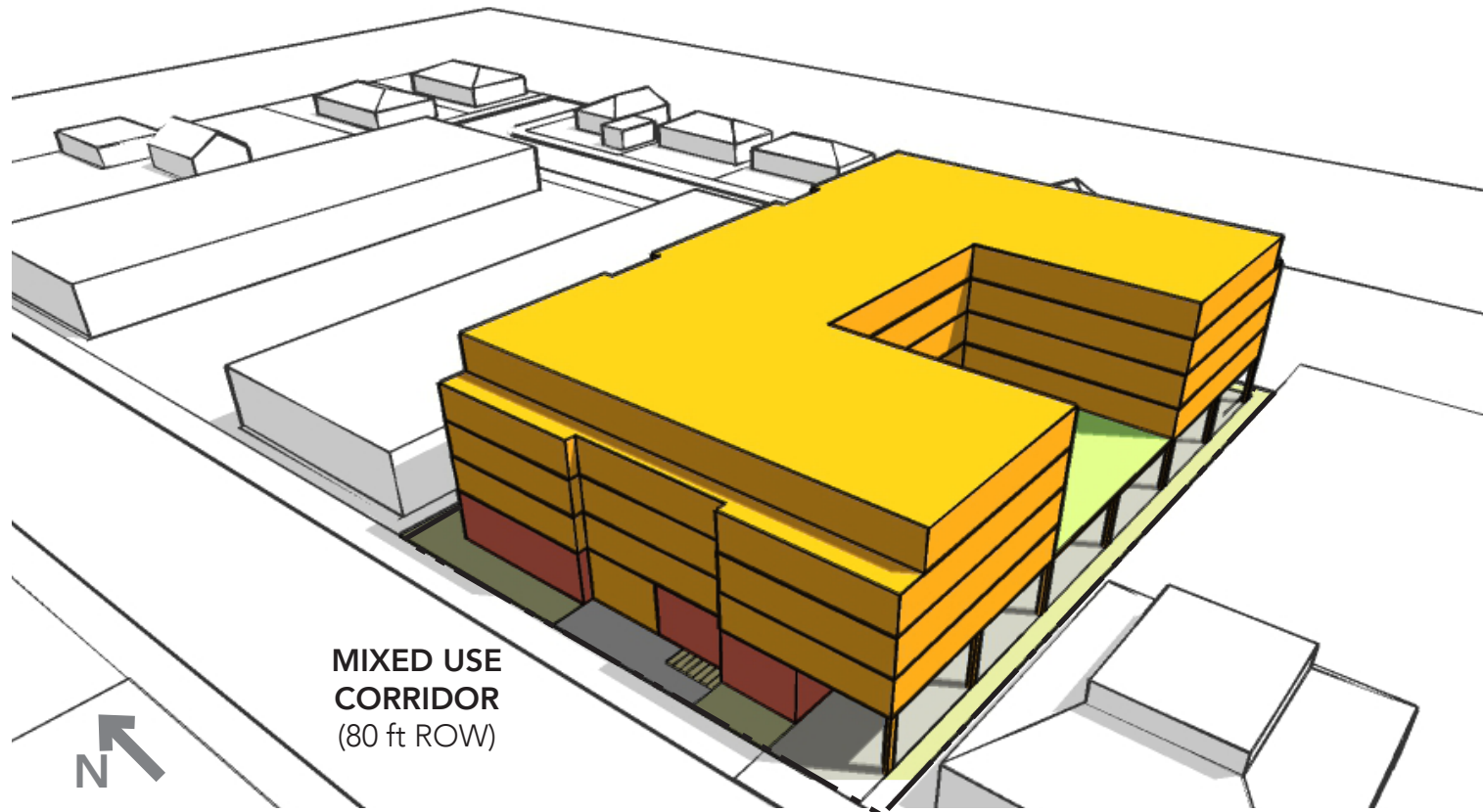
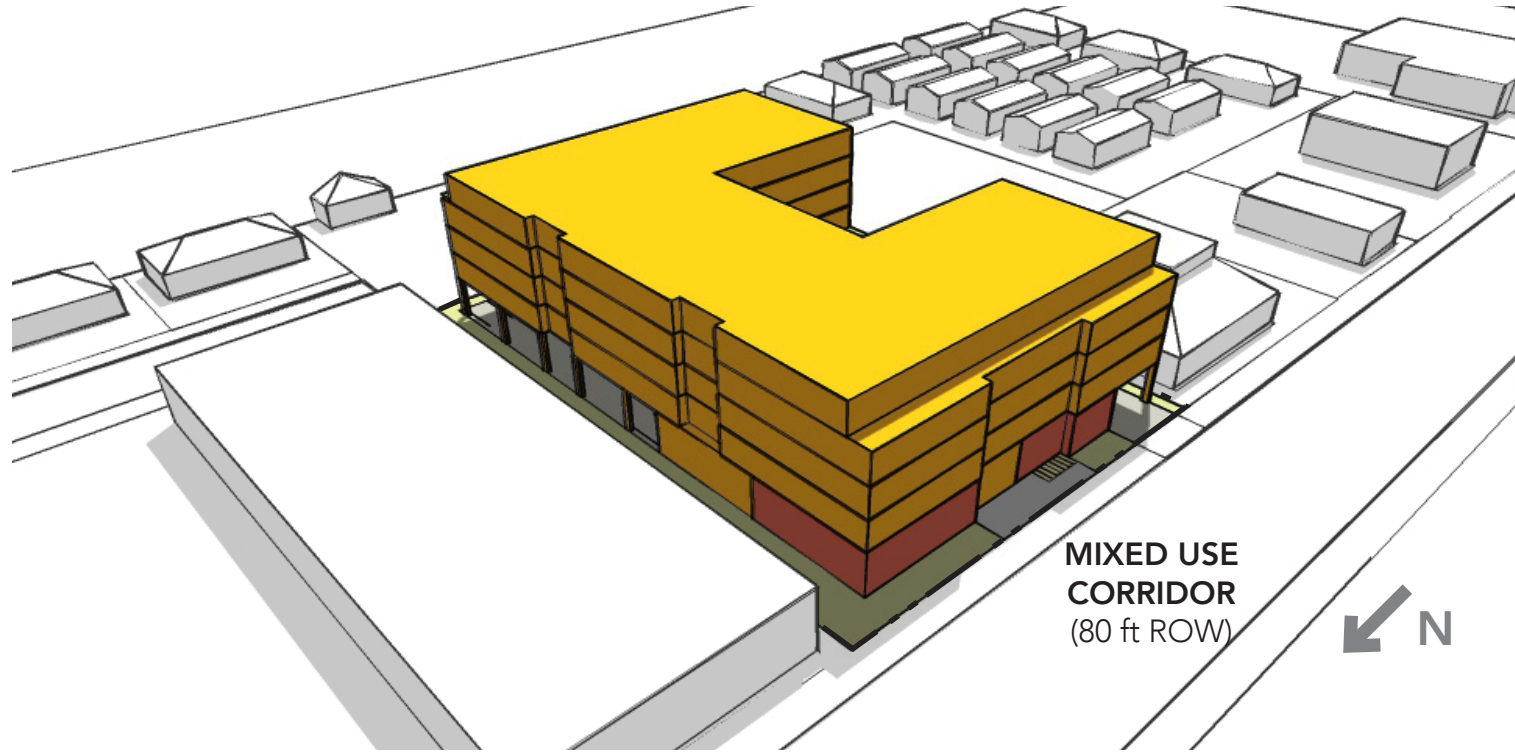


OPT 4A NE VIEW AT R2 ZONE
MUZ BUILDING PROTOTYPES



OPT 4A NE VIEW AT R2.5 ZONE
OPT 4A REAR SETBACKS AT R2 & R2.5

Figure 2-4B: Option 4B



CM2 ZONE STANDARDS

Pattern Area: Outer
 ROW width: 80 ft

Max Height: 55 ft / 5 stories
 Additional GF Height: 3 ft (for active use)
 Step-backs: Street facades at 80 ft ROW to step back above 4th level

Max FAR: 3.5:1 (w/ bonus)
 Max Building Coverage: 90%
 Req'd Landscaping: none

Req'd Outdoor Space: 48 sf / unit

Required Parking:
 Vehicle: 6 stalls +1 ADA
 Short-term bike: 4 spaces
 Long-term bike: 36 spaces

Street Setback: 10 ft
 Side Setbacks: none
 Rear Setback: 5-14 ft @ R-zone

BUILDING PROTOTYPE

Site Area: 33,000 sf / 150x220
 Height: 55 ft / 5 stories

Step-backs: Is step back required if building is held back 10 ft?

Building Area:	Residential	90,590 gsf
	Commercial	3,800 gsf
	Parking	16,900 gsf
Total		111,290 gsf

FAR: 2.86:1 (not including parking)
 Building Coverage: 25,700 sf / 77%
 Landscaping: 5,600 sf / 17%
 Paved: 1,700 sf / 6%
 Outdoor Space: 6,000 sf

Parking Provided:
 Vehicle: 33 stalls + 2 ADA
 Short-term bike: 7 spaces
 Long-term bike: 115 spaces

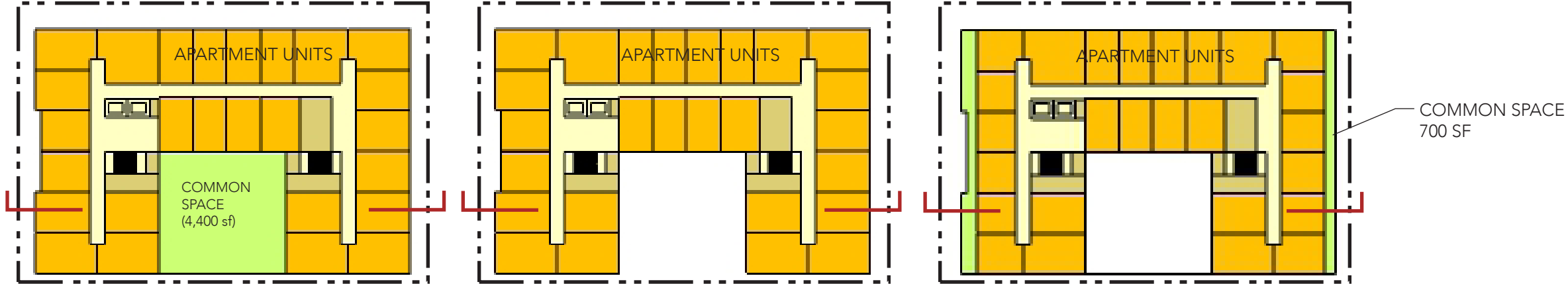
Front Setback: 10 ft
 Side Setbacks: none
 Rear Setback: 11 ft

Apartment Units: 104 (870 gsf per unit overall)

MUZ BUILDING PROTOTYPES **OPT 4B**



Figure 2-4B: Option 4B

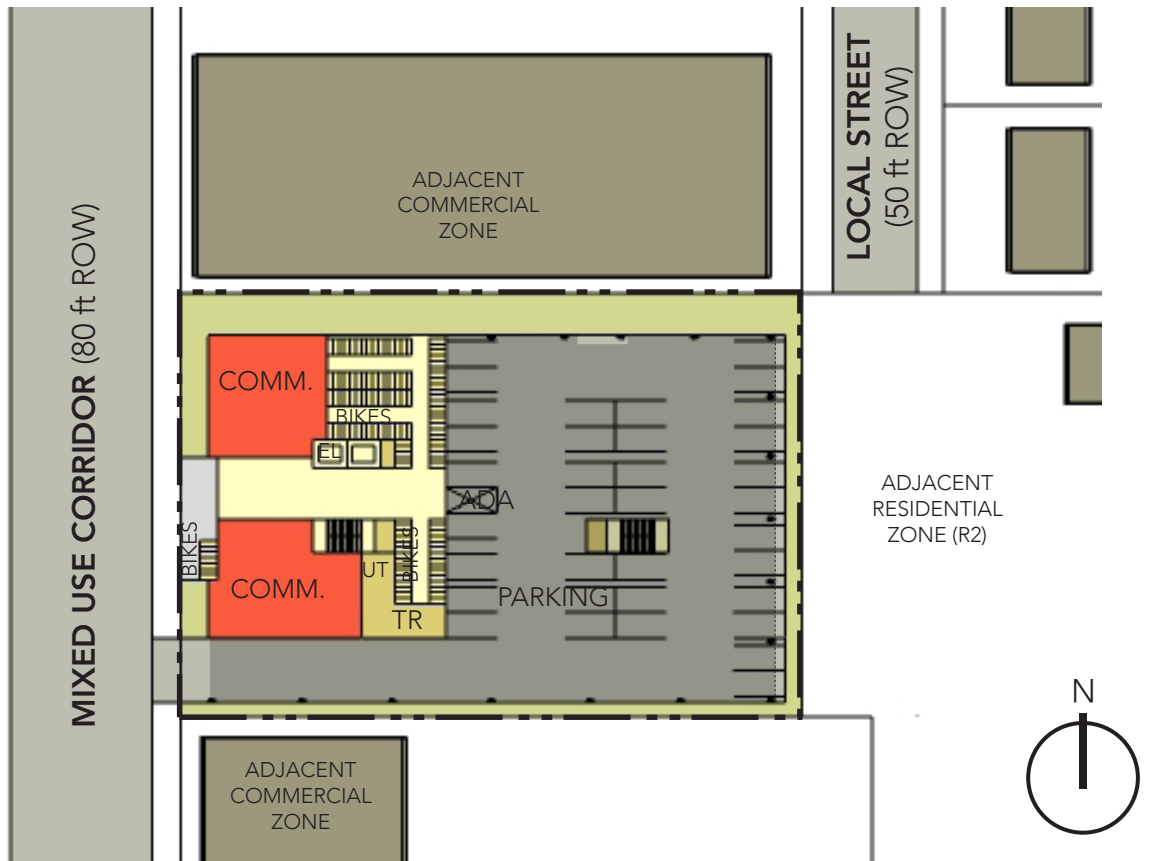


LEVEL 2
21,800 gsf

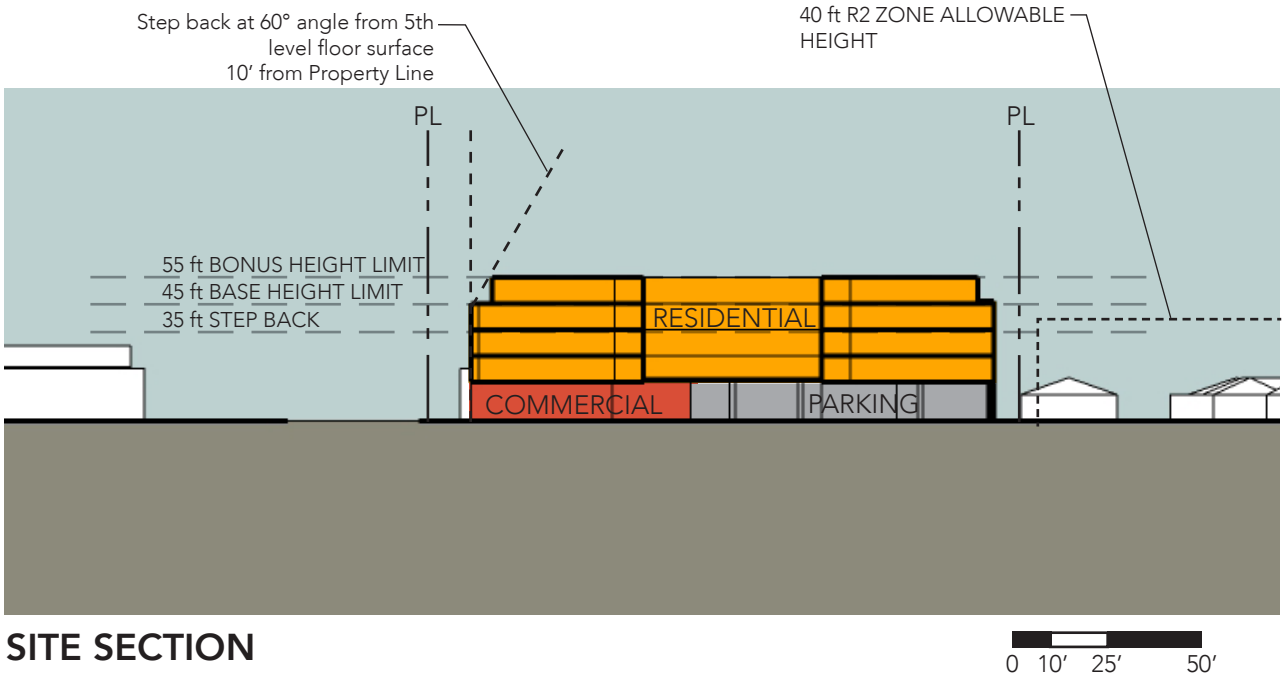
LEVELS 3 & 4
21,800 gsf each

LEVEL 5
21,050 gsf

COMMON SPACE
700 SF



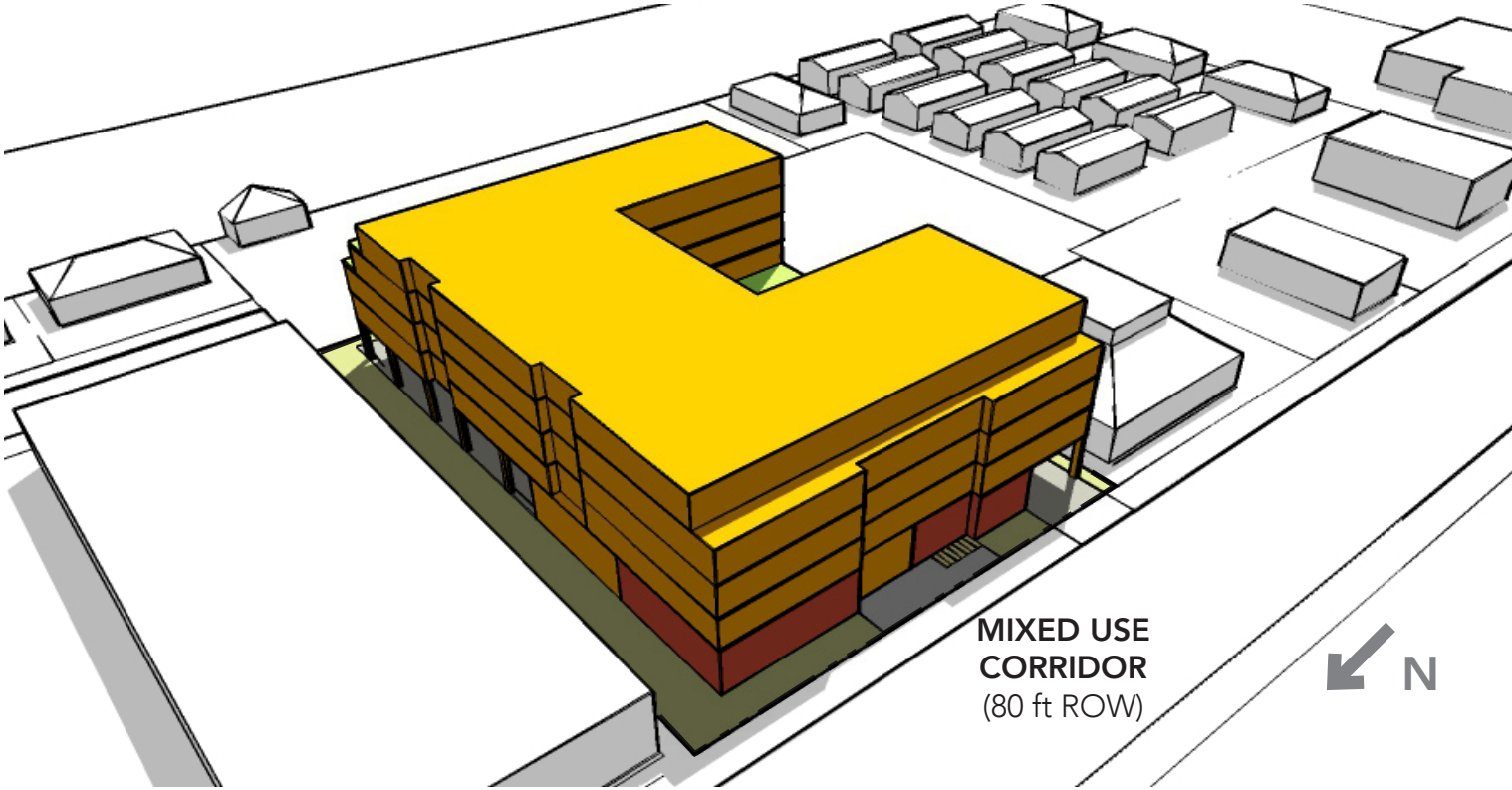
GROUND LEVEL
8,500 gsf (3,850 gsf parking)



SITE SECTION

MUZ BUILDING PROTOTYPES **OPT 4B**

Figure 2-4B: Option 4B



CM2 ZONE STANDARDS

Pattern Area: Outer
 ROW width: 80 ft
 Max Height: 55 ft / 5 stories
 Additional GF Height: 3 ft (for active use)
 Step-backs: street facades step back above 3rd level

Max FAR: 3.5:1 (no bonus)
 Max Building Coverage: 90%
 Req'd Landscaping: none
 Req'd Outdoor Space: 48 sf / unit

Required Parking:
 Vehicle: 6 stalls +1 ADA
 Short-term bike: 4 spaces
 Long-term bike: 36 spaces

Street Setback: 10 ft
 Side Setbacks: none
 Rear Setback: 5-14 ft @ R-zone

BUILDING PROTOTYPE

Site Area: 33,000 sf / 150x220
 Height: 55 ft / 5 stories
 Step-backs: Rear facade step back at 45 degree slope. Front facade 5th level step back required if building is held back 10 ft.?

Building Area:	Residential	83,990 gsf (-6,600)
	Commercial	3,800 gsf
	Parking	16,900 gsf
Total		104,690 gsf (-6,600)

FAR: 2.66:1 (not including parking) (-.20)
 Building Coverage: 25,700 sf / 77%
 Landscaping: 5,600 sf / 17%
 Paved: 1,700 sf / 6%
 Outdoor Space: 7,910 sf

Parking Provided:
 Vehicle: 33 stalls + 2 ADA
 Short-term bike: 7 spaces
 Long-term bike: 105 spaces

Front Setback: 10 ft
 Side Setbacks: none
 Rear Setback: 15 ft

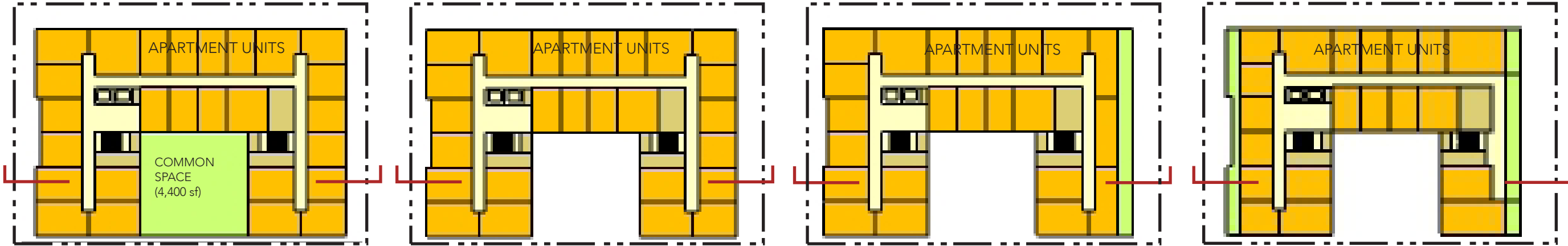
Apartment Units: 95 (-9 units)
 (884 gsf per unit overall)

MUZ BUILDING PROTOTYPES **OPT 4B-1**

R2.5 ZONE AT REAR



Figure 2-4B: Option 4B

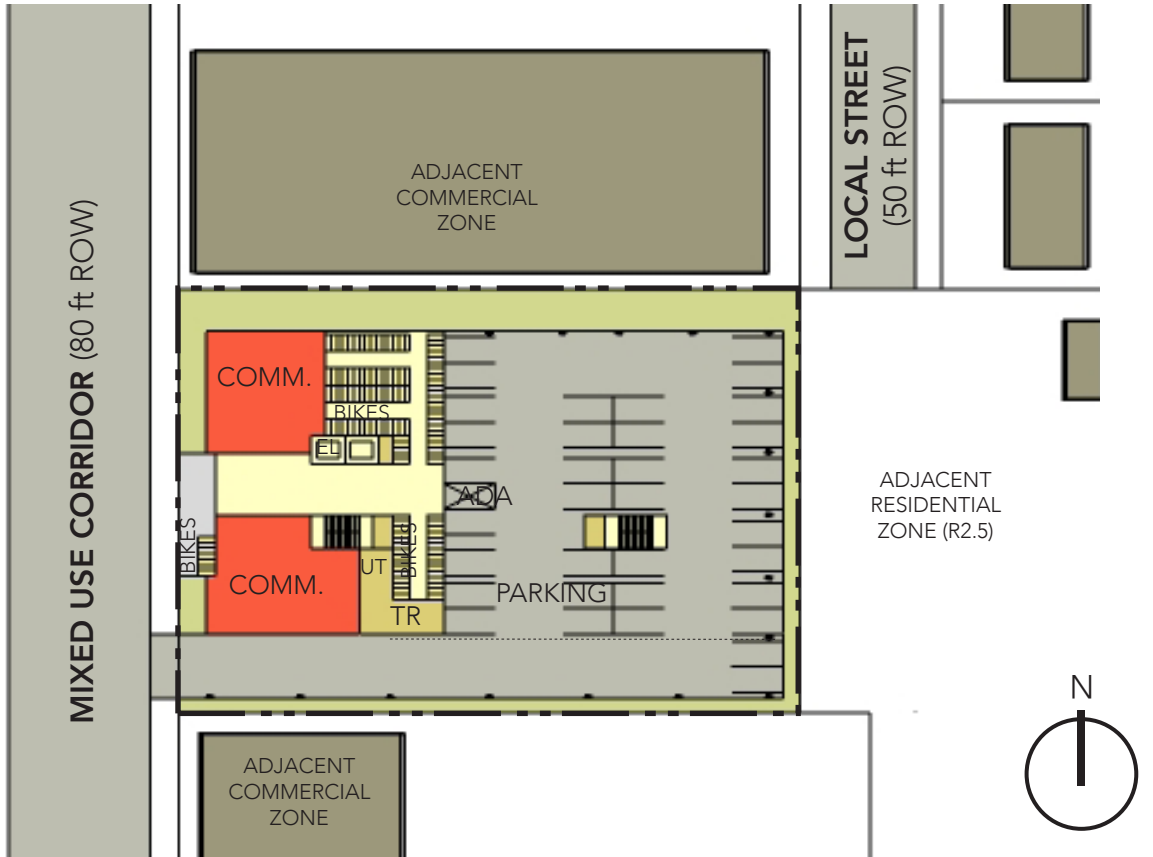


LEVEL 2
20,950 gsf

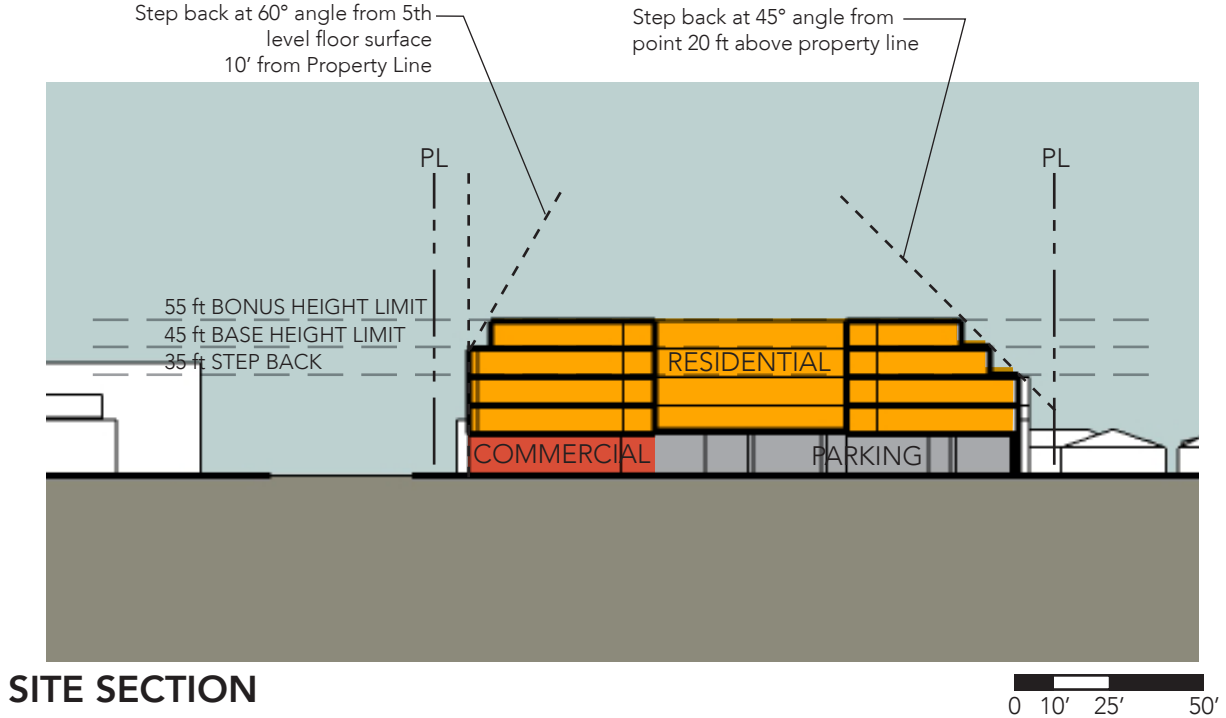
LEVEL 3
20,950 gsf

LEVEL 4
19,650 gsf

LEVEL 5
17,440 gsf



GROUND LEVEL
8,500 gsf (3,850 gsf parking)

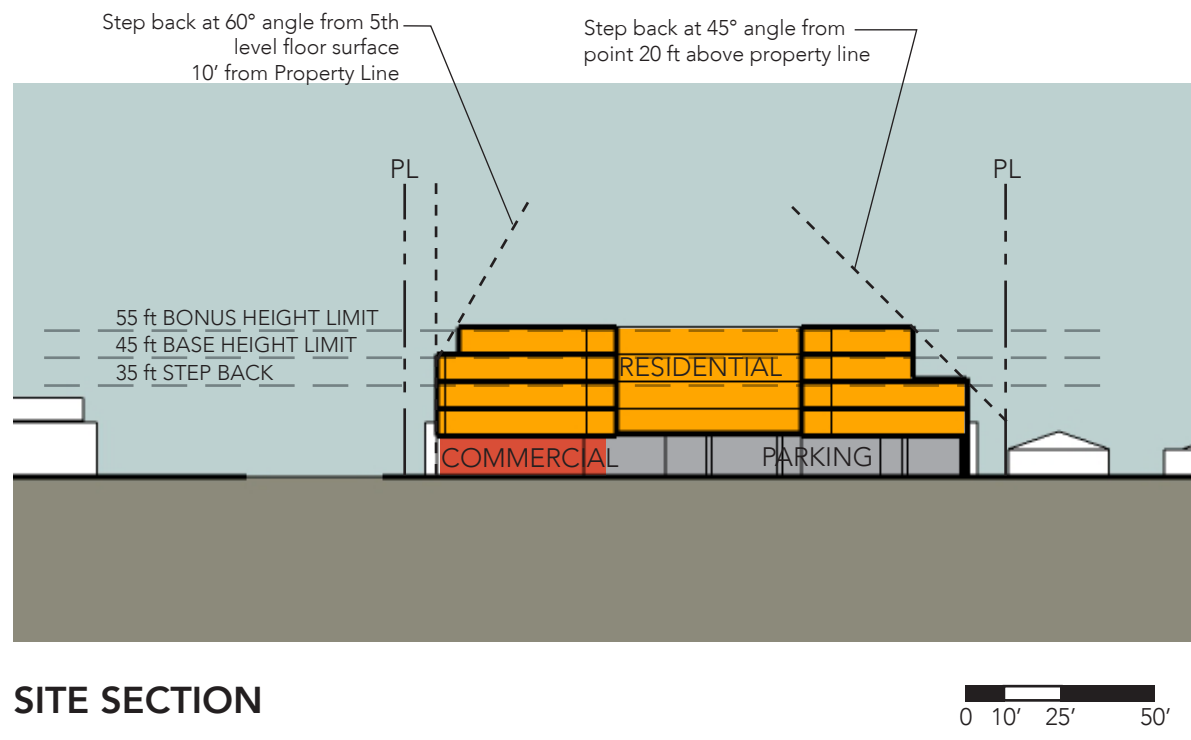
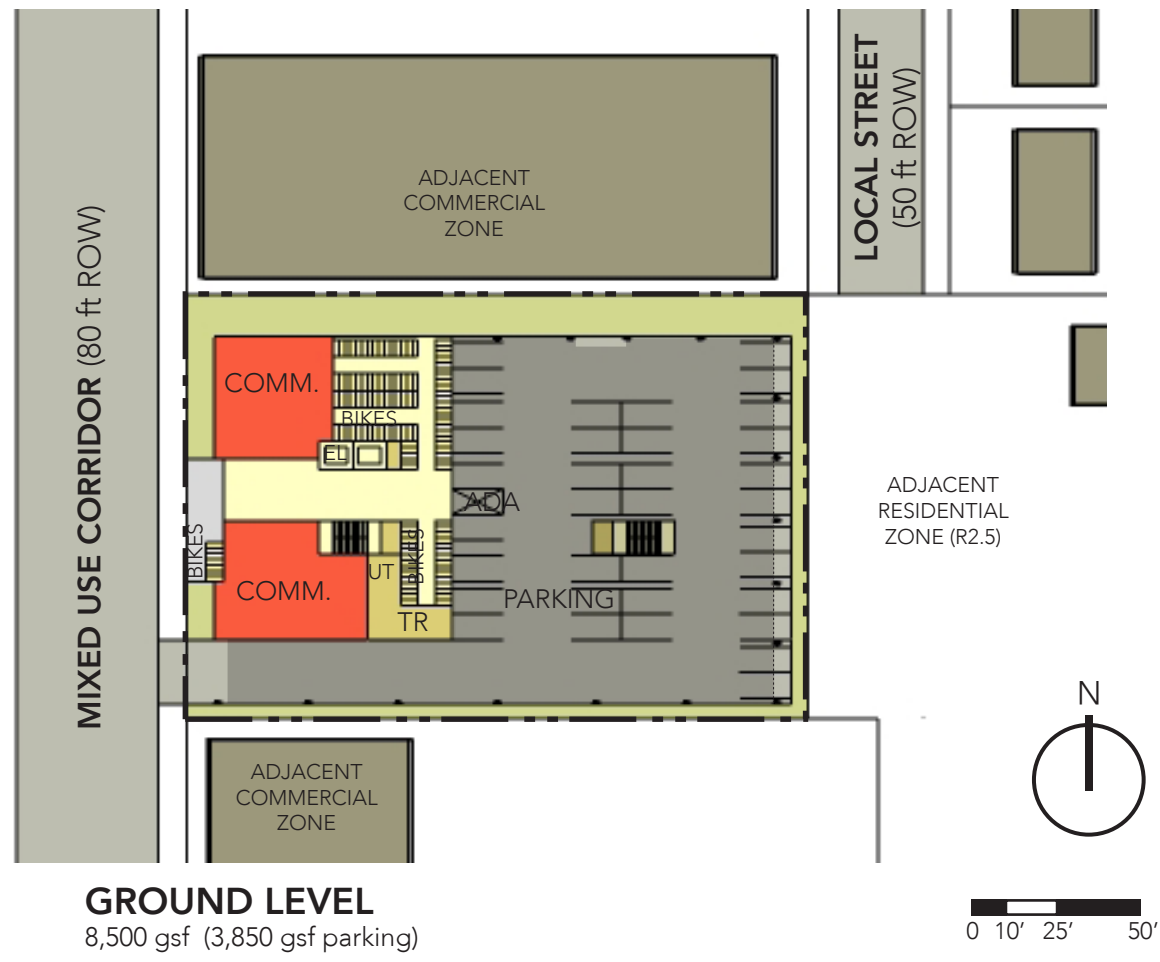


SITE SECTION

MUZ BUILDING PROTOTYPES **OPT 4B-1** **R2.5 ZONE AT REAR**



Figure 2-4B: Option 4B



SITE SECTION

MUZ BUILDING PROTOTYPES **OPT 4B-2** R2.5 ZONE AT REAR

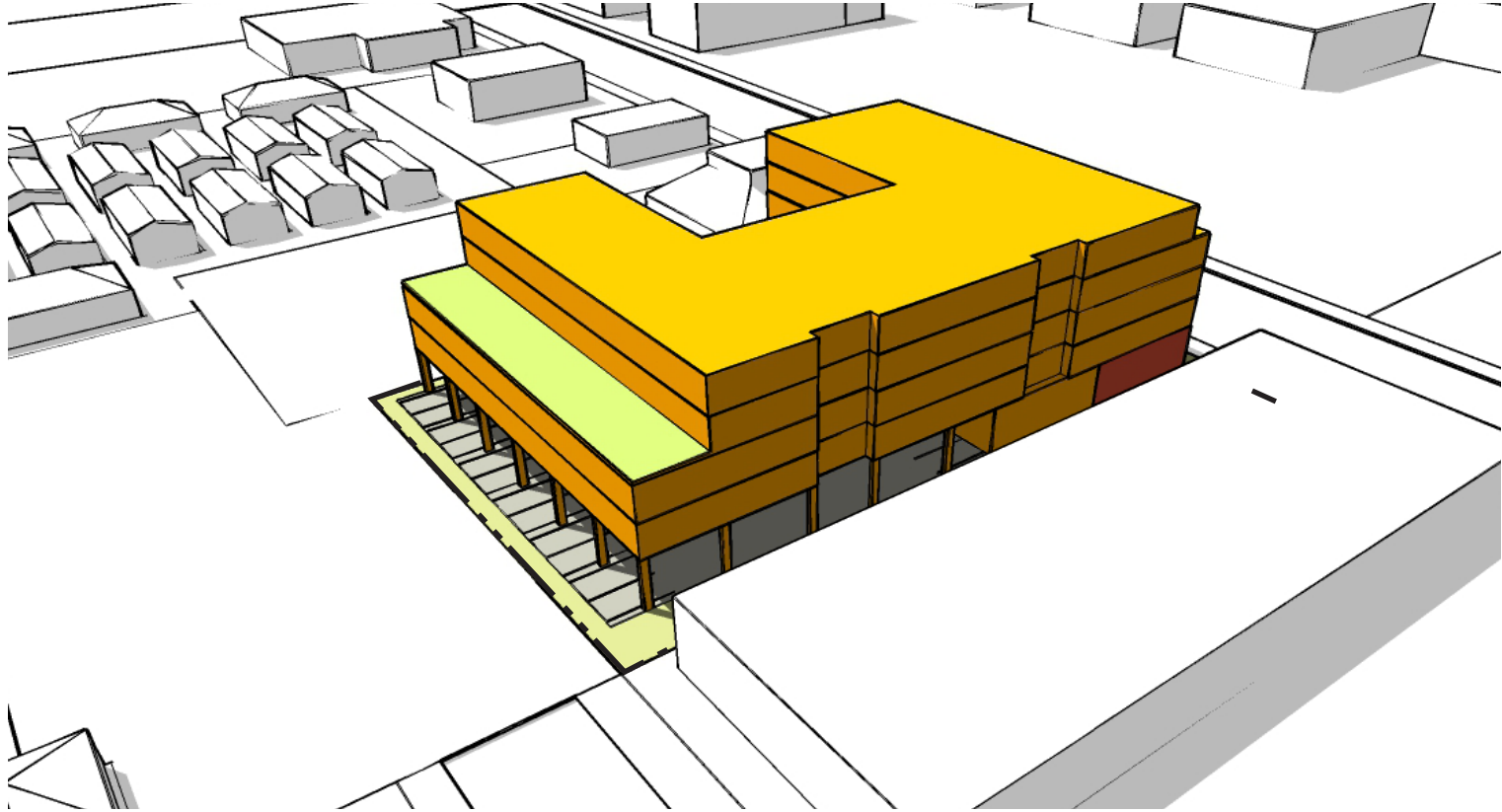
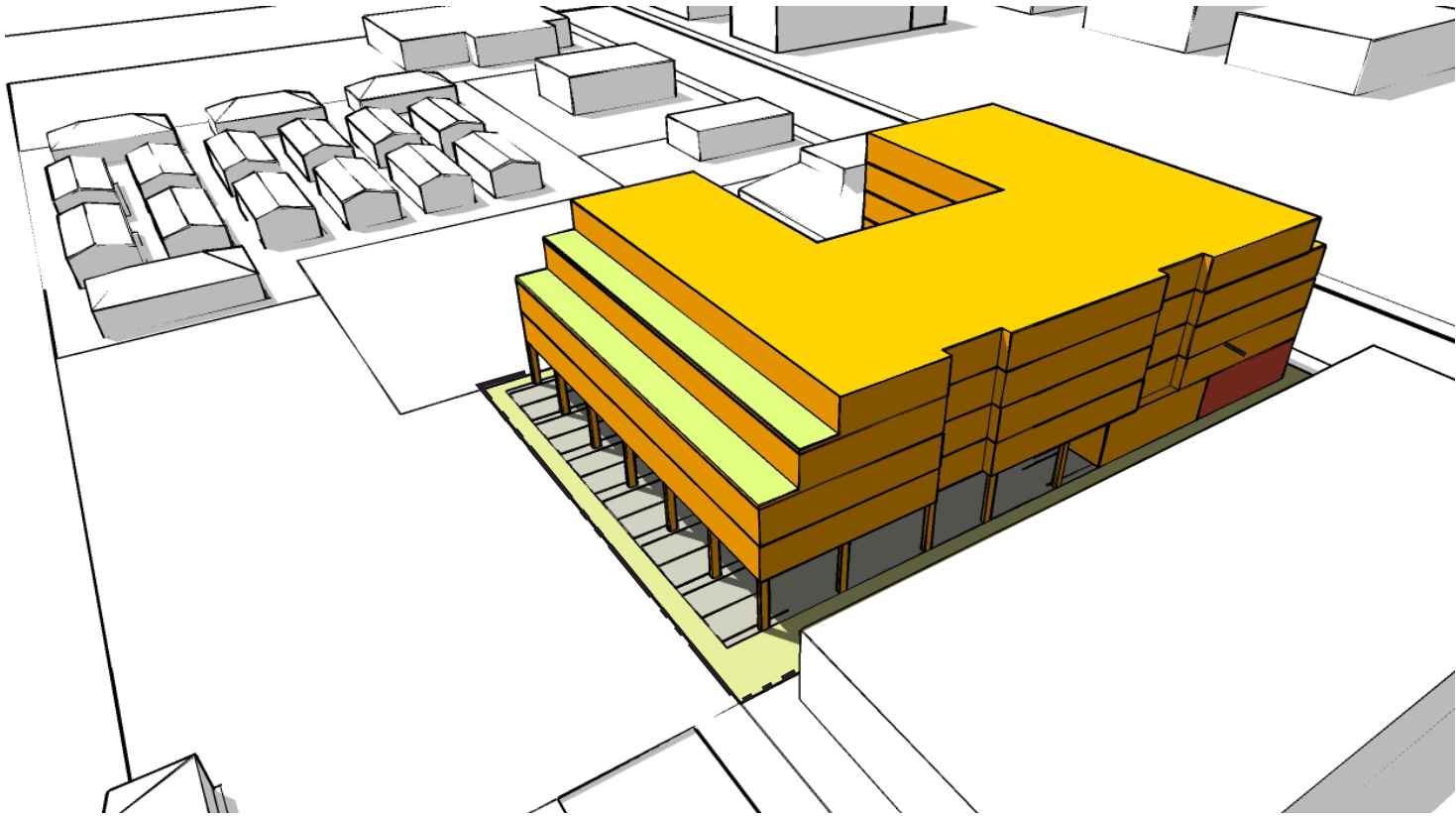
Figure 2-4B: Option 4B

BUILDING PROTOTYPE 4B-1

Building Area:	Residential	83,990 gsf (-6,600)
	Commercial	3,800 gsf
	Parking	16,900 gsf
Total		104,900 gsf (-6,600)
FAR:	2.66:1 (not including parking) (-.20)	
Apartment Units:	95 (-9 units) (884 gsf per unit overall)	

BUILDING PROTOTYPE 4B-2

Building Area:	Residential	82,690 gsf (-7,900)
	Commercial	3,800 gsf
	Parking	16,900 gsf
Total		98,390 gsf (-7,900)
FAR:	2.62:1 (not including parking) (-.24)	
Apartment Units:	92 (-12 units) (900 gsf per unit overall)	

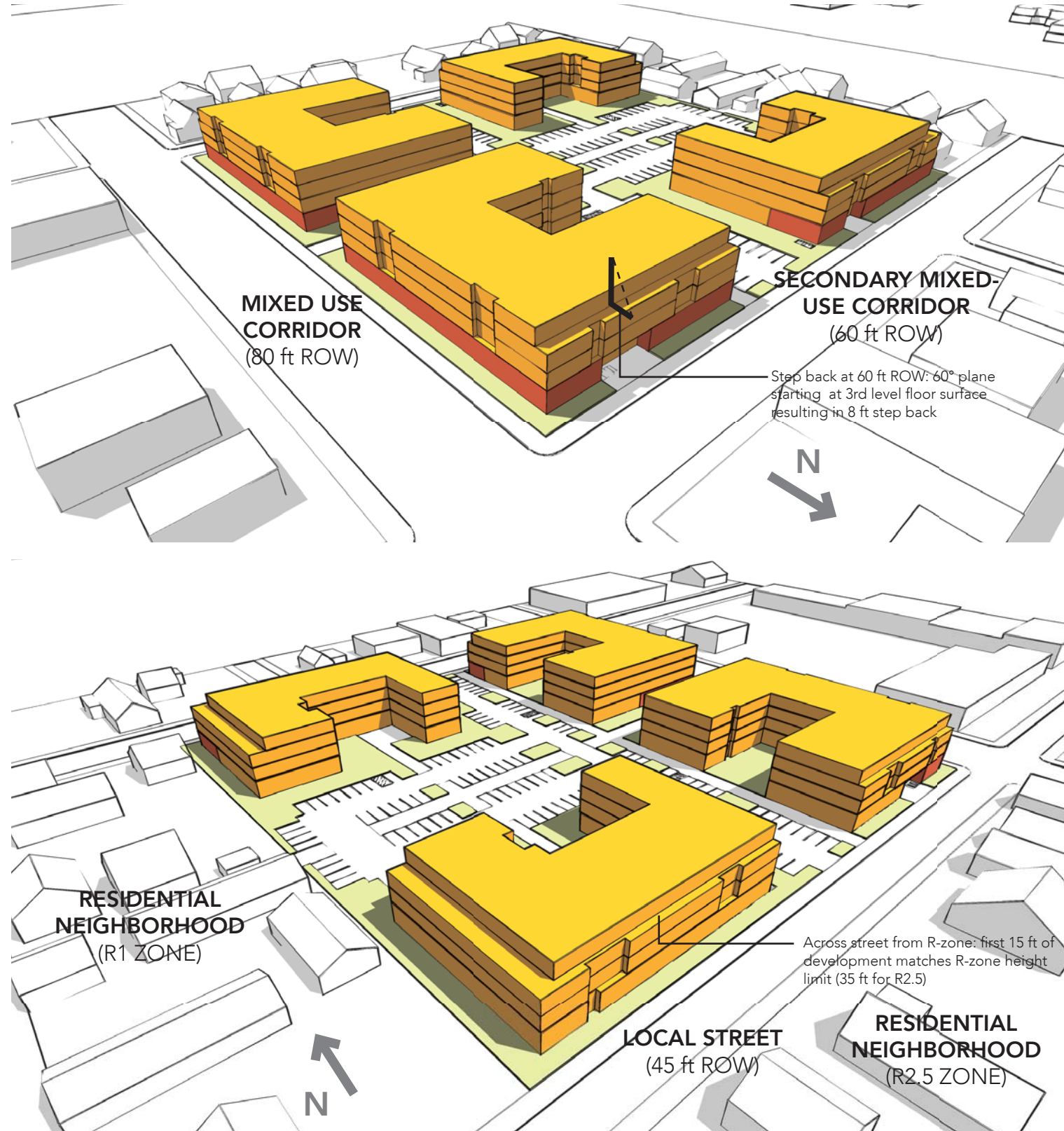


OPT 4B-1 NE VIEW AT R2.5 ZONE
 MUZ BUILDING PROTOTYPES **OPT 4B**

OPT 4B-2 NE VIEW AT R2.5 ZONE
REAR SETBACKS AT R2 & R2.5



Figure 2-5A: Option 5A



CM2 ZONE STANDARDS

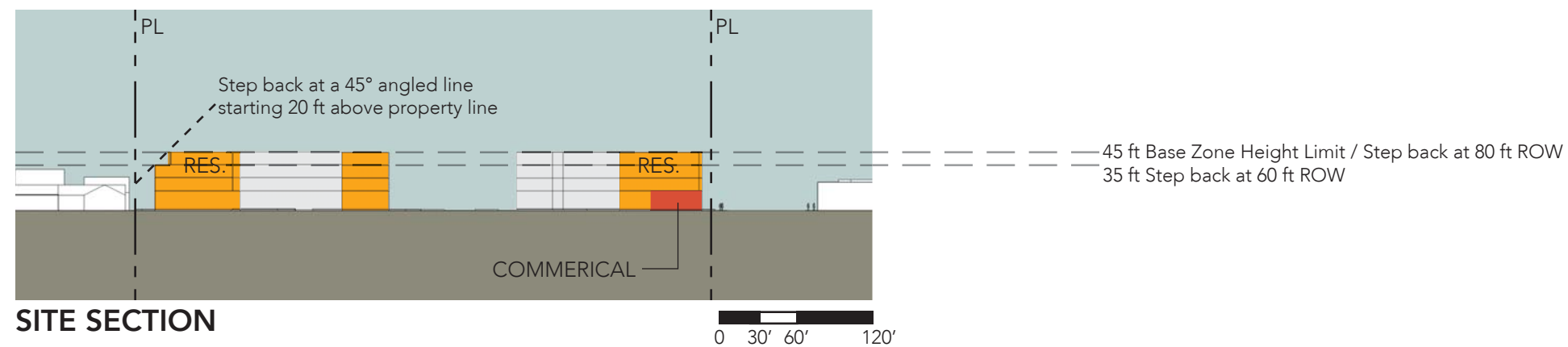
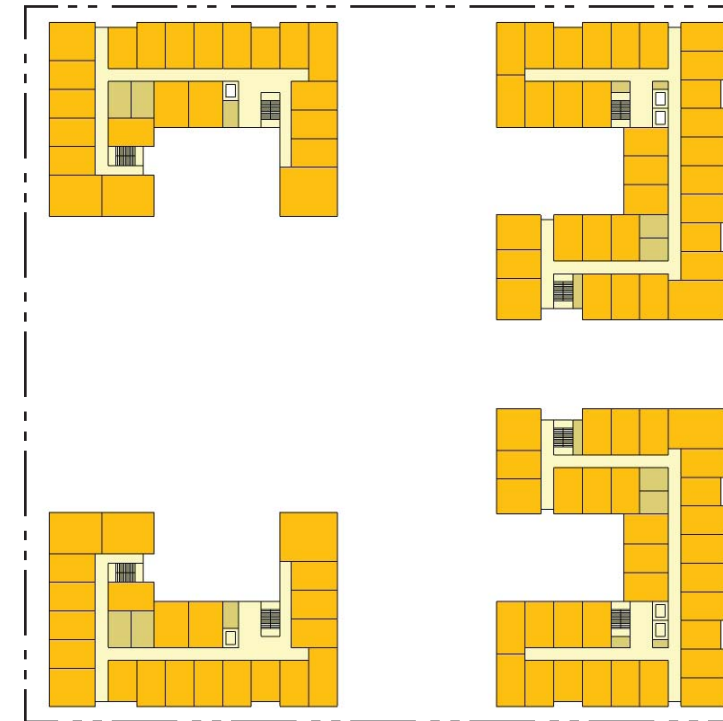
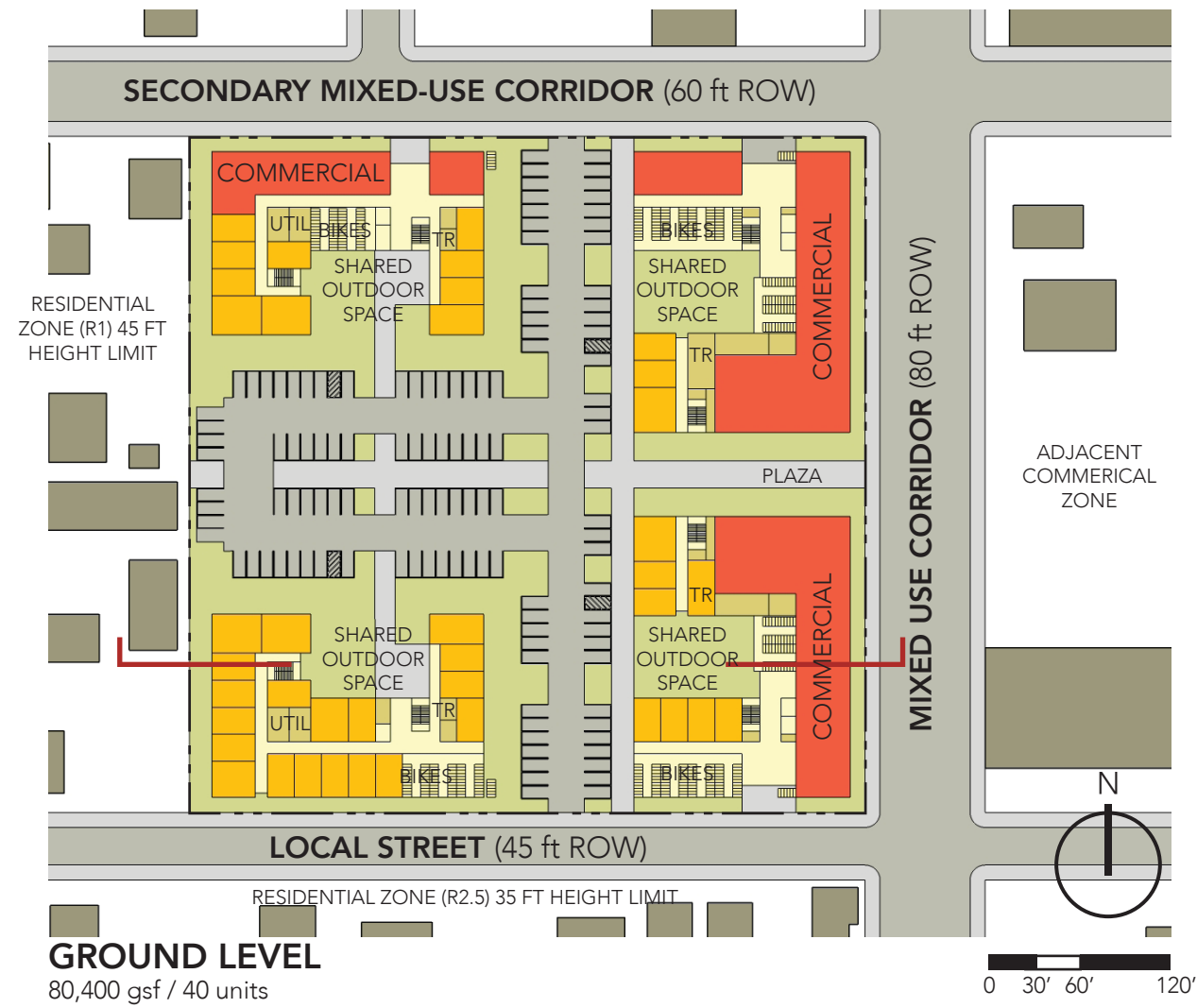
Pattern Area:	Outer
ROW width:	80 ft
Max Height (no bonus):	45 ft / 4 stories
Additional GF Height:	3 ft (for active use)
Step-backs:	60 ft ROW facades step back above 3rd level
Max FAR:	2:1 (no bonus)
Max Building Coverage:	85%
Req'd Landscaping:	15% (30,375 sf)
Req'd Outdoor Space:	48 sf / unit
Required Parking:	
Vehicle:	115 spaces
Short-term bike:	24 spaces
Long-term bike:	380 spaces
Street Setbacks:	10 ft min.
Side Setbacks:	none
Rear Setback:	5-14 ft

BUILDING PROTOTYPE

Site Area:	202,500 sf / 450x450
Height:	45 ft / 4 stories
Step-backs:	60 ft ROW facades step back following a 60 degree angle starting above 3rd level (8 ft step back)
Building Area:	Residential 289,100 gsf Commercial 25,800 gsf
	Total 314,900 gsf
FAR:	1.56:1 (not including parking)
Building Coverage:	80,400 sf / 40%
Landscaping:	40,000 sf+ / 20%
Outdoor Space:	16,704 sf+ shared area
Parking Provided:	
Vehicle:	115 stalls + 6 ADA + 2 loading
Short-term bike:	24 spaces
Long-term bike:	386 spaces
Street Setback:	10 ft min.
Side Setbacks:	none
Rear Setback:	15 ft
Facade Articulation:	20% of facade area recessed 3 feet
Apartment Units:	348 (830 gsf per unit overall)

MUZ BUILDING PROTOTYPES OPT 5A

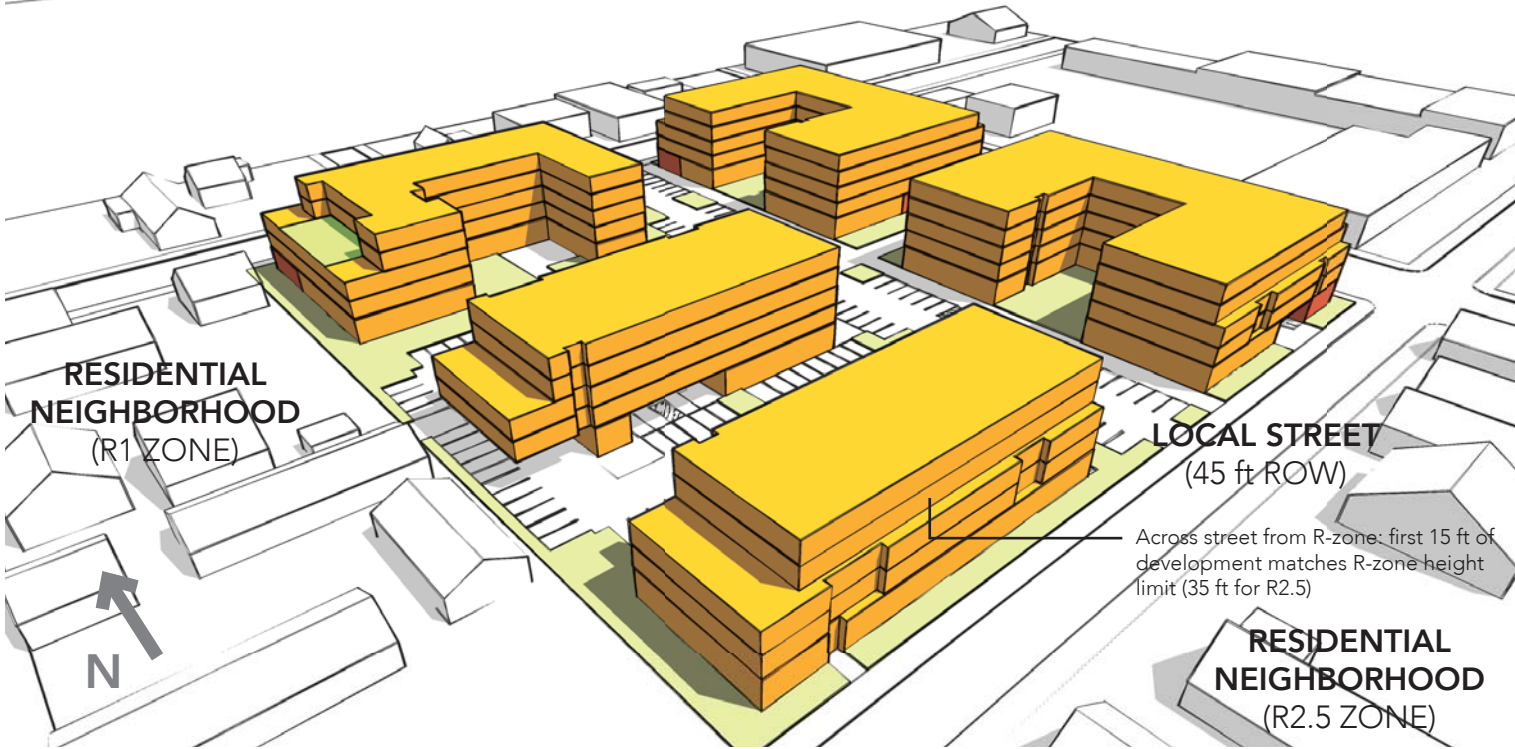
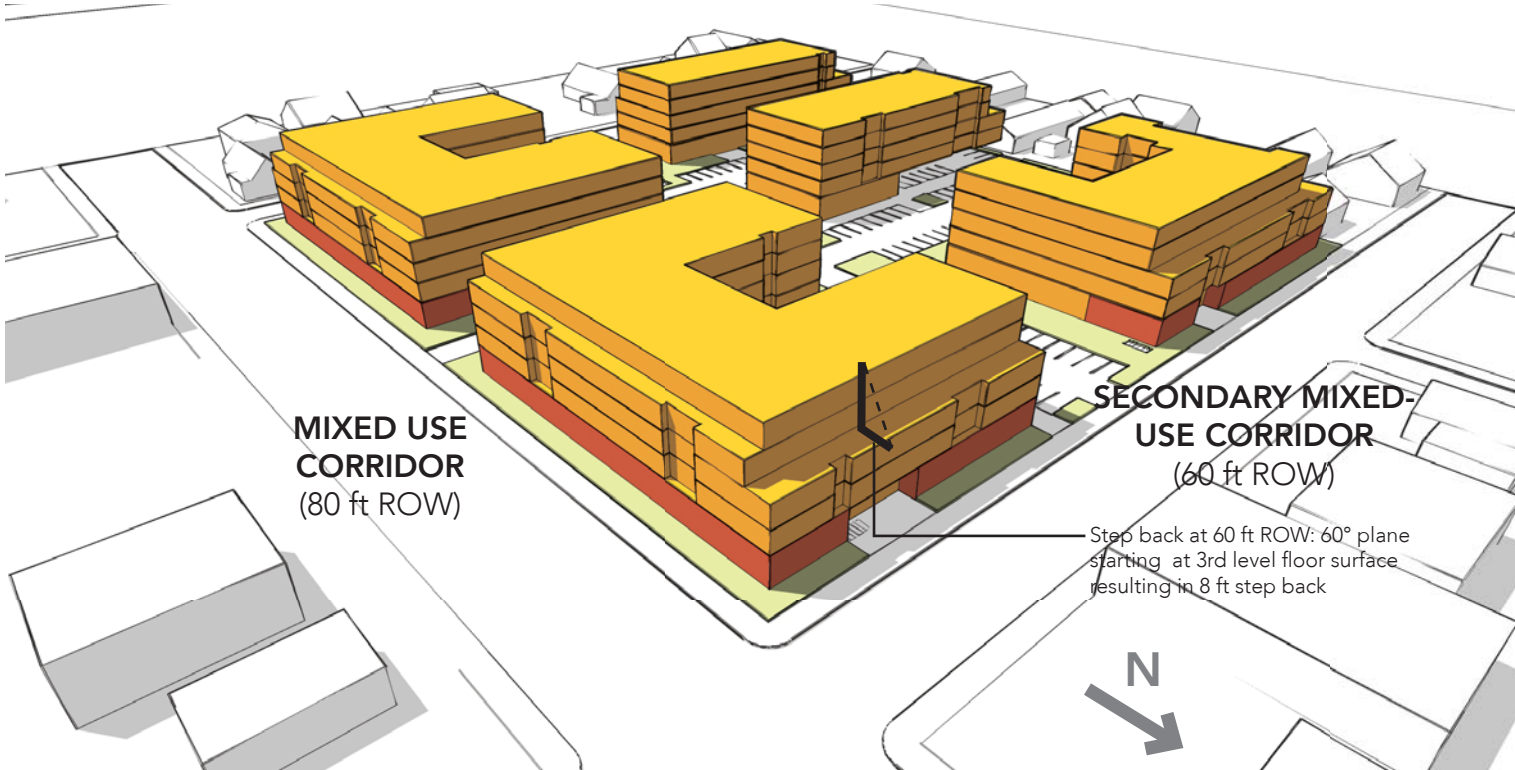
Figure 2-5A: Option 5A



MUZ BUILDING PROTOTYPES **OPT 5A**



Figure 2-5B: Option 5B



CM2 ZONE STANDARDS

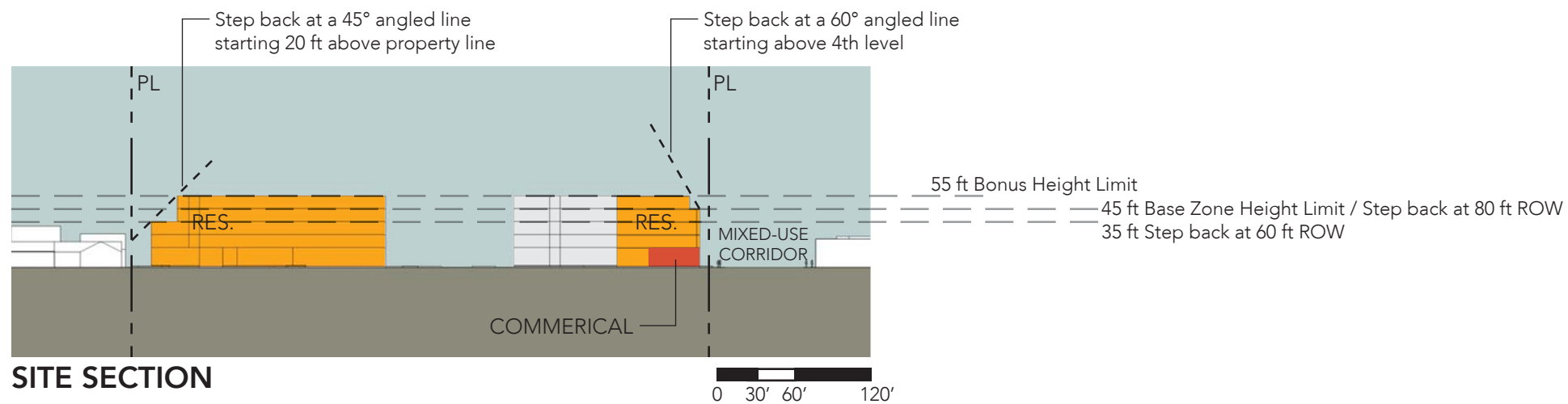
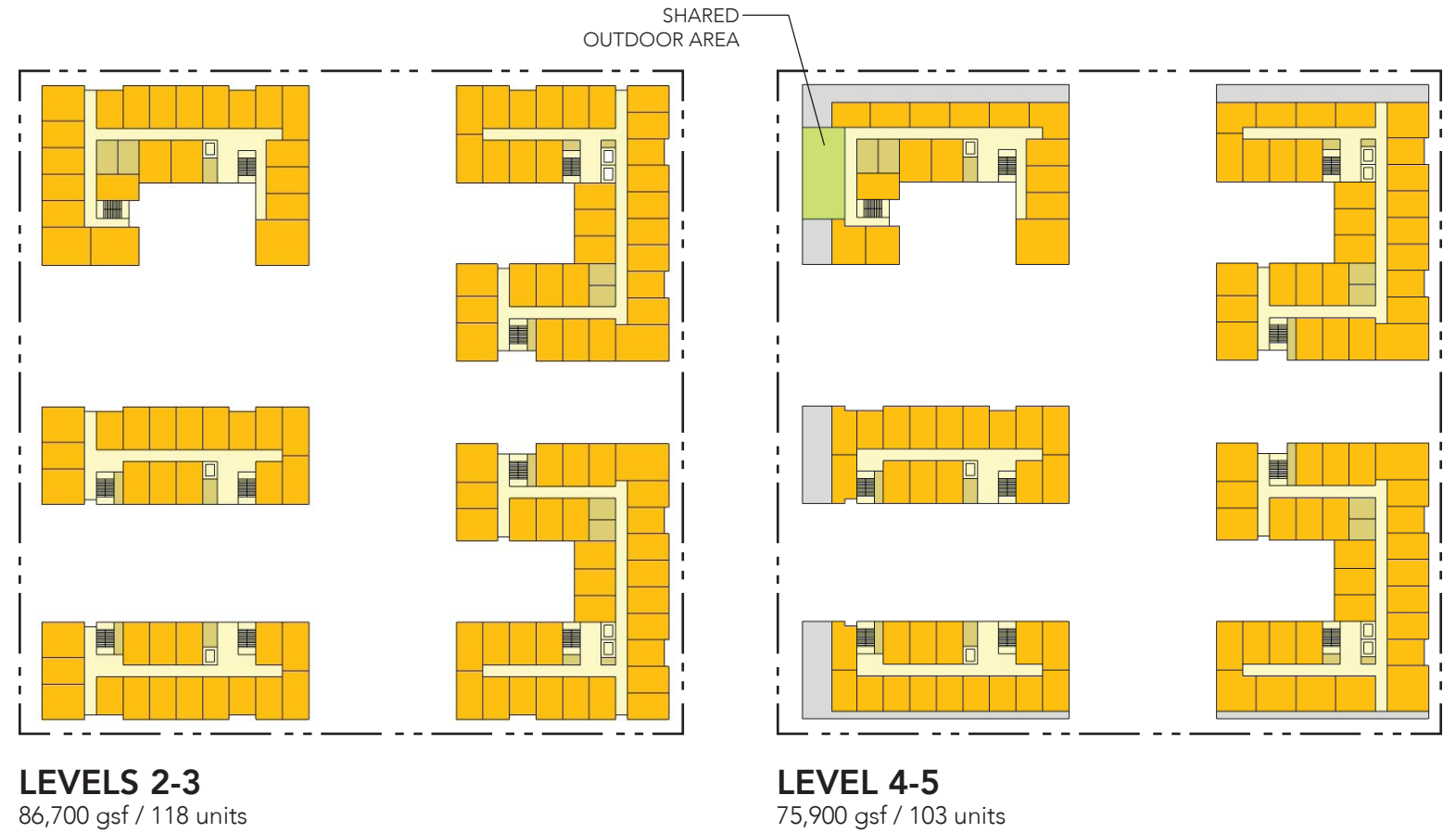
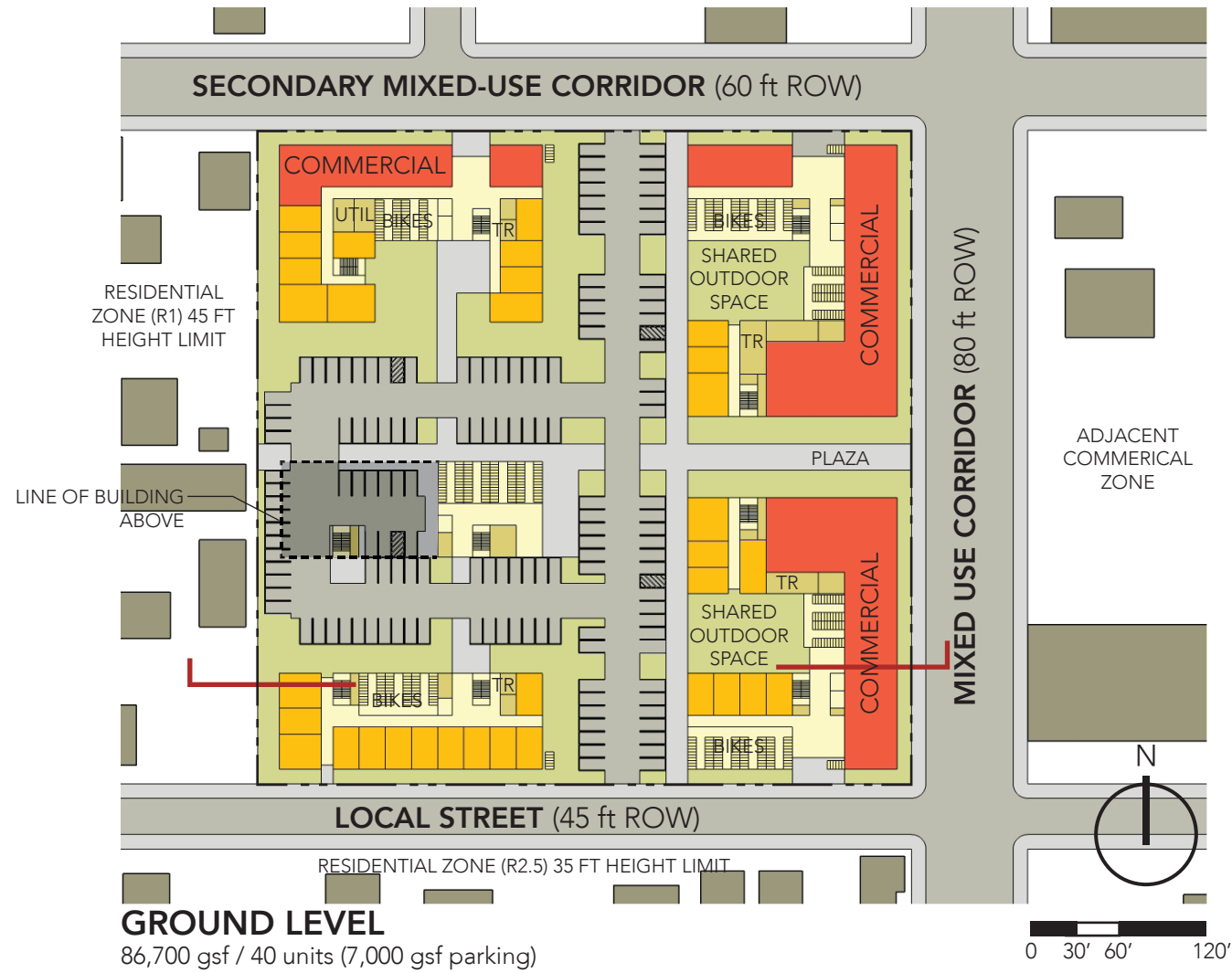
Pattern Area:	Outer
ROW width:	80 ft
Max Height (w/bonus):	55 ft / 5 stories
Additional GF Height:	3 ft (for active use)
Step-backs:	80 ft ROW facades step back above 4th level
Max FAR:	3.5:1 (w/ bonus)
Max Building Coverage:	85%
Req'd Landscaping:	15% (30,375 sf)
Req'd Outdoor Space:	48 sf / unit
Required Parking:	
Vehicle:	159 spaces
Short-term bike:	28 spaces
Long-term bike:	530 spaces
Street Setbacks:	10 ft min.
Side Setbacks:	none
Rear Setback:	5-14 ft

BUILDING PROTOTYPE

Site Area:	202,500 sf / 450x450
Height:	55 ft / 5 stories
Step-backs:	80 ft ROW facades step back following a 60 degree angle starting above 4th level (8 ft step back)
Building Area:	Residential 379,100 gsf Commercial 25,800 gsf Parking 7,000 gsf
	Total 411,900 gsf
FAR:	2.0:1 (not including parking)
Building Coverage:	86,700 sf / 43%
Landscaping:	30,375 sf+ / 15%
Outdoor Space:	23,136 sf+ shared area
Parking Provided:	
Vehicle:	153 stalls + 6 ADA + 2 loading
Short-term bike:	28 spaces
Long-term bike:	538 spaces
Street Setback:	10 ft min.
Side Setbacks:	none
Rear Setback:	15 ft
Facade Articulation:	20% of facade area recessed 3 feet
Apartment Units:	482 (786 gsf per unit overall)

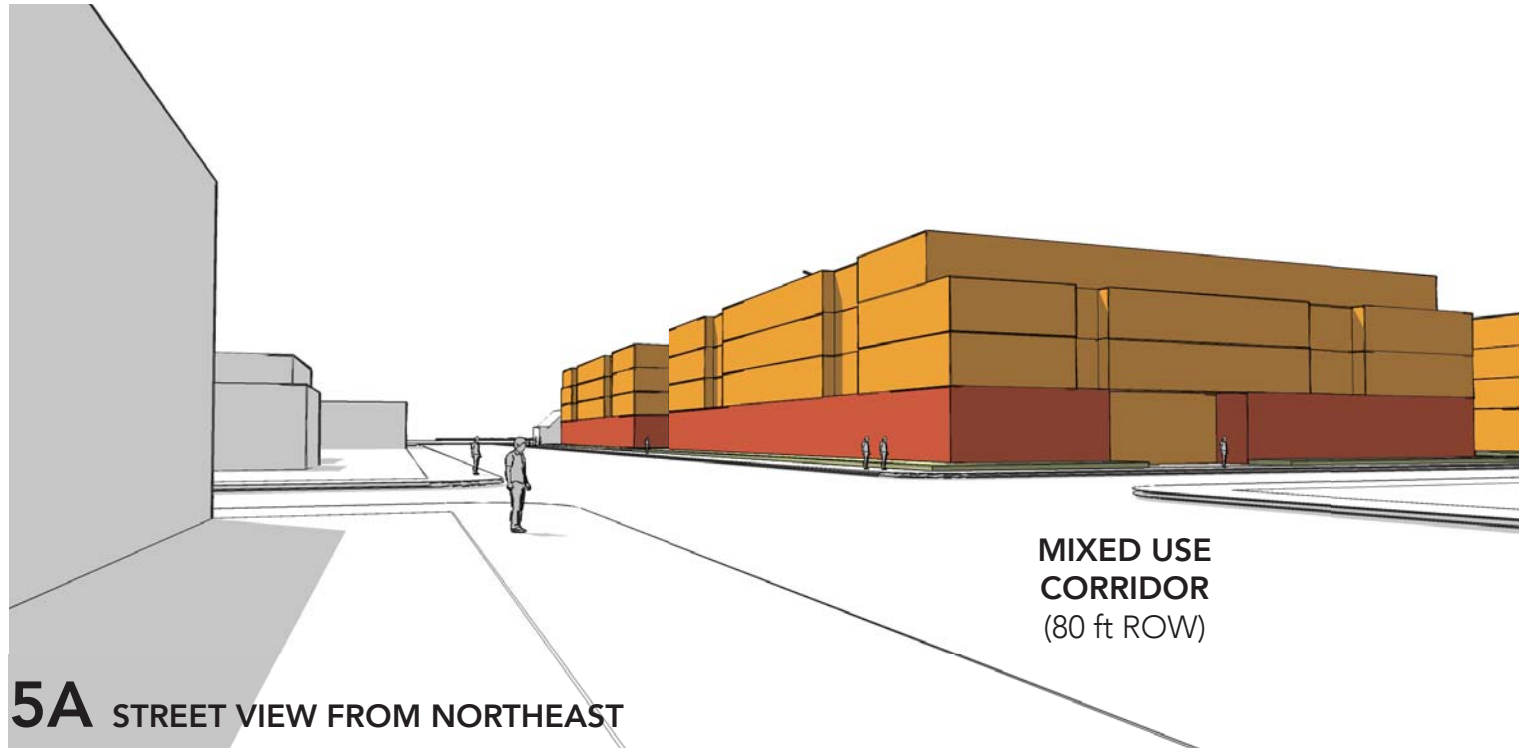
MUZ BUILDING PROTOTYPES **OPT 5B**

Figure 2-5B: Option 5B

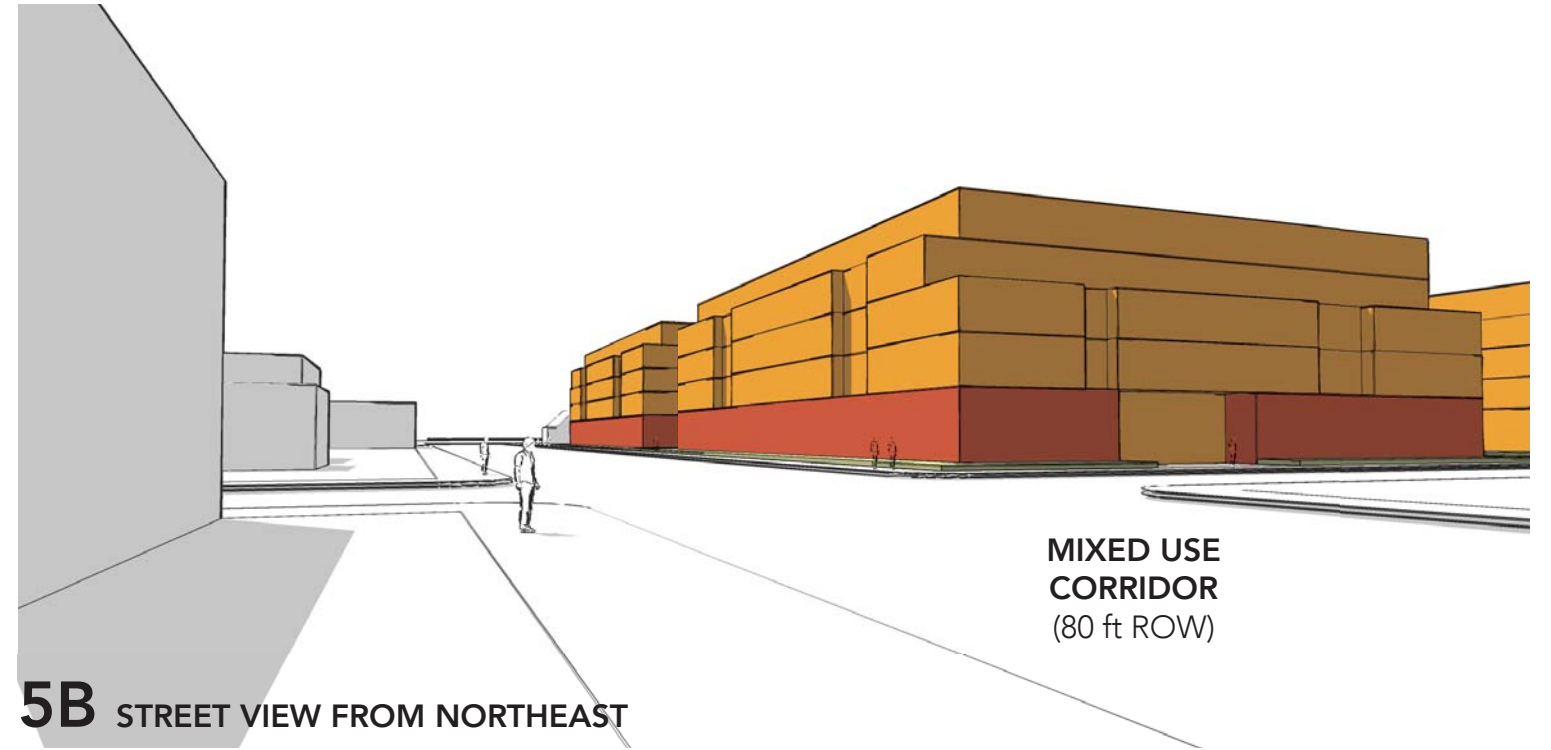


MUZ BUILDING PROTOTYPES **OPT 5B**

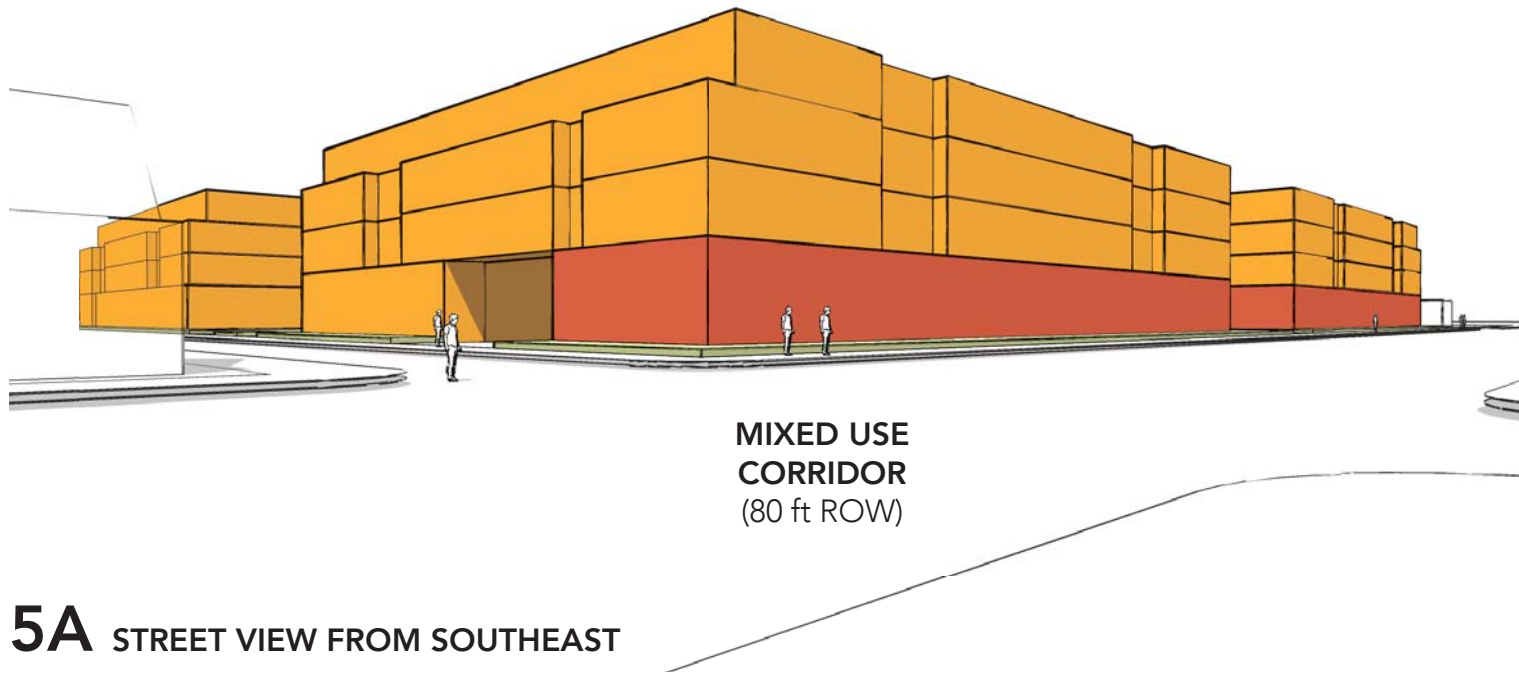
Figure 2-5B: Option 5B



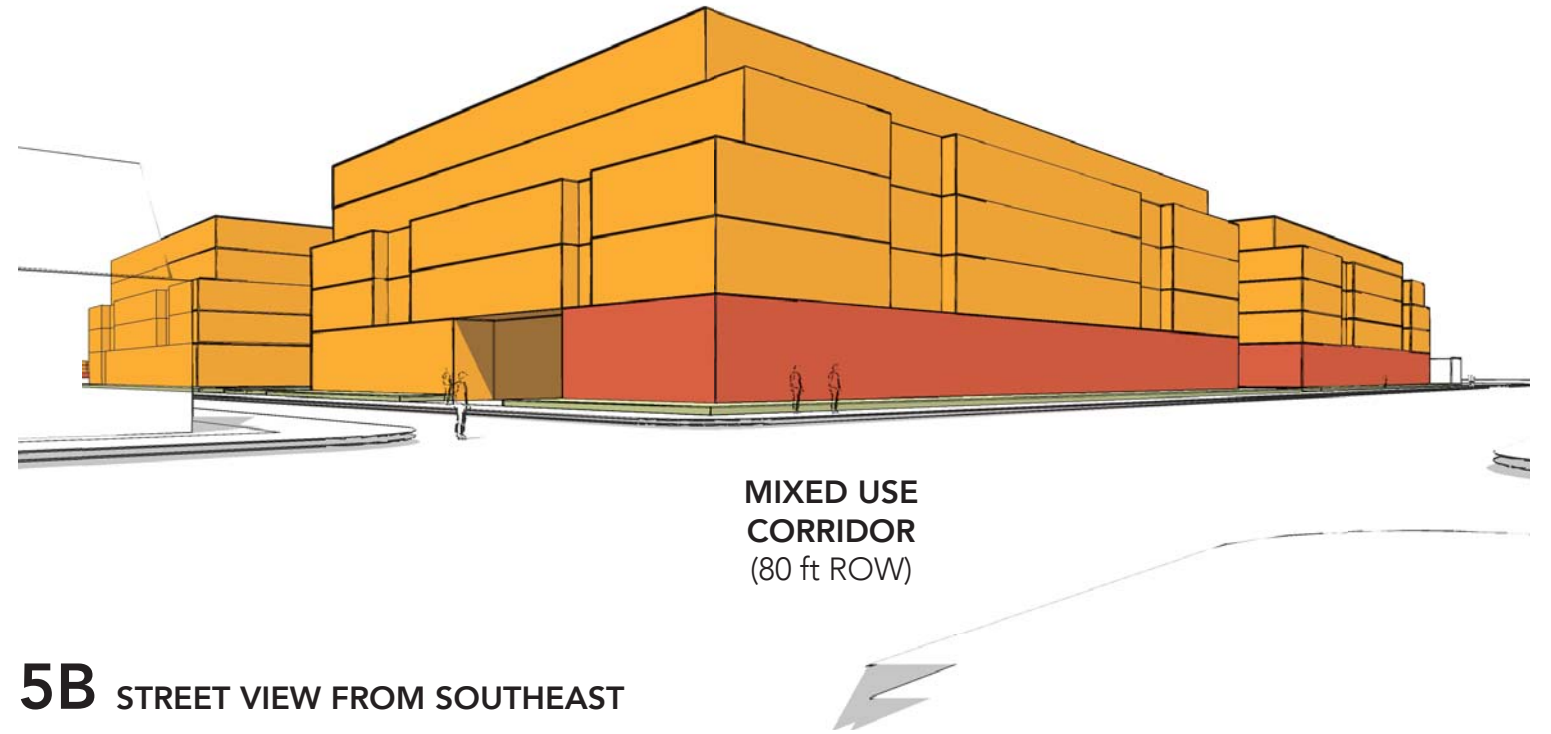
5A STREET VIEW FROM NORTHEAST



5B STREET VIEW FROM NORTHEAST



5A STREET VIEW FROM SOUTHEAST



5B STREET VIEW FROM SOUTHEAST

MUZ BUILDING PROTOTYPES **OPT 5 STREET LEVEL VIEWS**

This page intentionally left blank.

2.3 Options for the CM3 Zone

The conceptual CM3 zone would have a maximum base FAR and height of 3:1 and 65 feet (six stories), and a maximum bonus FAR and height of 4.5:1 and 75 feet (seven stories), with the provision of public benefits. Two sites with two variations each were modeled for the CM3 zone. These are summarized below and shown in Figures 2-6A through 2-7B.

OPTIONS 6A AND 6B

The sixth prototypical site is 10,000 square feet (100 by 100 feet) on a corner lot along narrow (60-foot) right-of-ways in an inner neighborhood—much the same as Options 2A-B and 3A-B, but now in the CM3 zone.

Option 6A shows a four-story building that would come close to achieving maximum base FAR of 3:1. The four-story building would have two fewer levels than would be allowed, but would fill out lot coverage and rear setback standards. The project would meet minimum standards for open space, and would provide 11 parking stalls for 26 units. No stepbacks would be required or provided on the front façade. For this option, two variations were tested for rear stepbacks, using a 45-degree daylight plane extending from the rear lot line in the first alternative, and from a point 20 feet above the rear lot line in the second alternative. This latter alternative would create more daylight for adjoining residential properties, and would reduce floor area for the new building.

Option 6B shows a seven-story building that would nearly achieve maximum bonus FAR of 4.5:1 in the CM3 zone. The building would nearly fill the building envelope created by height, lot coverage, rear yard, and upper story stepback requirements. As in Option 6A, two alternative stepback designs are tested. In this case, one alternative would involve only modest stepbacks above the fifth and sixth levels, while an alternative is based on the 45-foot daylight plane from a point 20 feet above the rear lot line. This alternative would reduce FAR from approximately 4.4:1 to 3.8:1, but would provide more daylight to adjoining lots.

OPTIONS 7A AND 7B

The seventh site is a 40,000 square foot, 200 by 200-foot lot in an inner neighborhood, with one frontage on a wide (80-foot) street and two frontages on narrow (60-foot) streets, with lower-density residential lots sharing a rear lot line.

Option 7A shows a building that achieves maximum FAR of 3:1 in a five-story, U-shaped building covering the maximum amount (90 percent) of the lot. Building articulation is provided along the facades, and upper story stepbacks are provided above the third level on one local street and above the fourth level on the other. Parking occupies most of the ground level, with 42 vehicle spaces for 121 units (meeting minimum parking requirements). Shared outdoor space is located

above the parking in the site interior, amounting to somewhat more than would be required (67 square feet per unit compared to 48 square feet required.)

Option 7B shows a building designed to maximize FAR with the bonus provisions. At 3.98:1, the FAR falls short of the 4.5:1 maximum, even though the prototype nearly fills out the allowed building envelope created by height, lot coverage, rear yard and stepback requirements.

2.4 Options for the CE Zone

The CE zone allows a mix of commercial and residential uses, as well as some light manufacturing and distribution/employment uses; it is the only one of the conceptual districts in which residential is not a focus or anticipated for housing bonuses (though it is allowed). The CE zone would have a maximum base FAR and height of 2:1 and 35 feet (three stories), and a maximum bonus FAR and height of 3:1 and 45 feet (four stories), with the use of performance bonuses for defined public benefits—in this case, the bonus would only be provided for non-residential or institutional/employment-related uses. One site with two variations was modeled for the conceptual CE zone, summarized below and shown in Figures 2-8A and 2-8B.

OPTIONS 8A AND 8B

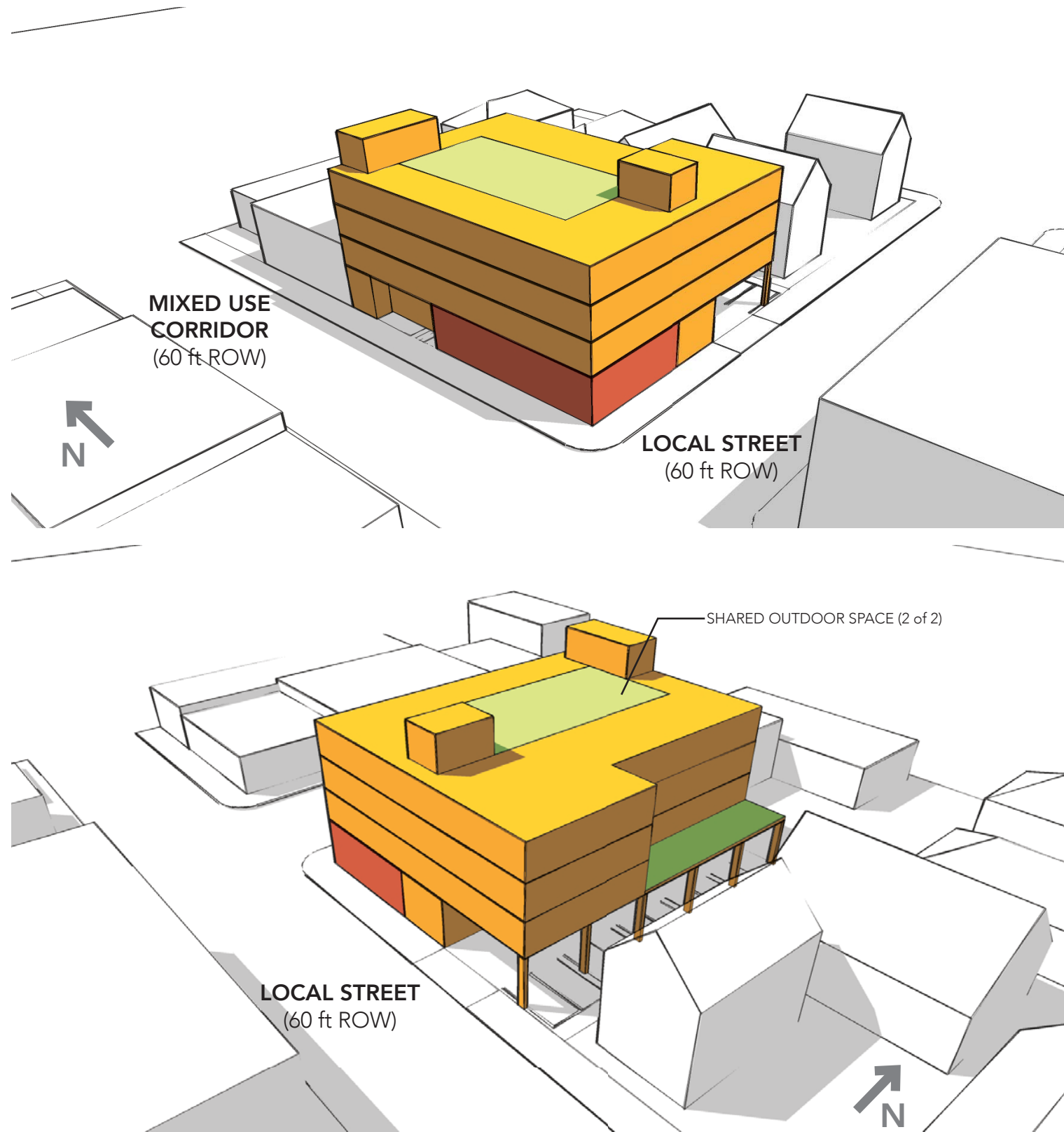
The eighth prototypical site is 24,750 square feet, with a 220-foot depth typical of an outer neighborhood, and frontage on a wide street.

Option 8A shows a building designed to maximize the base FAR allowance of 2:1. The four story retail and office commercial building is as high as would be allowed under base zoning provisions, but at 50 percent lot coverage and with a 55-foot rear setback, leaves substantial room in the potential building envelope. The building would be built along the street edge, with parking in the rear. Alternatives are shown that would provide building articulation and three-foot setbacks along the front façade; this would improve the building's street presence while slightly reducing building area (FAR would drop from 1.86:1 to 1.82:1.)

Option 8B is designed to use the bonus provisions of the conceptual CE zone. However, the building achieves an FAR of only 2.1:1, as parking is kept to the surface level and building coverage continues to be substantially less than the maximum allowed. Off-street parking is typically included as part of office development in outer neighborhoods, even when it is not required by zoning.

Similar to the CM2 zone, when parking is required additional height may be needed in order for projects to utilize the maximum floor area allowed through the performance bonuses.

Figure 2-6A: Option 6A



CM3 ZONE STANDARDS

ROW width: 60 ft
 Max Height (no bonus): 65 ft / 6 stories
 Additional GF Height: 3 ft (for active use)
 Step-backs: street facades step back above 4th level

Max FAR: 3:1 (no bonus)
 Max Building Coverage: 90%
 Req'd Landscaping: none
 Req'd Outdoor Space: 48 sf / unit

Required Parking:
 Vehicle: none
 Short-term bike: 6 spaces
 Long-term bike: 36 spaces

Front Setback: none
 Side Setbacks: none
 Rear Setback: 5-14 ft @ R-zone

BUILDING PROTOTYPE

Site Area: 10,000 sf / 100x100
 Height: 45 ft / 4 stories

Step-backs: none required

Building Area:	Residential	25,900 gsf
	Commercial	2,050 gsf
	Parking	3,600 gsf
Total		31,550 gsf

FAR: 2.79:1 (not including parking)
 Building Coverage: 8,600 sf / 86%
 Landscaping: 1,400 sf / 14%
 Outdoor Space: 1,248 sf shared area

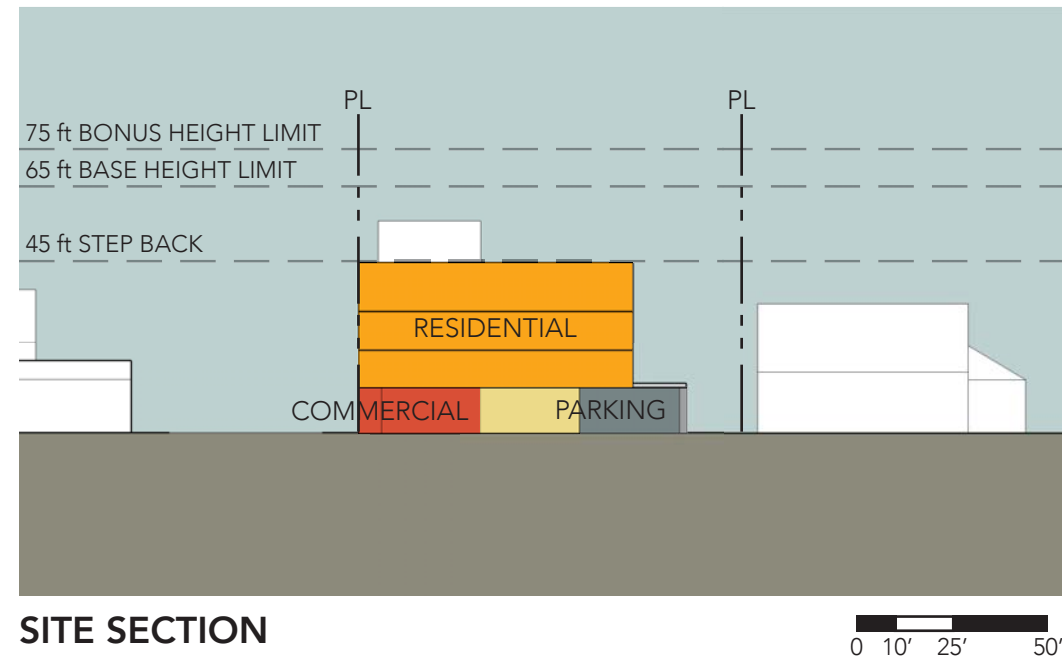
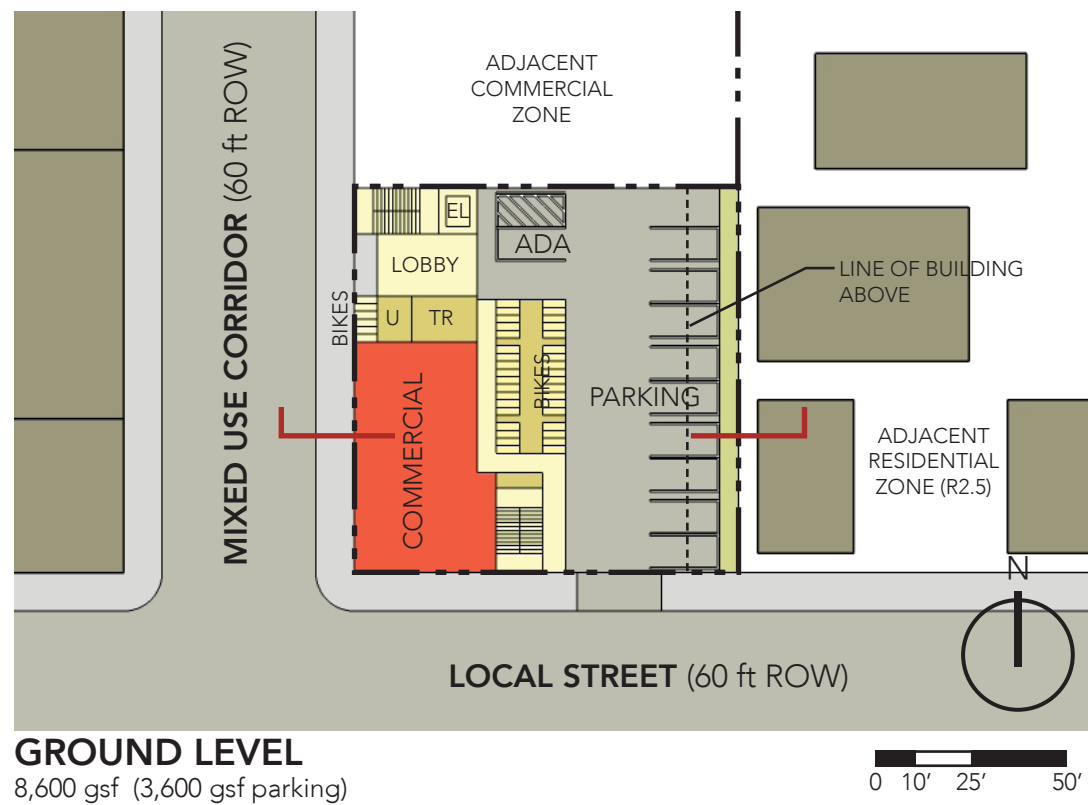
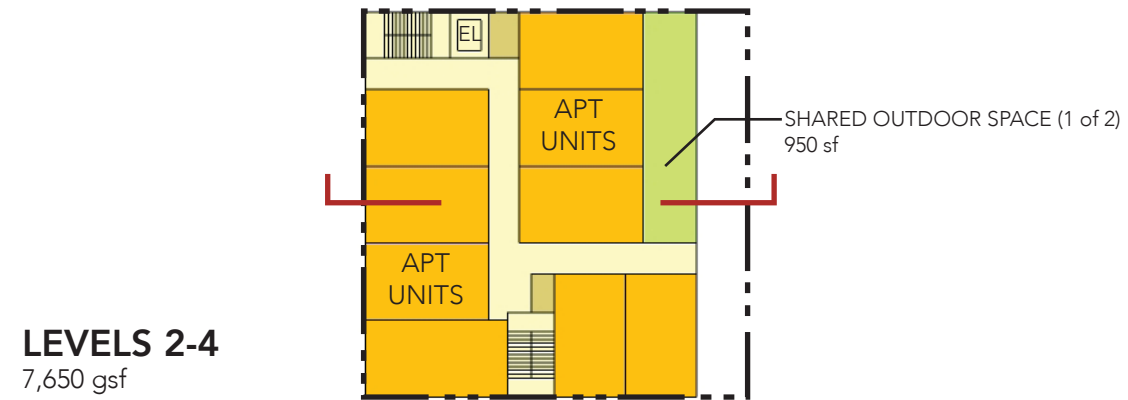
Parking Provided:
 Vehicle: 10 stalls + 1 ADA
 Short-term bike: 6 spaces
 Long-term bike: 36 spaces

Front Setback: none
 Side Setbacks: none
 Rear Setback: 14 ft

Apartment Units: 26 (996 gsf per unit overall)

MUZ BUILDING PROTOTYPES **OPT 6A**

Figure 2-6A: Option 6A

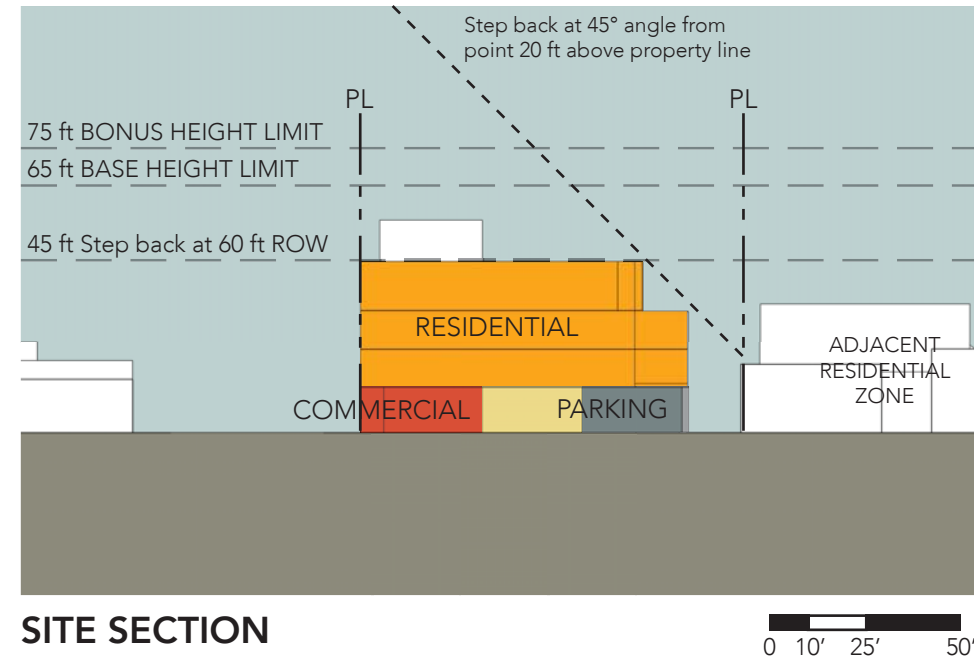


MUZ BUILDING PROTOTYPES **OPT 6A**

Figure 2-6A: Option 6A



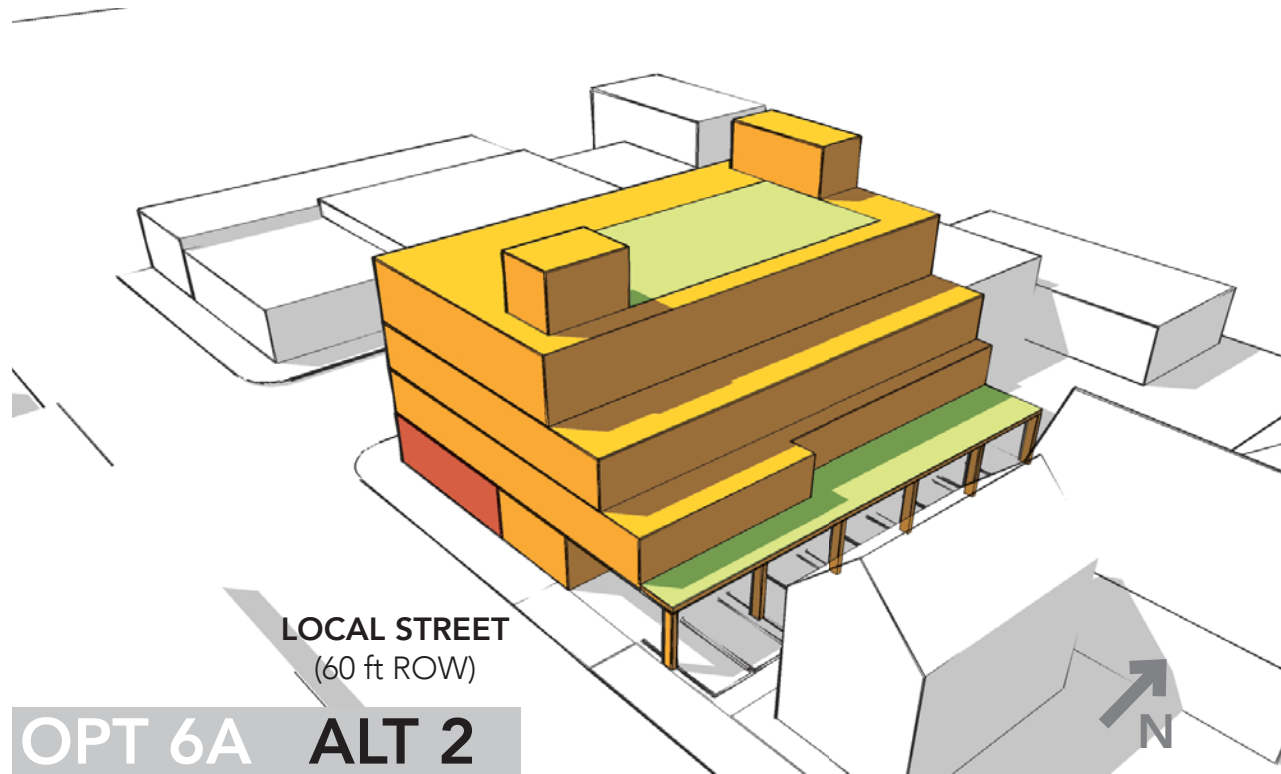
OPT 6A ALT 1



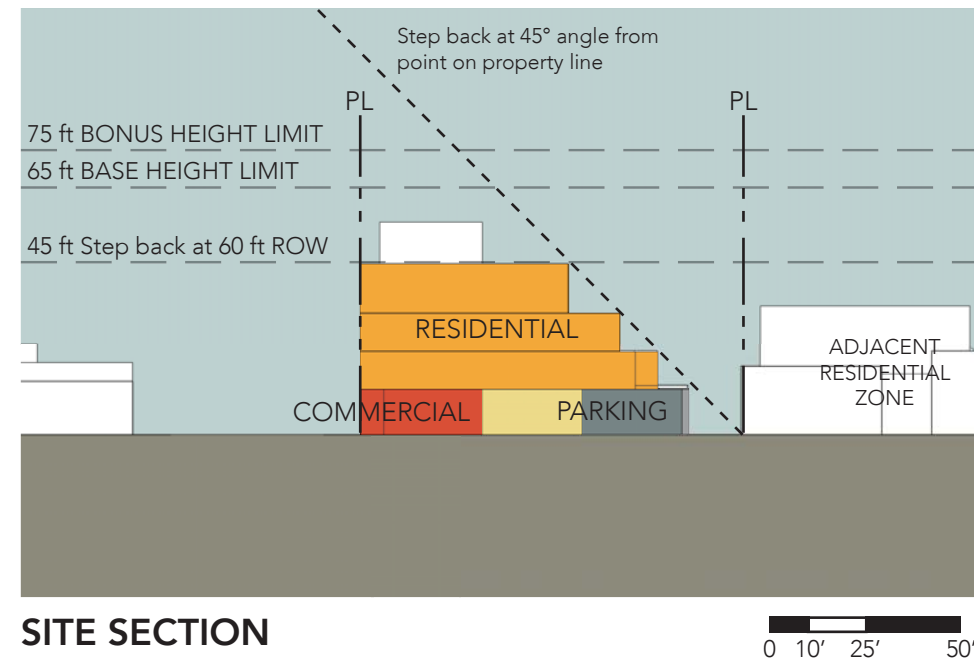
SITE SECTION

BUILDING PROTOTYPE

Building Area:	Residential	25,400 gsf (-500)
	Commercial	2,050 gsf
	Parking	3,600 gsf
	Total	31,050 gsf (-500)
FAR:	2.74:1 (not including parking) (-.05)	
Apartment Units:	25 (1,016 gsf per unit overall) (+20)	



OPT 6A ALT 2



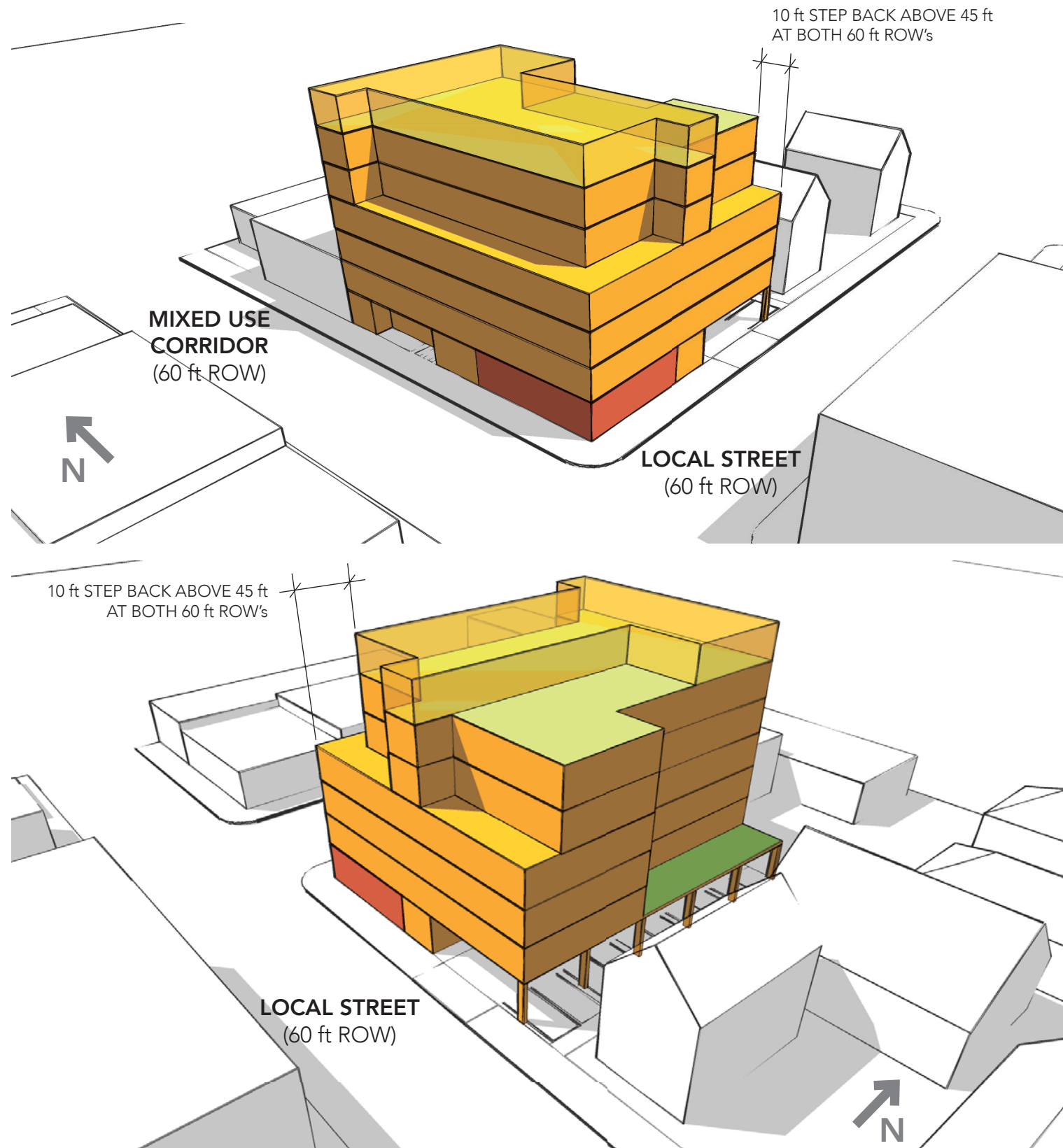
SITE SECTION

BUILDING PROTOTYPE

Building Area:	Residential	19,800 gsf (-6,100)
	Commercial	2,050 gsf
	Parking	3,600 gsf
	Total	25,450 gsf (-6,100)
FAR:	1.09:1 (not including parking) (-1.7)	
Apartment Units:	21 (943 gsf per unit overall) (-53)	

MUZ BUILDING PROTOTYPES **OPT 6A** STEP BACK TESTING

Figure 2-6B: Option 6B



CM3 ZONE STANDARDS

ROW width: 60 ft
 Max Height (w/ bonus): 75 ft / 7 stories
 Additional GF Height: 3 ft (for active use)
 Step-backs: street facades step back above 4th level

Max FAR: 4.5:1 (w/ bonus)
 Max Building Coverage: 90%
 Req'd Landscaping: none
 Req'd Outdoor Space: 48 sf / unit

Required Parking:
 Vehicle: 12 stalls
 Short-term bike: 6 spaces
 Long-term bike: 54 spaces

Front Setback: none
 Side Setbacks: none
 Rear Setback: 5-14 ft @ R-zone

BUILDING PROTOTYPE

Site Area: 10,000 sf / 100x100
 Height: 75 ft / 7 stories
 Step-backs: street facades step back 10 ft above 4th level

Building Area:
 Residential 42,650 gsf
 Commercial 1,300 gsf
 Parking 4,600 gsf
 Total 48,550 gsf

FAR: 4.39:1 (not including parking)
 Building Coverage: 8,600 sf / 86%
 Landscaping: 1,400 sf / 14%
 Outdoor Space: 2,304 sf shared area

Parking Provided:
 Vehicle: 11 stalls + 1 ADA + 1 loading
 Short-term bike: 6 spaces
 Long-term bike: 54 spaces

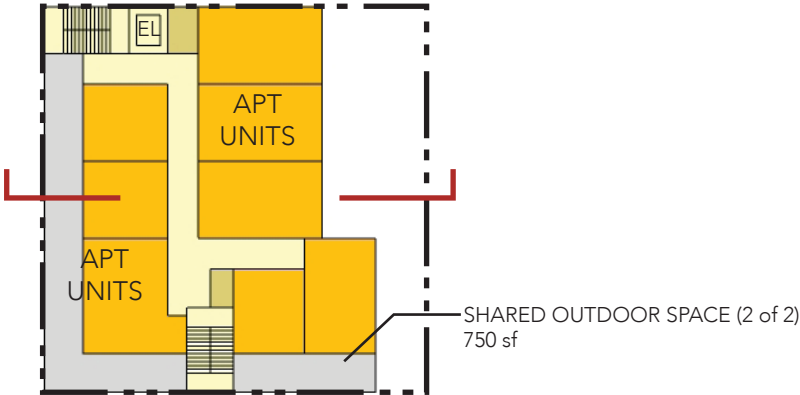
Front Setback: none
 Side Setbacks: none
 Rear Setback: 14 ft

Apartment Units: 48 (888 gsf per unit overall)

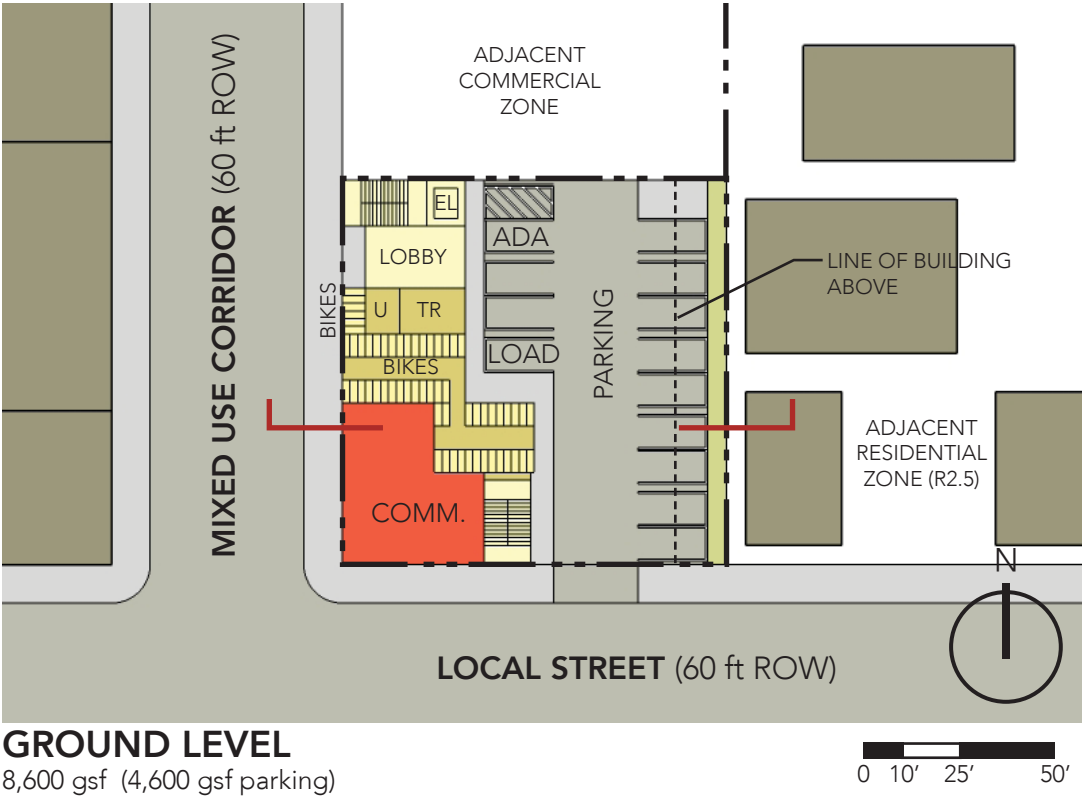
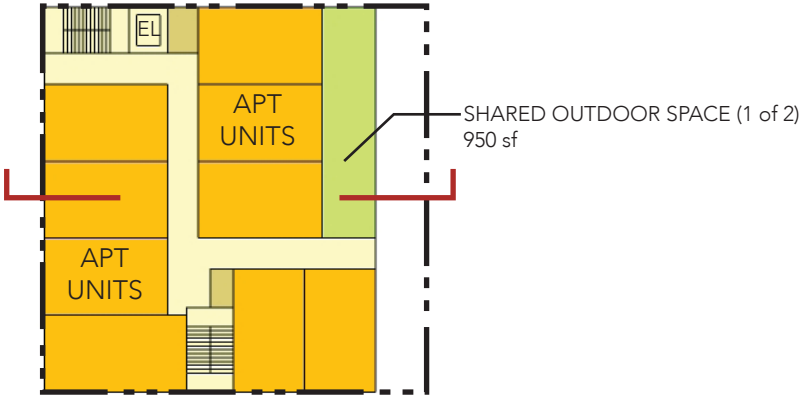
MUZ BUILDING PROTOTYPES **OPT 6B**

Figure 2-6B: Option 6B

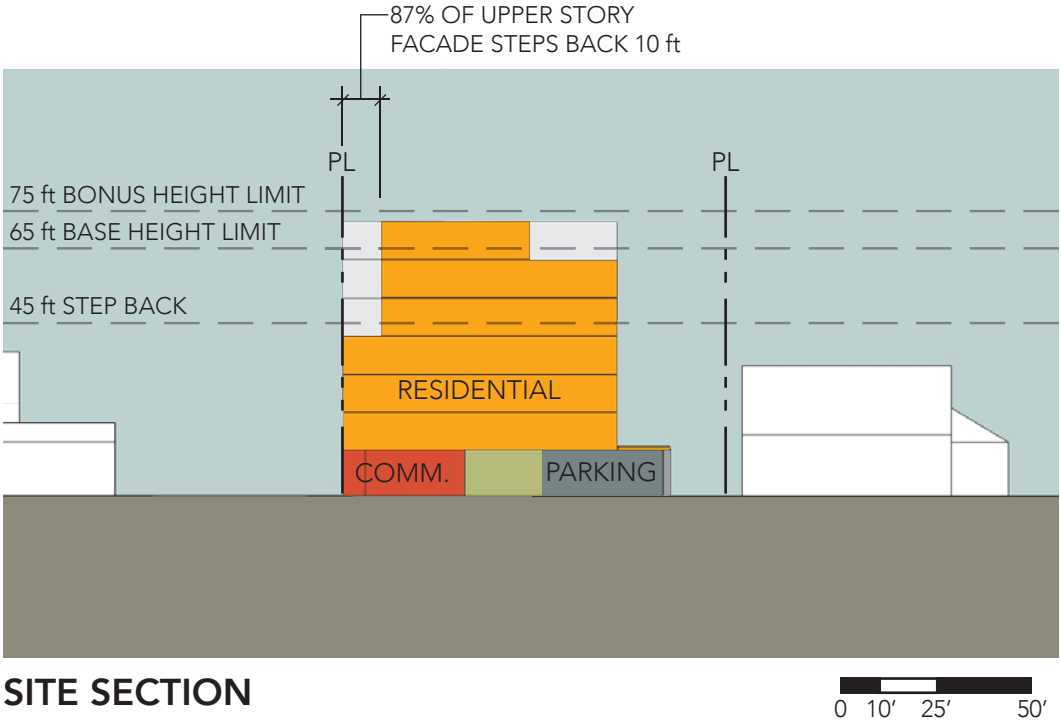
LEVELS 5-6
6,250 gsf



LEVELS 2-4
7,650 gsf



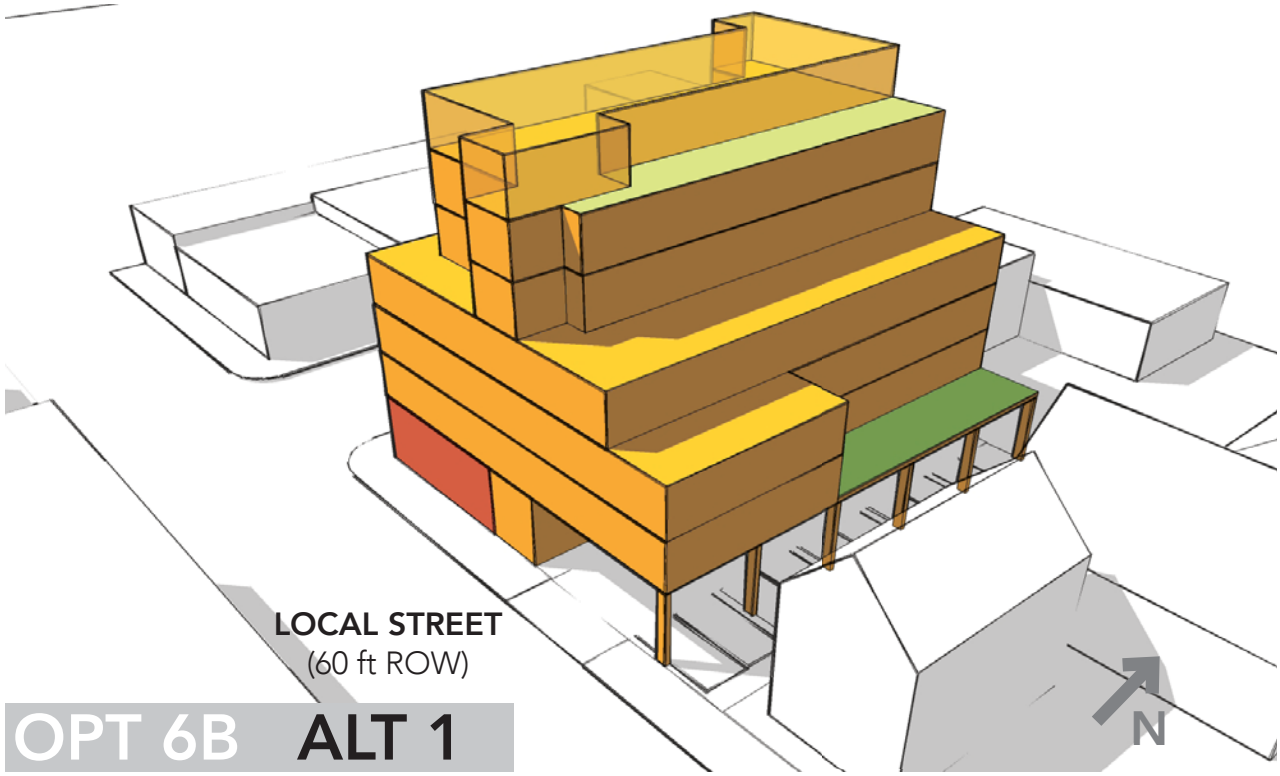
GROUND LEVEL
8,600 gsf (4,600 gsf parking)



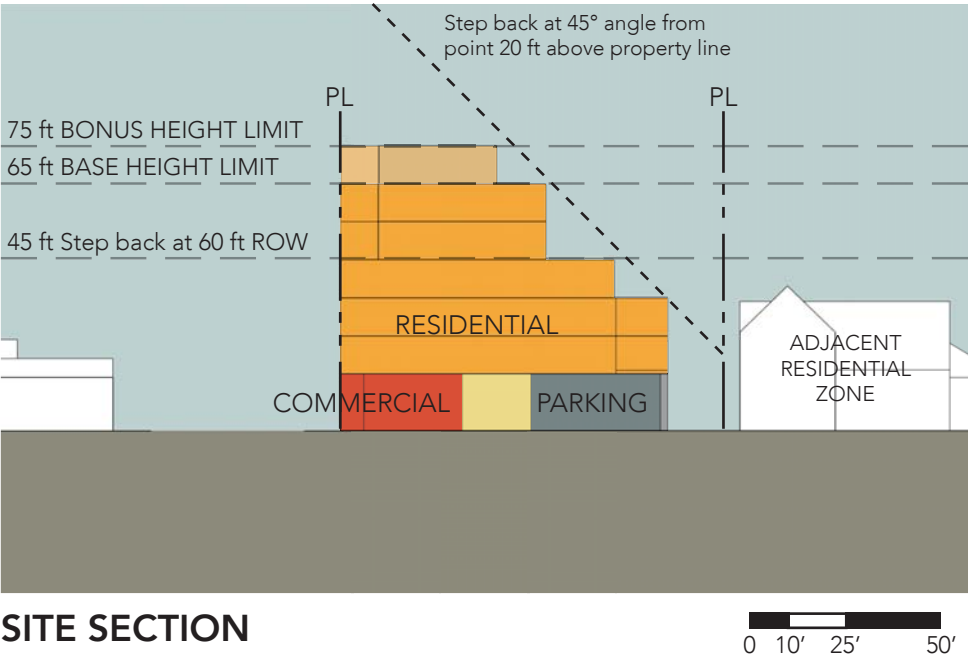
SITE SECTION

MUZ BUILDING PROTOTYPES **OPT 6B**

Figure 2-6B: Option 6B



OPT 6B ALT 1



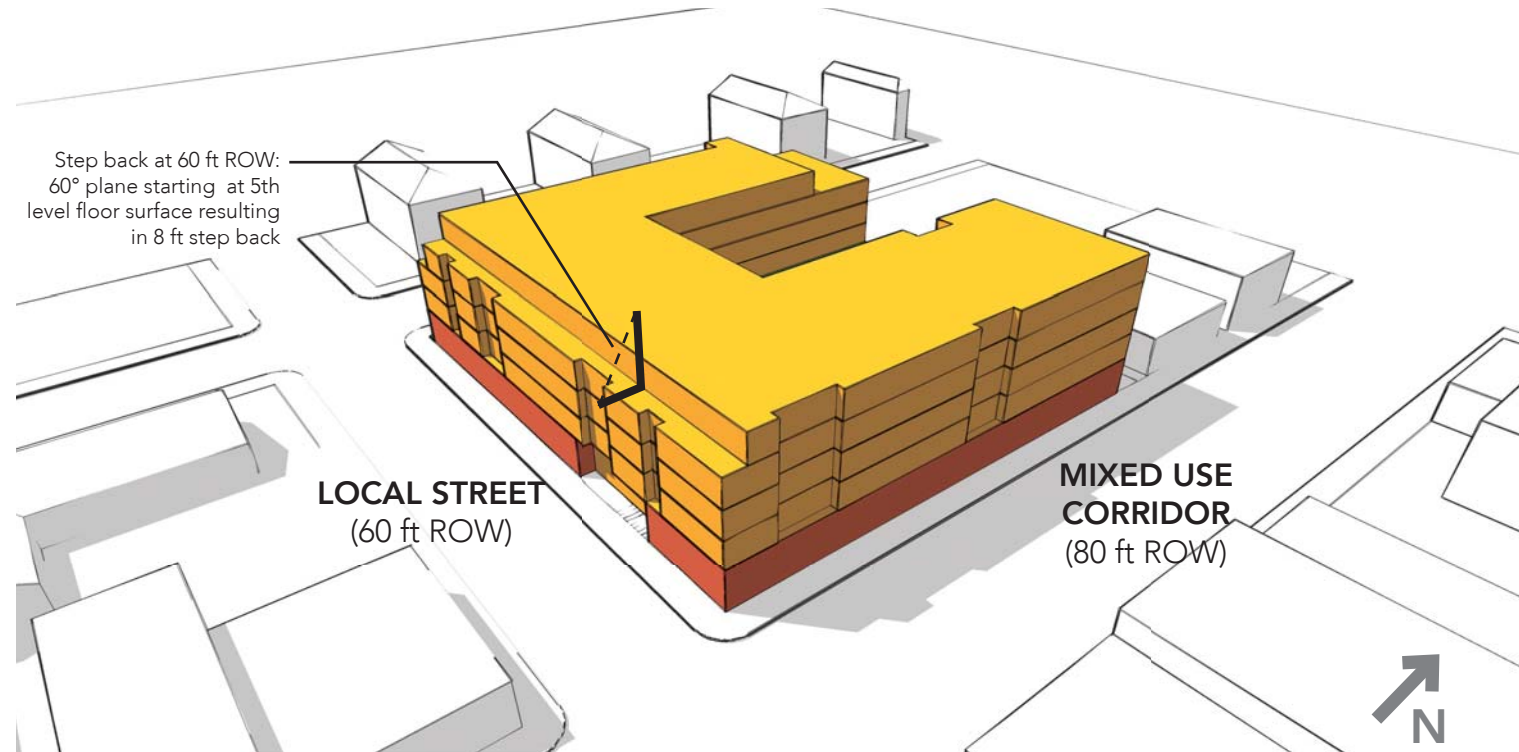
SITE SECTION

BUILDING PROTOTYPE

Building Area:	Residential	36,700 gsf (-5,950)
	Commercial	1,300 gsf
	Parking	4,600 gsf
	Total	42,600 gsf (-5,950)
FAR:	3.80:1 (not including parking) (-.59)	
Apartment Units:	40 (-8 units) (917 gsf per unit overall) (+29 sf)	

MUZ BUILDING PROTOTYPES **OPT 6B** STEP BACK TESTING

Figure 2-7A: Option 7A



CM3 ZONE STANDARDS

ROW width: 60 ft & 80 ft
 Max Height (no bonus): 65 ft / 6 stories
 Additional GF Height: 3 ft (for active use)
 Step-backs: 60 ft ROW facades step back above 4th level

Max FAR: 3:1 (no bonus)
 Max Building Coverage: 90%
 Req'd Landscaping: none
 Req'd Outdoor Space: 48 sf / unit

Required Parking:
 Vehicle: 38 spaces
 Short-term bike: 9 spaces
 Long-term bike: 135 spaces

Front Setback: none
 Side Setbacks: none
 Rear Setback: 5-14 ft @ R-zone

BUILDING PROTOTYPE

Site Area: 40,000 sf / 200x200
 Height: 55 ft / 5 stories
 Step-backs: 60 ft ROW facades step back following a 60 degree angle starting at 4th level (8 ft step back)

Building Area:	Residential	108,000 gsf
	Commercial	11,800 gsf
	Parking	15,200 gsf
	Total	135,000 gsf

FAR: 2.99:1 (not including parking)
 Building Coverage: 36,000 sf / 90%
 Landscaping: 4,000 sf / 10%
 Outdoor Space: 8,100 sf shared area

Parking Provided:
 Vehicle: 40 stalls + 2 ADA + 2 loading
 Short-term bike: 9 spaces
 Long-term bike: 135 spaces

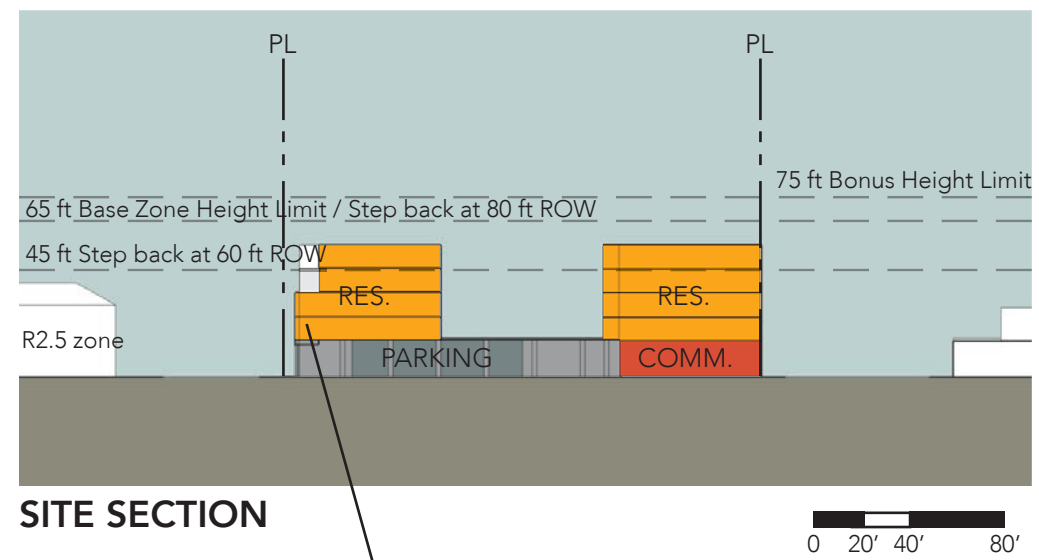
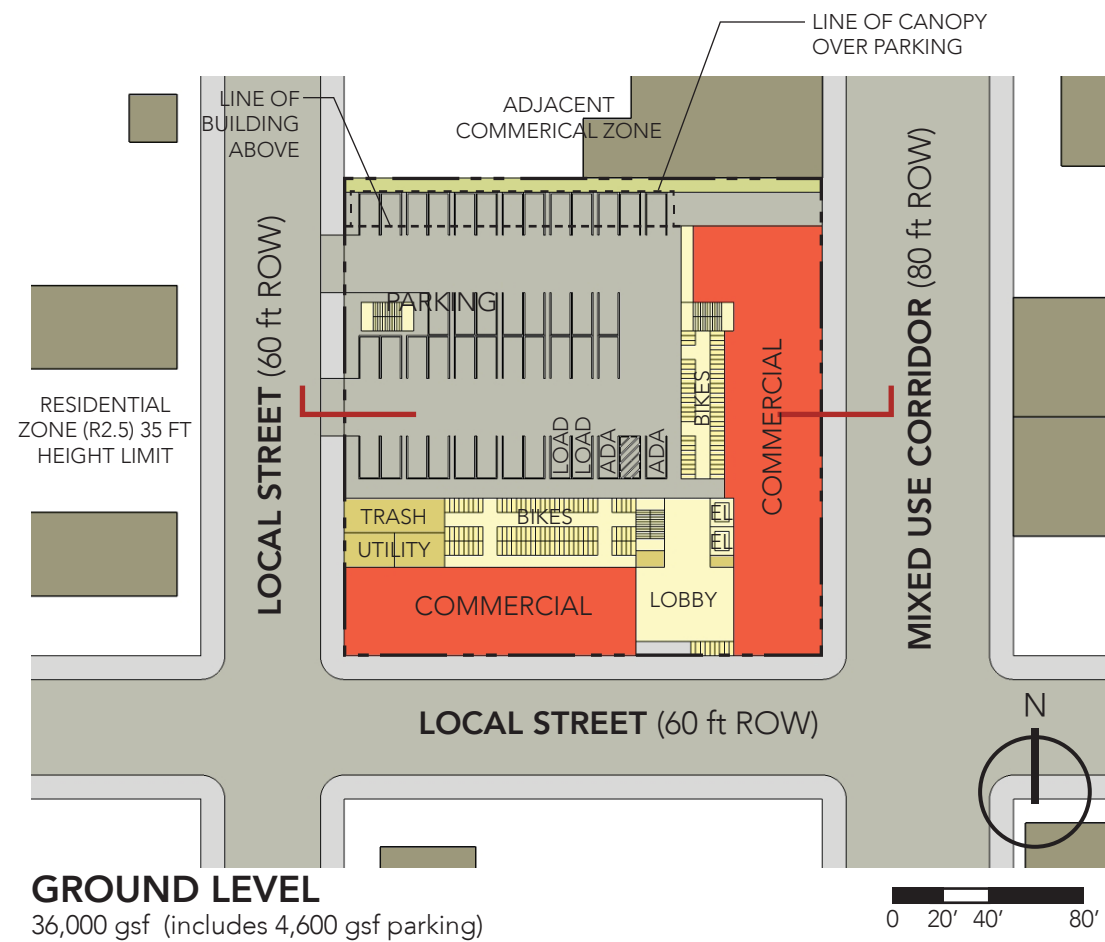
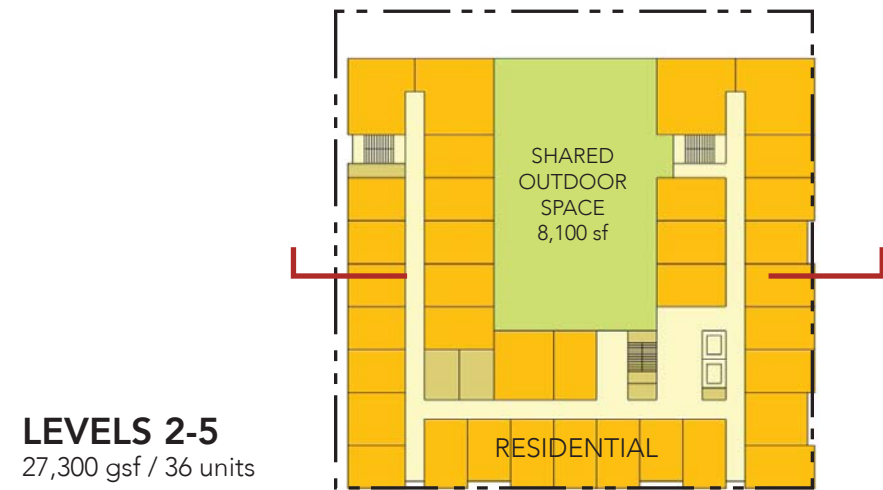
Front Setback: none
 Side Setbacks: none
 Rear Setback: 20 ft

Facade Articulation: 20% of facade area recessed 3 feet

Apartment Units: 121 (892 gsf per unit overall)

MUZ BUILDING PROTOTYPES **OPT 7A**

Figure 2-7A: Option 7A

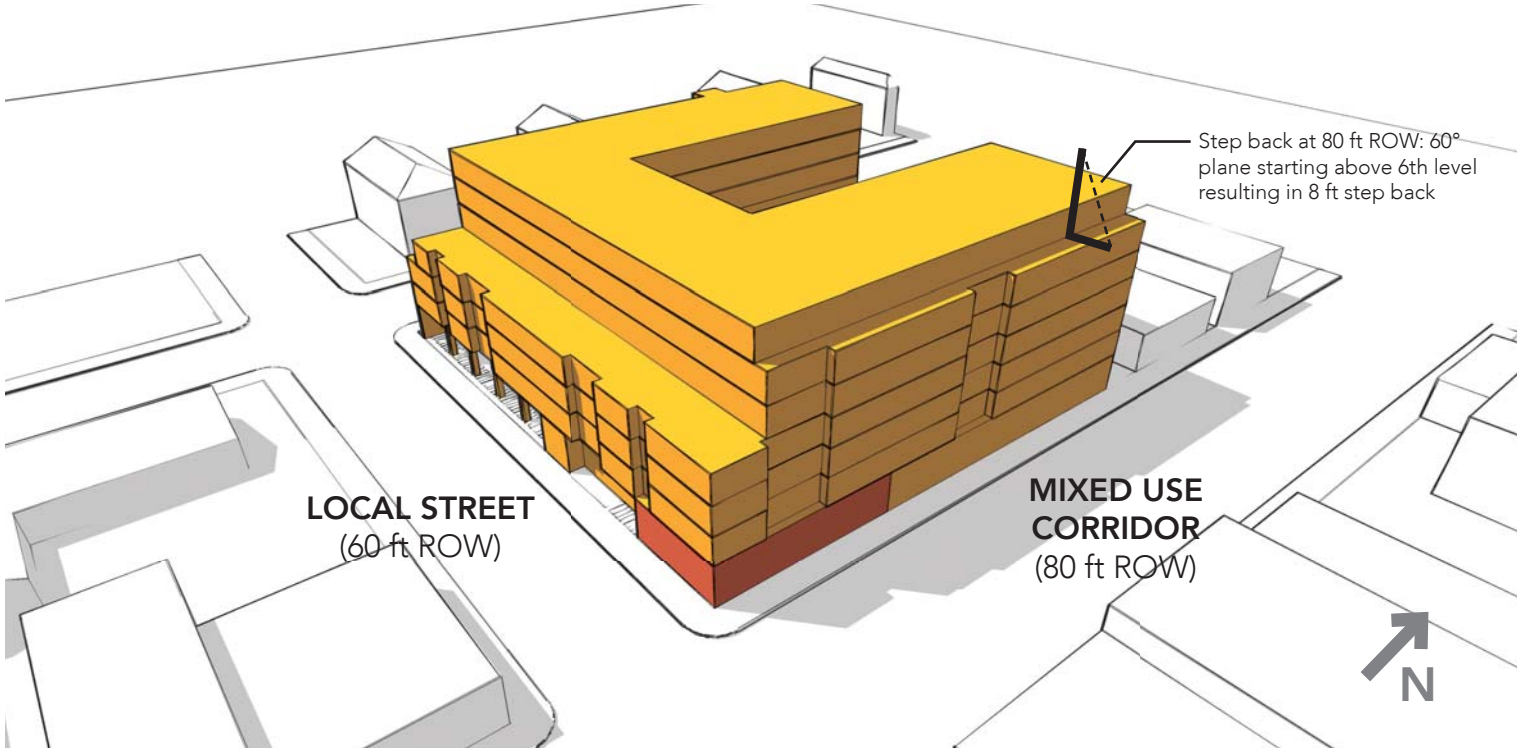


Step back facade across street from R-zone: 5 ft landscape buffer plus building within 15 ft of property line must match height of adjacent R zone

MUZ BUILDING PROTOTYPES **OPT 7A**



Figure 2-7B: Option 7B



CM3 ZONE STANDARDS

ROW width: 60 ft & 80 ft
 Max Height (w/ bonus): 75 ft / 7 stories
 Additional GF Height: 3 ft (for active use)
 Step-backs: 60 ft ROW facades step back above 4th level, 80 ft ROW facades step back above 6th level

Max FAR: 4.5:1 (w/ bonus)
 Max Building Coverage: 90%
 Req'd Landscaping: none
 Req'd Outdoor Space: 48 sf / unit

Required Parking:
 Vehicle: 64 spaces
 Short-term bike: 12 spaces
 Long-term bike: 214 spaces

Front Setback: none
 Side Setbacks: none
 Rear Setback: 5-14 ft @ R-zone

BUILDING PROTOTYPE

Site Area: 40,000 sf / 200x200
 Height: 75 ft / 7 stories
 Step-backs: 60 ft ROW facades step back following a 60 degree angle starting above 4th level (20 ft step back)

80 ft ROW facades step back following a 60 degree angle starting at 6th level (8 ft step back)

Building Area:
 Residential 156,600 gsf
 Commercial 2,400 gsf
 Parking 24,900 gsf

Total 183,900 gsf

FAR: 3.98:1 (not including parking)
 Building Coverage: 35,200 sf / 90%
 Landscaping: 4,000 sf / 10%
 Outdoor Space: 9,700 sf shared area

Parking Provided:
 Vehicle: 64 stalls + 2 ADA + 2 loading
 Short-term bike: 12 spaces
 Long-term bike: 220 spaces

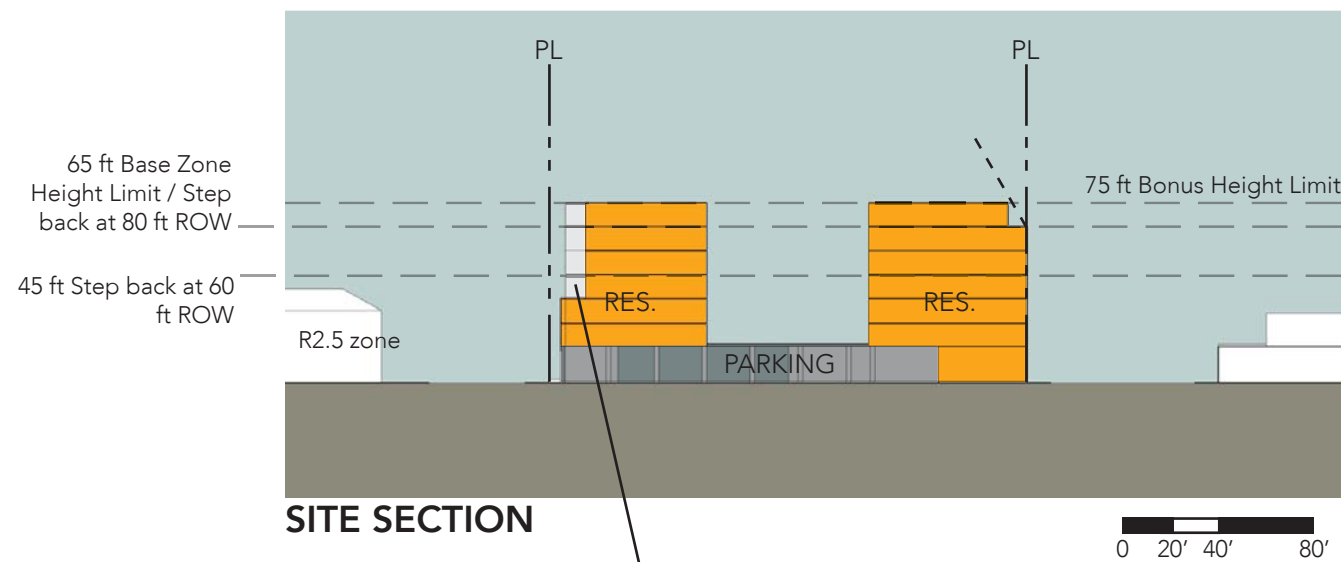
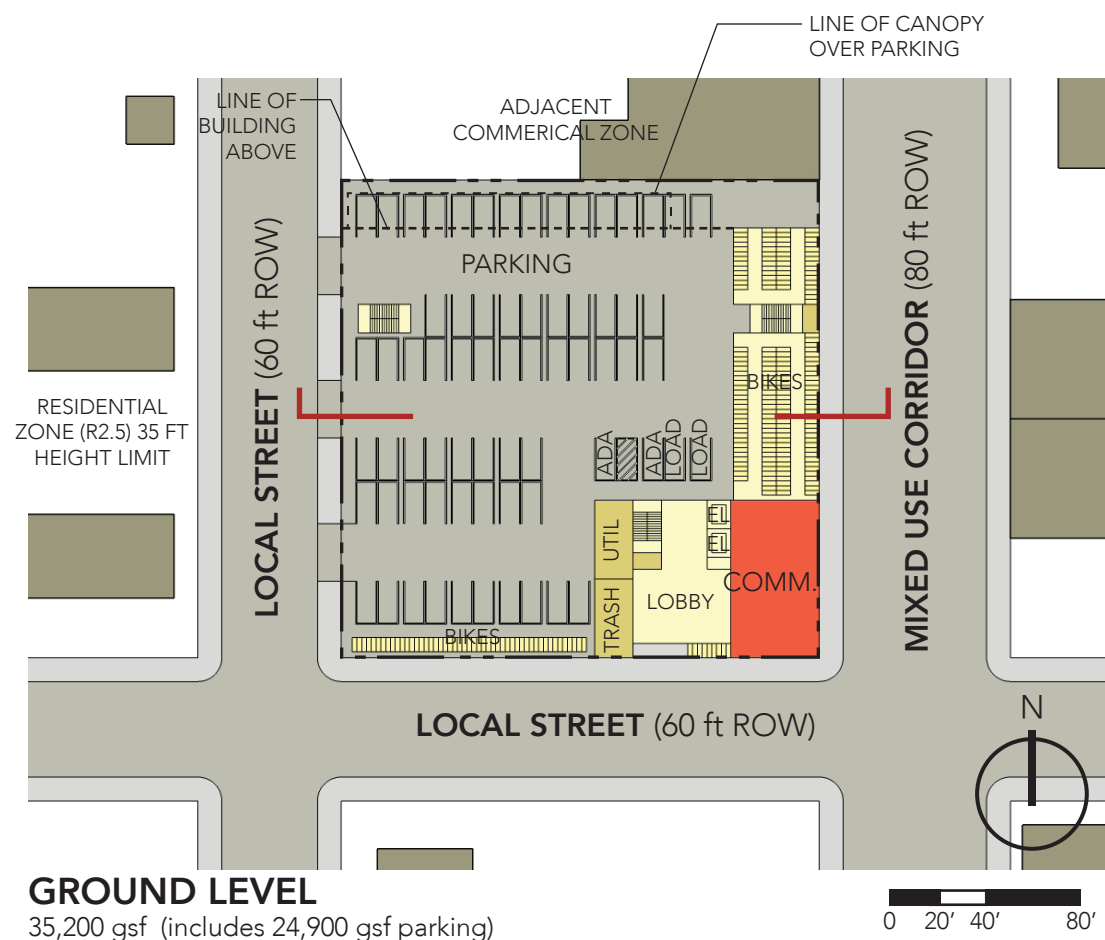
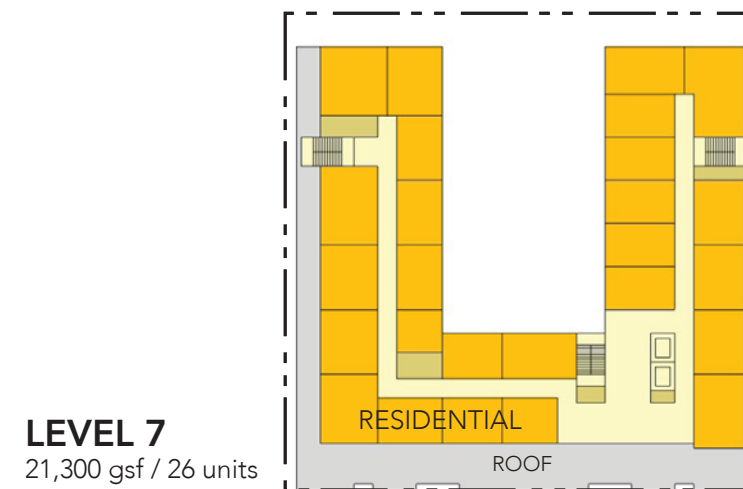
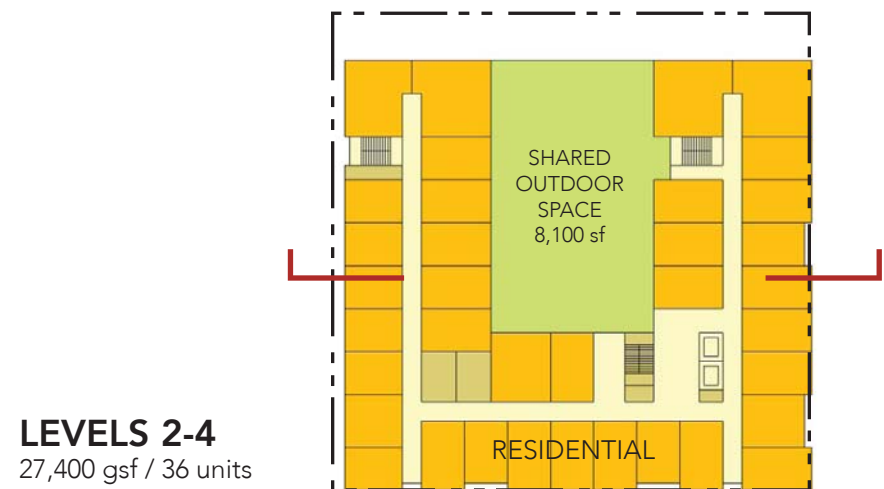
Front Setback: none
 Side Setbacks: none
 Rear Setback: 20 ft

Facade Articulation: 20% of facade area recessed 3 feet (below step backs)

Apartment Units: 190 (824 gsf per unit overall)

MUZ BUILDING PROTOTYPES **OPT 7B**

Figure 2-7B: Option 7B

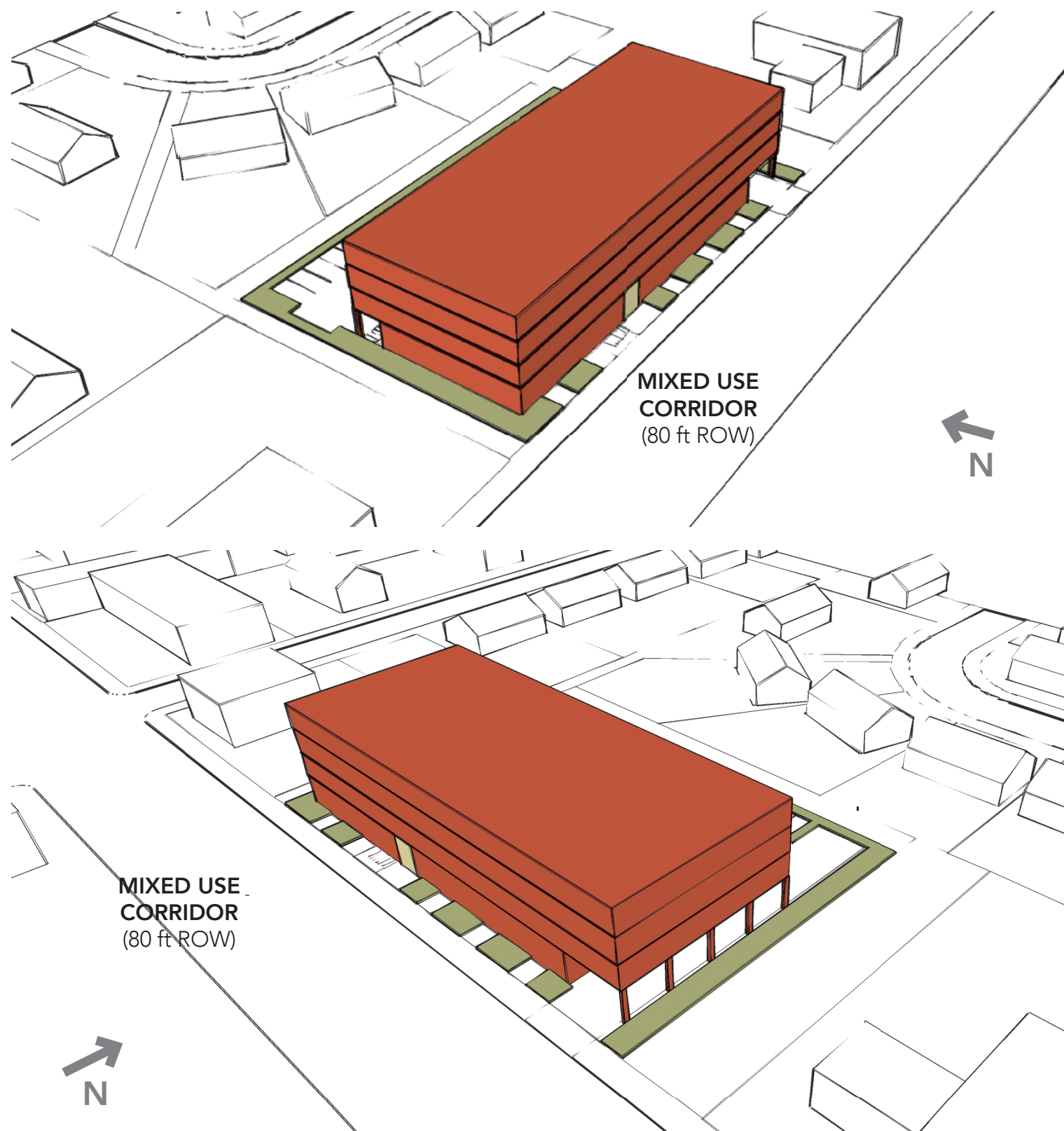


Step back facade across street from R-zone: 5 ft landscape buffer plus building within 15 ft of property line must match height of adjacent R zone

MUZ BUILDING PROTOTYPES **OPT 7B**



Figure 2-8A: Option 8A



CE ZONE STANDARDS

Pattern Area: Outer
 ROW width: 80 ft

Max Height: 45 ft / 4 stories
 Additional GF Height: 3 ft (for active use)
 Step-backs: none at 80' ROW

Max FAR: 2:1 (no bonus)
 Max Building Coverage: 75%
 Req'd Landscaping: 15%

Req'd Outdoor Space: none

Required Parking:
 Vehicle: none
 Short-term bike: 2 min. spaces
 Long-term bike: 22 min. spaces

Front Setback: 10 ft.
 Side Setbacks: none
 Rear Setback: 5-14 ft @ R-zone

BUILDING PROTOTYPE

Site Area: 33,000 sf / 150x220
 Height: 48 ft / 4 stories

Step-backs: none

Building Area:
 Retail 11,850 gsf
 Commercial 49,500 gsf
 Parking 11,100 gsf

Total 72,450 gsf

FAR: 1.86:1 (not including parking)
 Building Coverage: 16,500 sf / 50%
 Landscaping: 6,700 sf / 20%
 Paved: 9,800 sf / 30%

Outdoor Space: none

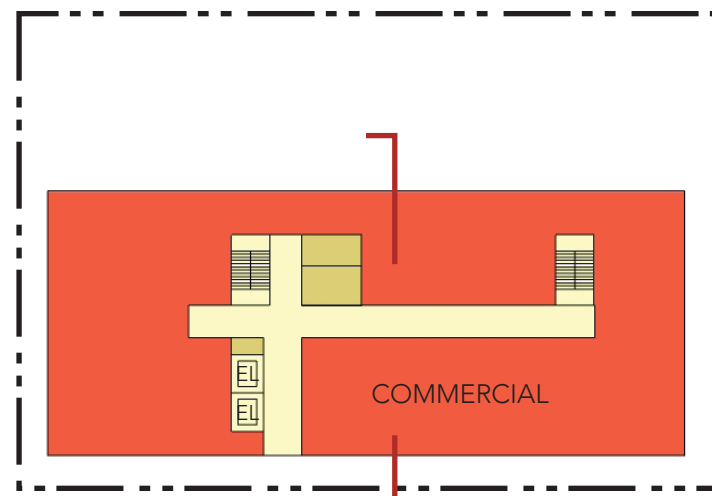
Parking Provided:
 Vehicle: 32 stalls + 2 ADA
 Short-term bike: 6 spaces
 Long-term bike: 10 spaces

Front Setback: 10 ft
 Side Setbacks: 10 ft
 Rear Setback: 55 ft

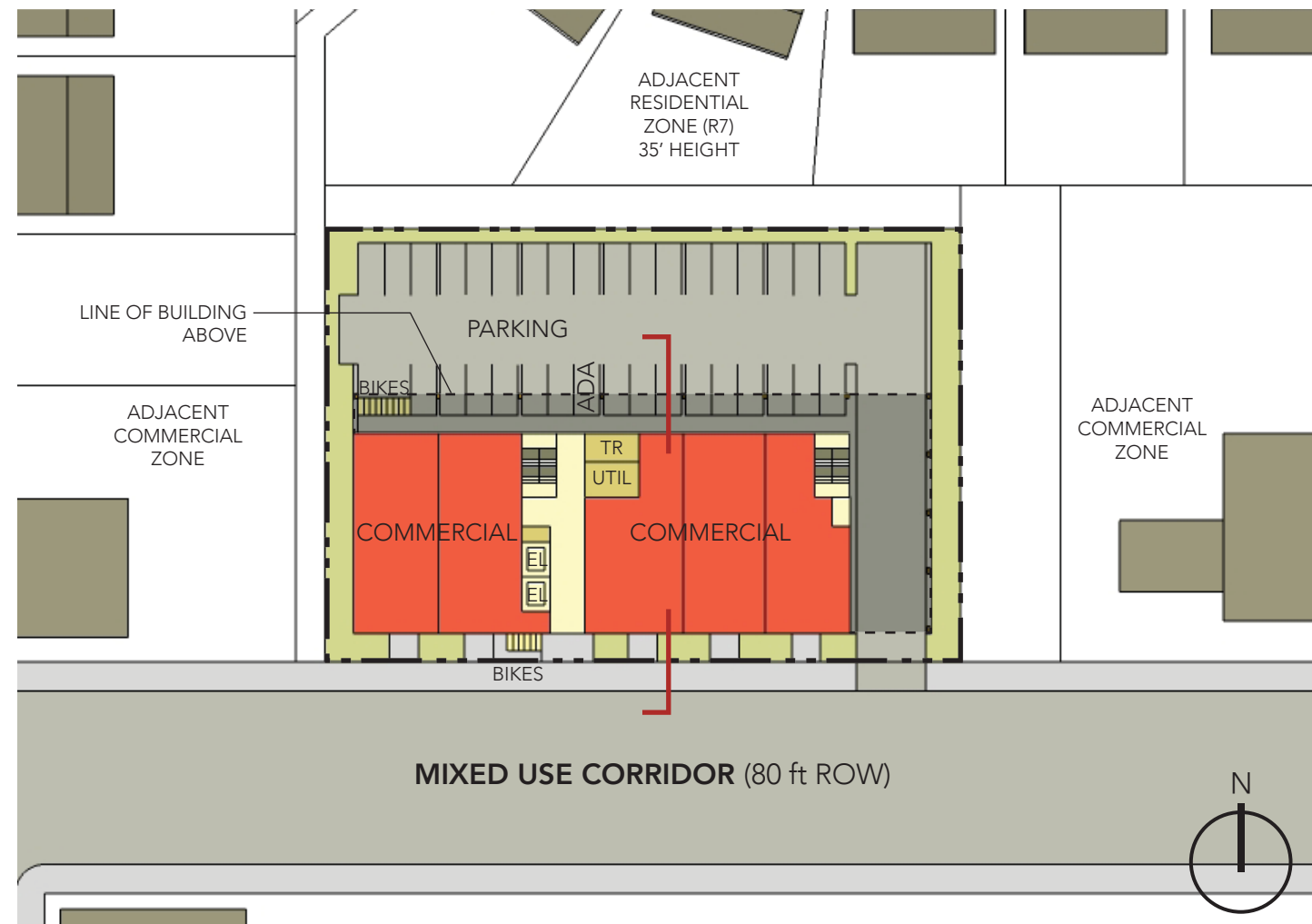
Apartment units: none

MUZ BUILDING PROTOTYPES OPT 8A

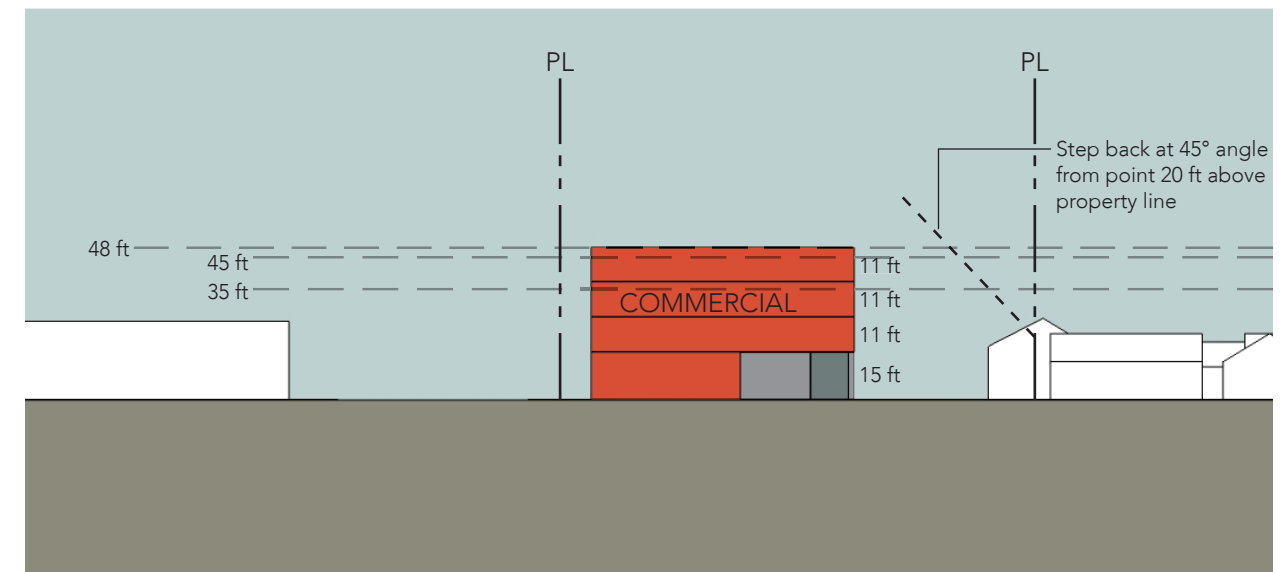
Figure 2-8A: Option 8A



LEVELS 2 - 4
16,500 gsf (per floor)



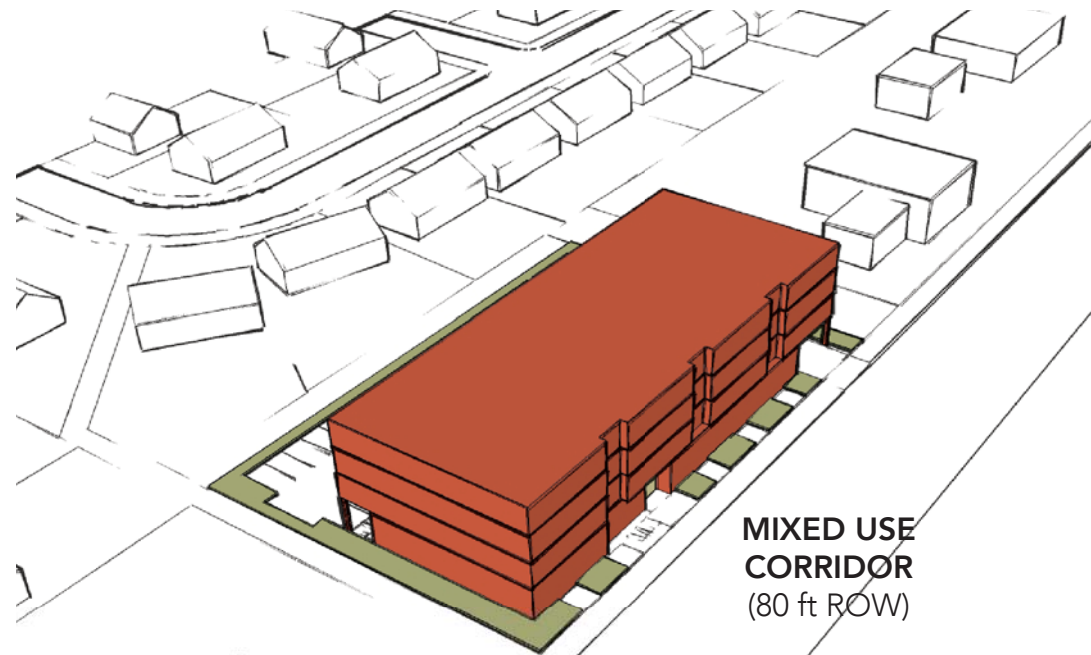
GROUND LEVEL
11,850 gsf (11,100 gsf parking)



SITE SECTION

MUZ BUILDING PROTOTYPES **OPT 8A**

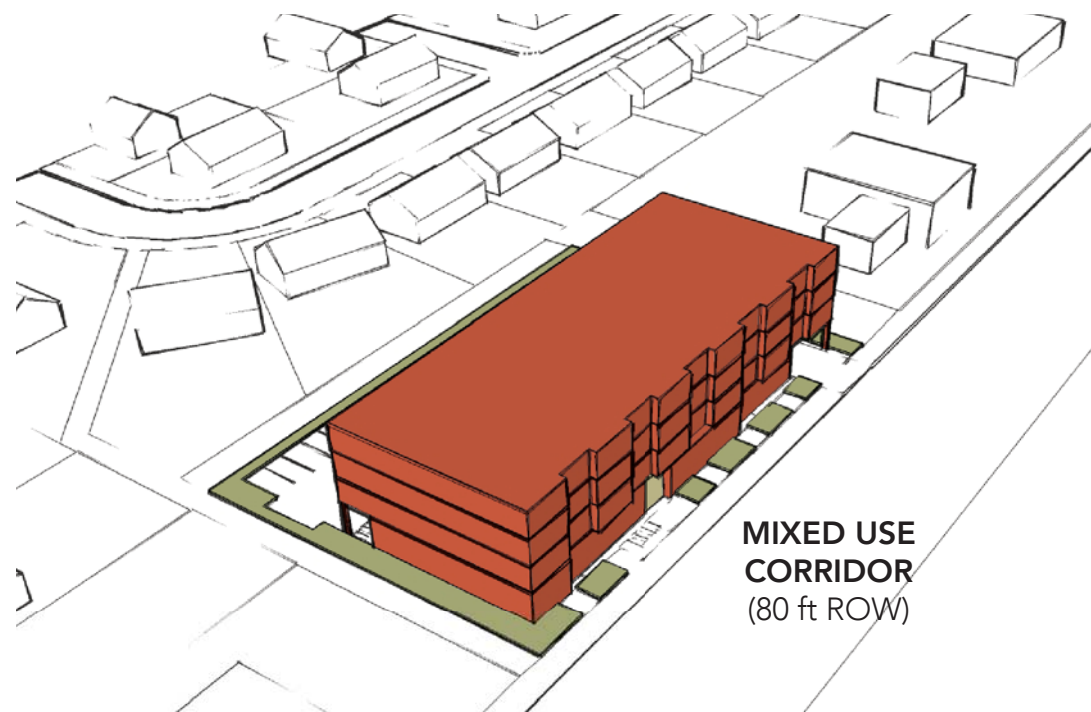
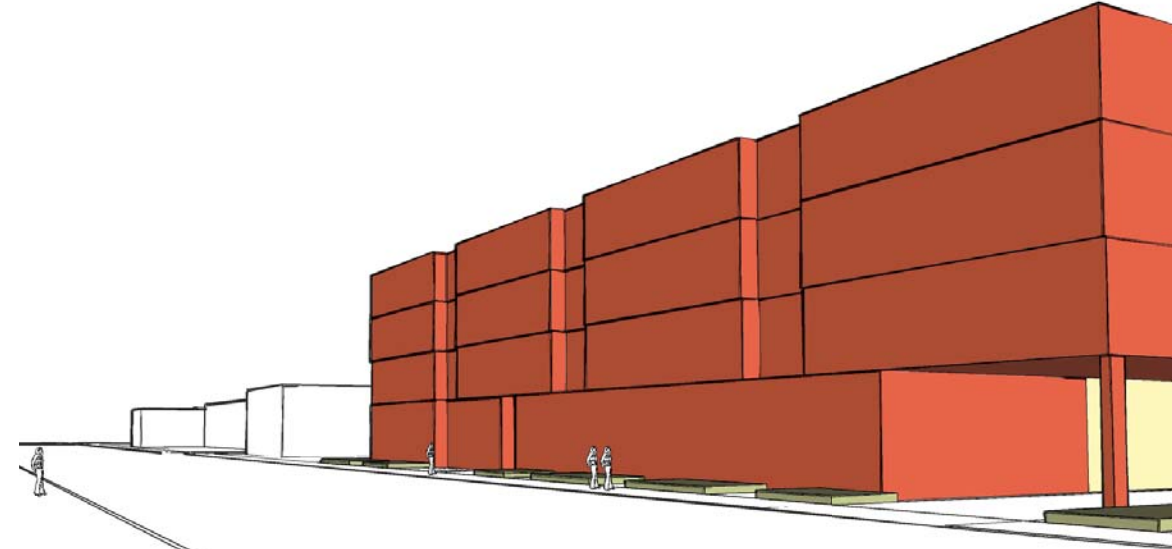
Figure 2-8A: Option 8A



MIXED USE CORRIDOR
(80 ft ROW)

OPT 8A ALT 1

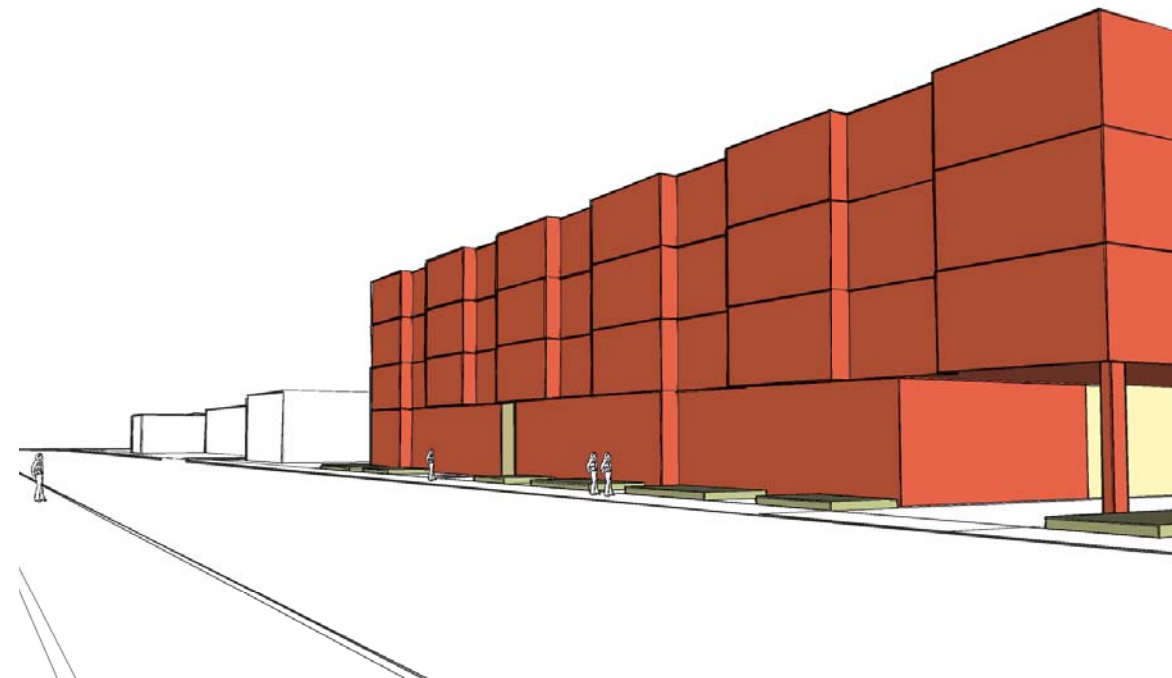
20% OF FACADE SET BACK 3 ft



MIXED USE CORRIDOR
(80 ft ROW)

OPT 8A ALT 2

40% OF FACADE SET BACK 3 ft



BUILDING PROTOTYPE

Building Area:	Retail	11,700 gsf
	Commercial	49,200 gsf
	Parking	11,100 gsf
	Total	72,000 gsf (-450 gsf)
FAR:	1.84:1 (not including parking) (-.02)	

BUILDING PROTOTYPE

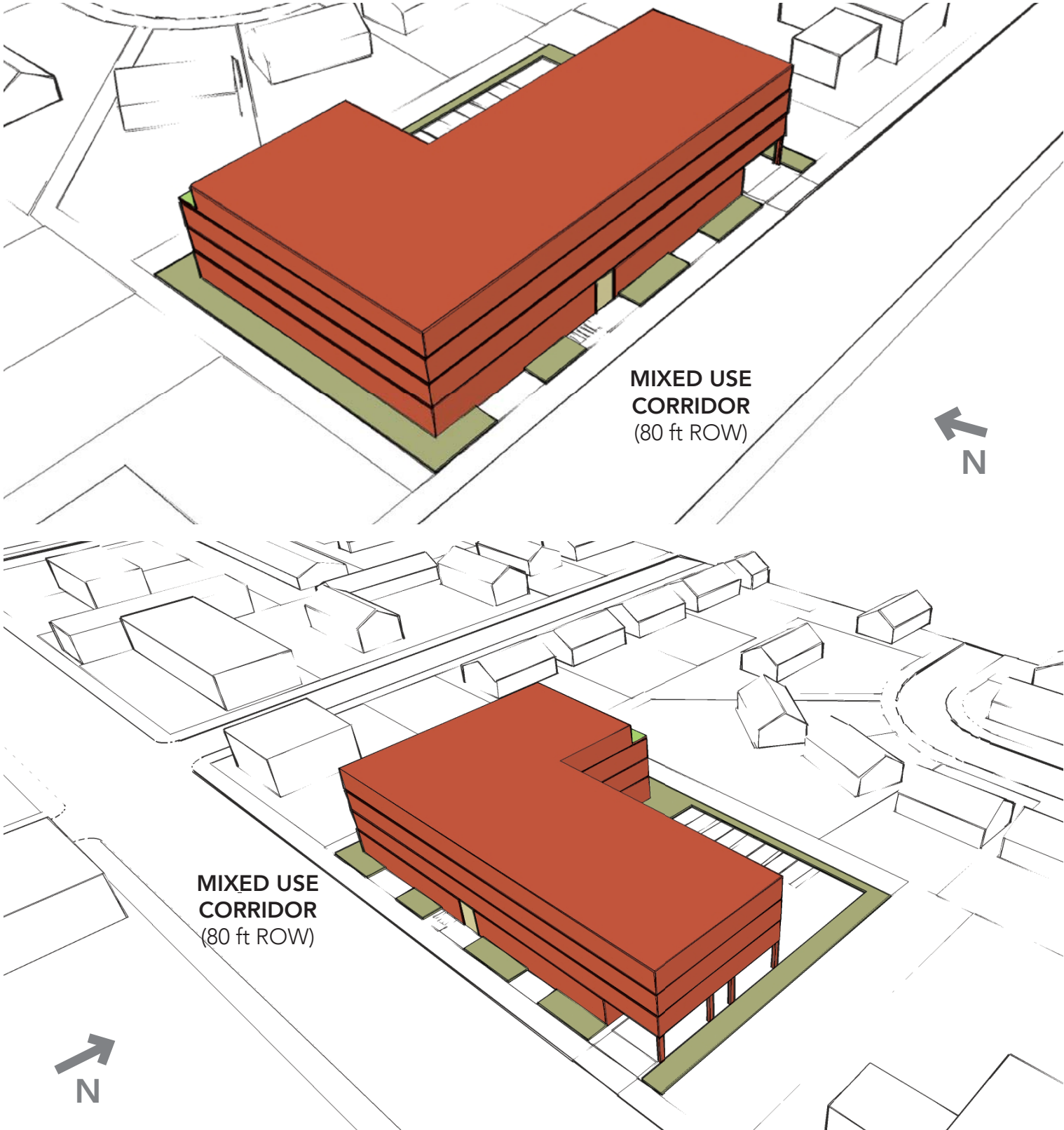
Building Area:	Retail	11,550 gsf
	Commercial	48,900 gsf
	Parking	11,100 gsf
	Total	71,550 gsf (-900 gsf)
FAR:	1.82:1 (not including parking) (-.04)	

MUZ BUILDING PROTOTYPES

OPT 8A FACADE ARTICULATION



Figure 2-8B: Option 8B



CE ZONE STANDARDS

Pattern Area:	Outer
ROW width:	80 ft
Max Height:	45 ft / 4 stories
Additional GF Height:	3 ft (for active use)
Step-backs:	none at 80' ROW
Max FAR:	3:1 (w/ bonus)
Max Building Coverage:	75%
Req'd Landscaping:	15%
Req'd Outdoor Space:	none
Required Parking:	
Vehicle:	none
Short-term bike:	2 min. spaces
Long-term bike:	22 min. spaces
Front Setback:	10 ft.
Side Setbacks:	none
Rear Setback:	5-14 ft @ R-zone

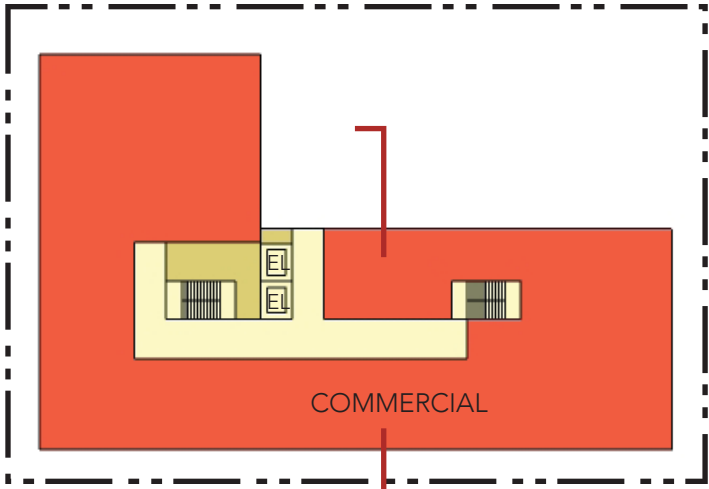
BUILDING PROTOTYPE

Site Area:	33,000 sf / 150x220	
Height:	48 ft / 4 stories	
Step-backs:	none	
Building Area:	Retail	15,800 gsf
	Commercial	52,850 gsf
	Parking	8,400 gsf
	Total	77,050 gsf
FAR:	2.10:1 (not including parking)	
Building Coverage:	17,850 sf / 54%	
Landscaping:	6,750 sf / 21%	
Paved:	8,400 sf / 25%	
Outdoor Space:	none	
Parking Provided:		
Vehicle:	15 stalls + 1 ADA	
Short-term bike:	6 spaces	
Long-term bike:	10 spaces	
Front Setback:	10 ft	
Side Setbacks:	10 ft	
Rear Setback:	15 ft	
Apartment units:	none	

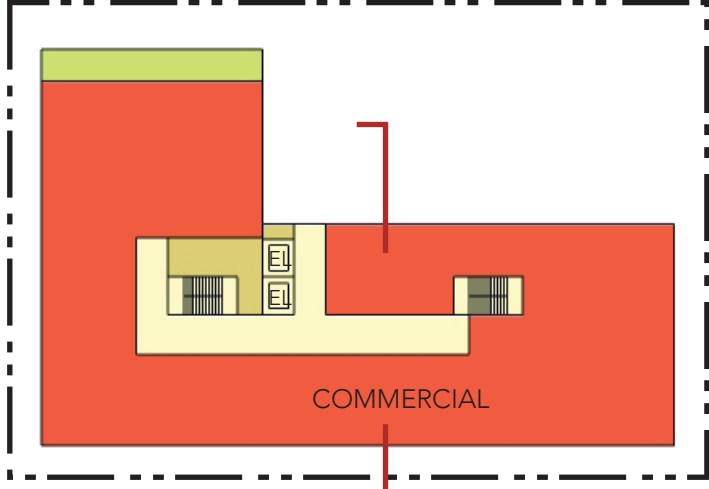
MUZ BUILDING PROTOTYPES **OPT 8B**



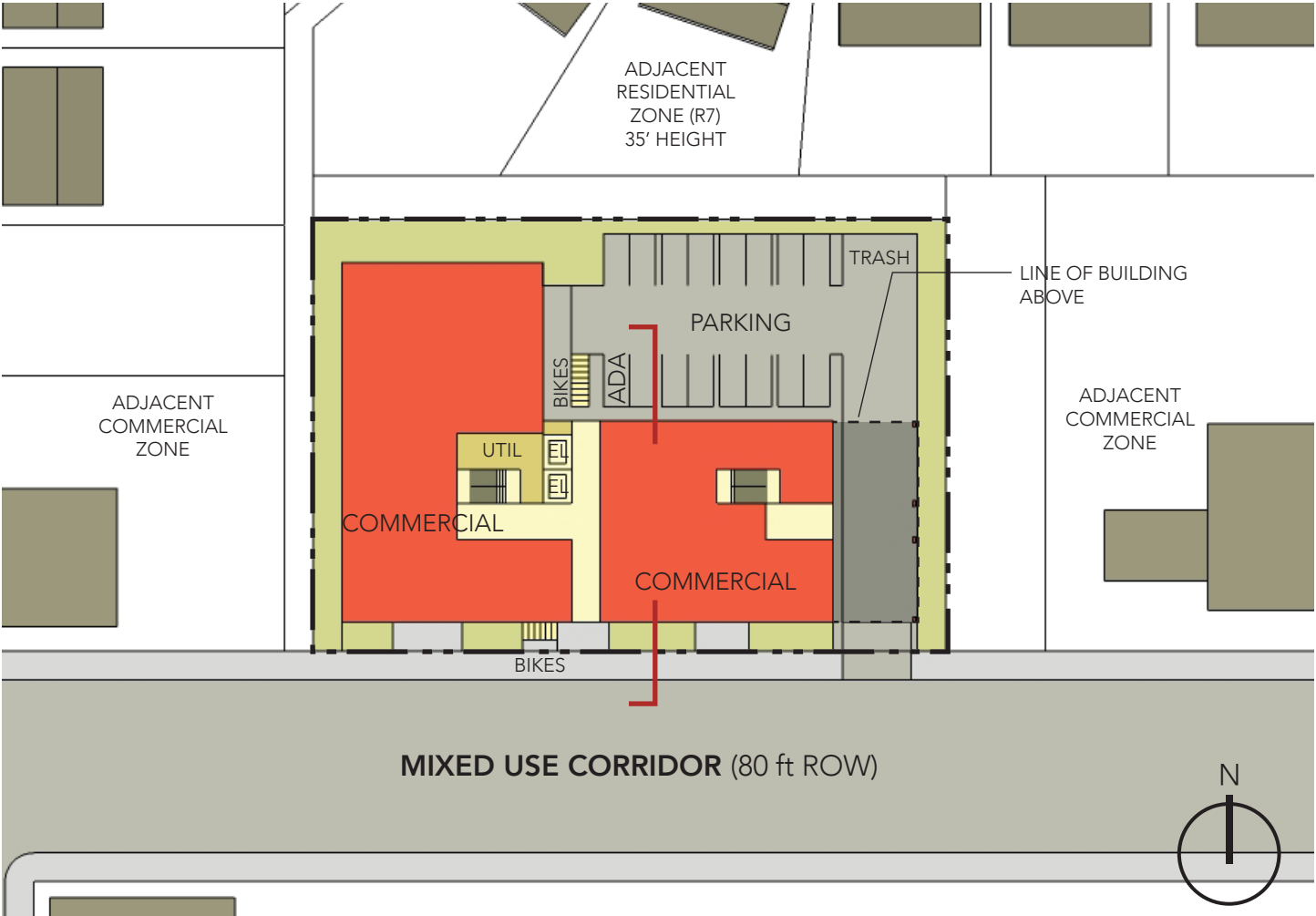
Figure 2-8B: Option 8B



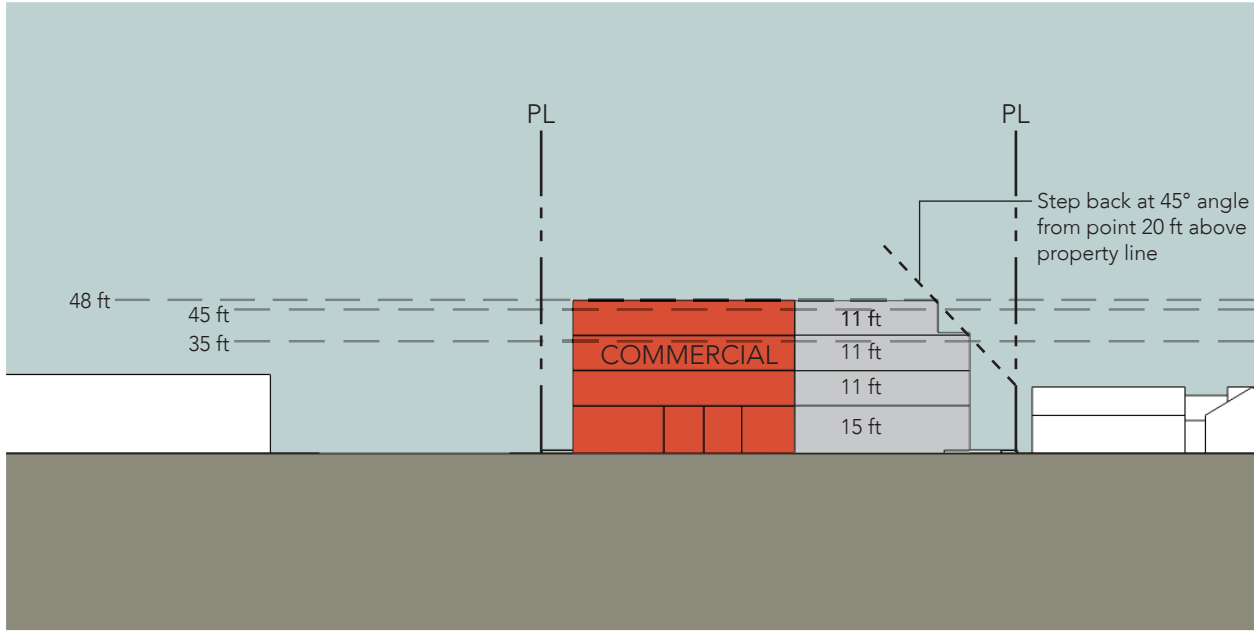
LEVELS 2 & 3
17,850 gsf (per floor)



LEVEL 4
17,150 gsf



GROUND LEVEL
15,800 gsf (8,400 gsf parking)



SITE SECTION

0 10' 30' 60'

MUZ BUILDING PROTOTYPES **OPT 8B**



This page intentionally left blank.

3 Financial Analysis of the Mixed Use Zones

Johnson Economics was retained to evaluate the financial implications of proposed Mixed Use Zone concepts. The resulting analysis was pro forma based, and intended to assess the potential effect of proposed changes in the code on the viability of development in mixed-use districts.

3.1 General Overview of Issues

The focus of the financial analysis is an extensive evaluation of performance bonuses, which would reward policy-supportive behavior with additional entitlements in the form of allowed density and/or height. The rationale is that the desired development outcome (for example, more affordable housing or affordable commercial space) would have a significant cost which could be partially offset by additional value in the form of more developable floor area.

In developing MUZ concepts, the Bureau of Planning and Sustainability has considered a number of public benefits that could be incentivized. These include affordable housing, affordable ground-floor commercial space, historic preservation, public open space, community services, and green features. Each has different cost implications, which vary both by the type of benefit and by locational, market and site-specific characteristics. While the complexity of the impact on hundreds of prospective site is impossible to model, some generalized conclusions can be addressed. Table 3-1 presents a brief summary of general characteristics of prospective bonus elements.

Table 3-1: General Characteristics of Bonus Elements

<i>Bonus Element</i>	<i>Comments</i>
Affordable Housing Units	This bonus provides additional allowed density in exchange for meeting affordable housing guidelines. In concept, the developer would accept pricing lower than can otherwise be achieved in the market in exchange for additional density. A challenge for this incentive is that market areas that will most value the density will also be ones in which the mandated pricing represents the greatest level of loss.
Affordable Commercial Space	The cost of providing “affordable” commercial space is a function of how affordable is defined, as well as achievable commercial rents in the specific location. The primary cost would be similar to meeting affordable housing requirements, with the loss in potential income representing the cost.
Historic Preservation	Allows the transfer of FAR from other nearby historic properties, with the market establishing the value in different locations. Retains historic and/or targeted structures, while maintaining development capacity in districts. May allow for lower rent levels, but no requirement that rents are below market. As the value of the FAR is set by the market, it would only be expected to be effective in markets that place value on additional FAR entitlements.
Public Plaza or Open Space	Creating public open space as part of a project entails significant cost to a developer, not only through the direct cost and loss of site area, but also commonly due to a result of a reduced level of control. As a result, this type of space is unlikely to be constructed in a significant way unless incentivized. The provision of public open space within a project is expected to be more viable on large-scale projects.
Community Services	A use such as a day care provides a community amenity, as well as an income-producing tenant for a developer. Conflicts with this type of use are associated with disruptions during pick-up and drop-off times, as well as noise. Day cares typically pay lower rent than prime retailers, but can be an attractive tenant in a secondary commercial location.
High Performance Green Features	Green features typically involve higher up-front costs, which may be unrecoverable in a development. They can also result in lower operating costs; some systems may have acceptable returns and would likely be incorporated without an incentive. Green features may provide for a measurable boost in project marketability in some cases.

3.2 Financial Analysis

Johnson Economics performed initial pro forma analysis on all 18 prototype variations described in Chapter 2. The economic analysis focuses on eight of these prototypical development concepts on four alternative sites, because the lot sizes were the most common and comparable. Three of the sites are 10,000 square foot in size, representing a quarter of a traditional urban block in close-in Portland neighborhoods. The fourth site is a 40,000-square foot, full-block site. Table 3-2 provides a summary of the prototypes evaluated.

The findings of this analysis led the planning team to refine the draft base and bonus thresholds to achieve a better match between financial feasibility and desired development outcomes. The refined thresholds have been tested in a follow-up analysis provided as Appendix C.

Table 3-2: Building Prototypes Studied

<i>Concept</i>	<i>Site Size (SF)</i>	<i>Building Size (SF)</i>	<i>FAR</i>
2A	10,000	10,000	0.76
2B	10,000	26,500	2.22
3A	10,000	22,900	2.00
3B	10,000	34,500	3.07
6A	10,000	31,550	2.80
6B	10,000	48,550	4.40
7A	40,000	135,000	3.00
7B	40,000	183,900	3.98

ASSUMPTIONS

Programs, Sites, and Construction Costs

The primary land use in all cases was rental residential, with the concepts also including ground floor retail and parking. For each site, the first concept (A) represents a development modeled under the proposed base entitlement. The second (B) concept on each site was developed at a higher density, evaluating the extent to which intensification of development was possible and viable on these sites as an incentive for a public benefit.

The concepts were evaluated in both an urban (or inner) and a suburban (or outer) Portland context, the primary differentiating variable being achievable pricing. Each development scenario was modeled using a pro forma evaluation.¹ The scenarios assume fee simple ownership of the property by the developer and conventional financing.

Planning level estimates of construction costs largely reflect wood frame construction over a concrete podium, which is typically the current highest and best use development form in the close-in eastside market under current market conditions. Actual costs may vary substantially, depending upon variations in design and finish quality. Available capacity in the construction trades can also have a substantial impact on costs. Property acquisition cost was assumed at \$700,000, which is consistent with our findings of supportable land values. Any existing structures were viewed as adding no value to the property, as none of the scenarios used existing structures.

¹ Components were evaluated using a ten-year cash flow, with a reversion value or estimated sales price at the end of the period.

Financial and Income Assumptions

With respect to lending terms, financial assumptions were made based on recent experience. Table 3-3 provides a brief summary of financial assumptions common throughout the analysis.

Table 3-3: Financial Assumptions

<i>Variable</i>	<i>Assumption</i>
Capitalization Rate	
Rental Apartments	6.00%
Retail Space	7.50%
Minimum Debt Coverage Ratio	1.25
Loan to Value Ratio Max	75%
Permanent Loan Interest Rate	5.50%
Threshold Return on Cost/Income	
Ground Floor Retail	9.00%
Rental Apartments	7.20%

Income assumptions are based on the professional opinion of Johnson Economics, and necessarily assume a fairly generic product and location. In reality, areas where mixed use zones may apply include a broad range of price points and market conditions. Table 3-4 summarizes the income assumptions, with assumptions for the Central area largely reflecting NE/SE product west of 60th Avenue and inner west side markets, and the suburban assumptions applying east of 60th Avenue and in outer west side and north end market areas.

Table 3-4: Income Assumptions

<i>Income Assumptions</i>	<i>Average Rent/SF</i>	
	<i>Central</i>	<i>Suburban</i>
Retail Space	\$22.00	\$18.00
Industrial Office	\$20.00	\$18.00
Industrial	\$16.00	\$14.00
Office	\$22.00	\$18.00
Parking/Surface	\$3.09	\$1.71
Parking/Structured	\$4.80	\$2.40
Residential Rent/SF	\$2.40	\$1.50
Efficiency Ratio	83%	83%
Operating Expense Ratio	32%	32%

Expected Return

Return on cost is defined as the net operating income (NOI) during the first stabilized year divided by the total project cost. The analysis assumes a 20% premium over the assumed capitalization rate as the minimum return needed for development to “pencil out”. This rate was seen as typical of a traditional speculative developer.

Residual Land Value

Residual land value means the maximum acquisition value that could be supported by a development program while providing the expected return on cost. Actual land acquisition would be expected to be at a somewhat lower rate, depending upon alternatives and how competitive the market is.

3.3 Summary of Findings

Eight scenarios were evaluated for their financial viability, based on the residual land value calculation. Each scenario was tested assuming market rate units only, as well as with 20 percent of units priced at 60 percent or 80 percent of Median Family Income (MFI).

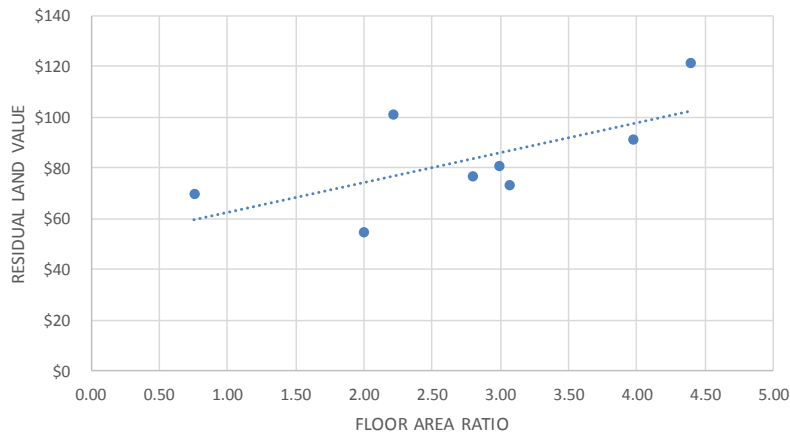
FINANCIAL VIABILITY FOR MARKET-RATE DEVELOPMENT

For close-in markets, there is a significant positive correlation between floor area ratio and residual land value. In other words, increasing the amount of allowed floor area would enhance the financial viability of development. This relationship is reversed in outlying markets, where lower rents would not support the cost of the higher density development forms. Table 3-5 summarizes the overall development costs and the calculated residual land values associated with each of the market rate development programs. The relationship between FAR and residual land value (our measure of financial viability) in close-in and outer markets is shown in charts that accompany Table 3-5. The following sections and tables review in more detail the indicated financial performance of the assumed development programs on the sites. Pro formas for each of the prototypes tested at market rate scenarios are in Appendix B.

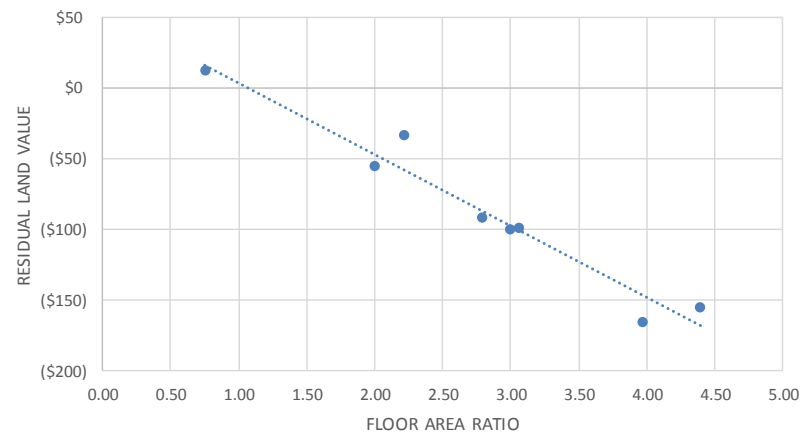
Table 3-5: Summary of Scenario Results

Option	Land (SF)	Building (SF)	FAR	Parking Spaces	Construction Costs		Net Operating Income		Return on Cost	Indicated Value 1/	Value/ Cost	Indicated Residual Land Value	
					Total	PSF	Total	PSF				Total	PSF
CLOSE IN MARKETS													
2A	10,000	10,000	0.76	7	\$1,401,240	\$140.12	\$150,931	\$15.09	10.77%	\$2,515,515	180%	\$695,022	\$70
2B	10,000	26,500	2.22	7	\$3,214,892	\$121.32	\$304,063	\$11.47	9.46%	\$5,067,712	158%	\$1,008,202	\$101
3A	10,000	22,900	2.00	6	\$3,285,240	\$143.46	\$275,773	\$12.04	8.39%	\$4,596,217	140%	\$544,940	\$54
3B	10,000	34,500	3.07	10	\$4,864,041	\$140.99	\$403,039	\$11.68	8.29%	\$6,717,318	138%	\$733,723	\$73
6A	10,000	31,550	2.80	11	\$4,418,555	\$140.05	\$373,299	\$11.83	8.45%	\$6,221,646	141%	\$766,150	\$77
6B	10,000	48,550	4.40	12	\$6,773,377	\$139.51	\$575,009	\$11.84	8.49%	\$9,583,477	141%	\$1,212,854	\$121
7A	40,000	135,000	3.00	44	\$19,345,480	\$143.30	\$1,625,192	\$12.04	8.40%	\$27,086,538	140%	\$3,226,635	\$81
7B	40,000	183,900	3.98	68	\$25,500,345	\$138.66	\$2,099,270	\$11.42	8.23%	\$34,987,831	137%	\$3,656,181	\$91
OUTER MARKETS													
2A	10,000	10,000	0.76	7	\$1,401,240	\$140.12	\$109,959	\$11.00	7.85%	\$1,832,653	131%	\$125,971	\$13
2B	10,000	26,500	2.22	7	\$3,214,892	\$121.32	\$207,603	\$7.83	6.46%	\$3,460,054	108%	(\$331,514)	(\$33)
3A	10,000	22,900	2.00	6	\$3,285,240	\$143.46	\$196,619	\$8.59	5.98%	\$3,276,975	100%	(\$554,427)	(\$55)
3B	10,000	34,500	3.07	10	\$4,864,041	\$140.99	\$278,784	\$8.08	5.73%	\$4,646,406	96%	(\$992,036)	(\$99)
6A	10,000	31,550	2.80	11	\$4,418,555	\$140.05	\$251,939	\$7.99	5.70%	\$4,198,980	95%	(\$919,405)	(\$92)
6B	10,000	48,550	4.40	12	\$6,773,377	\$139.51	\$376,232	\$7.75	5.55%	\$6,270,526	93%	(\$1,547,938)	(\$155)
7A	40,000	135,000	3.00	44	\$19,345,480	\$143.30	\$1,106,643	\$8.20	5.72%	\$18,444,052	95%	(\$3,975,436)	(\$99)
7B	40,000	183,900	3.98	68	\$25,500,345	\$138.66	\$1,359,625	\$7.39	5.33%	\$22,660,421	89%	(\$6,616,661)	(\$165)

FAR AND RESIDUAL RELATIONSHIP - CLOSE-IN MARKETS



FAR AND RESIDUAL RELATIONSHIP - OUTER MARKETS



1/ Reflects capitalized value at first stabilized year. Not intended as a legal representation of value.

Options 2A and 2B

These two options reflect rental residential units over ground floor retail. In option 2A, the project is only two stories in height, with an FAR of 1:1, with surface parking. Option 2B reflects a three story structure, with tuck under parking in the back. The FAR increases to 2.22:1 under this scenario.

Project development is estimated to cost just over \$1.4 million for Option 2A, excluding land acquisition. Costs for Option 2B were estimated at \$3.2 million. The indicated residual land value under Option 2A would be \$695,000 (\$70 per square foot) in a close-in neighborhood, or \$126,000 (\$13 per square foot) in an outer neighborhood. The residual land value for Option 2B increases to \$1.0 million (\$101 per square foot) in a close-in neighborhood, while yielding a negative residual land value if developed an outer neighborhood. This is a consistent finding in this analysis, with higher density products yielding negative residual land value in more suburban contexts. This does not reflect that the land has no value, but does indicate that the higher density solution is not viable and does not represent the highest and best solution.

Options 3A and 3B

These two options also reflect rental residential units over ground floor retail. Option 3A includes two stories of residential above ground floor retail and tuck under parking, with an FAR of 2:1. Option 3B increases the FAR to 3.4:1, addition two additional floors of residential development that are stepped back from the mixed-use corridor.

Project development excluding site acquisition is estimated to cost approximately \$3.3 million for Option 3A, while Option 3B would cost just under \$4.9 million. The indicated residual land value under Option 3A would be \$545,000 (\$54 per square foot) in a close-in neighborhood, with a negative residual value in an outer neighborhood. The residual land value for Option 3B increases to \$733,000 (\$73 per square foot) in a close-in neighborhood, while remaining negative in an outer neighborhood.

The analysis indicates that for the close-in neighborhood scenarios, the shift from an FAR of 2:1 to 3.4:1 increased residual land value by \$189,000, or \$19 per square foot. The shift in FAR had a negative impact in a more suburban context.

Table 3-6: Financial Summary of Options 2A and 2B

Option	Program			Costs Hard & Soft	Stabilized NOI	Return on Cost	Indicated Value 1/	Value/ Cost	Indicated Residual Land Value	
	Res S.F.	Retail S.F.	Parking Spaces						Total	PSF
OPTION 2A: CLOSE IN NEIGHBORHOOD	5,976	2,800	7	\$1,401,240	\$150,931	7.18%	\$2,515,515	120%	\$695,022	\$70
OPTION 2B: CLOSE IN NEIGHBORHOOD	16,434	2,400	7	\$3,214,892	\$304,063	7.77%	\$5,067,712	129%	\$1,008,202	\$101
OPTION 2A: SUBURBAN CONTEXT	5,976	2,800	7	\$1,401,240	\$109,959	5.23%	\$1,832,653	87%	\$125,971	\$13
OPTION 2B: SUBURBAN CONTEXT	16,434	2,400	7	\$3,214,892	\$207,603	5.30%	\$3,460,054	88%	(\$331,514)	(\$33)

COST AND STABILIZED VALUE

Option	Value 2/ (Millions)	Cost (Millions)
OPTION 2A: CLOSE IN NEIGHBORHOOD	~2.5	~2.1
OPTION 2B: CLOSE IN NEIGHBORHOOD	~5.1	~3.9
OPTION 2A: SUBURBAN CONTEXT	~1.8	~2.1
OPTION 2B: SUBURBAN CONTEXT	~3.5	~3.9

INDICATED RESIDUAL LAND VALUE/SF

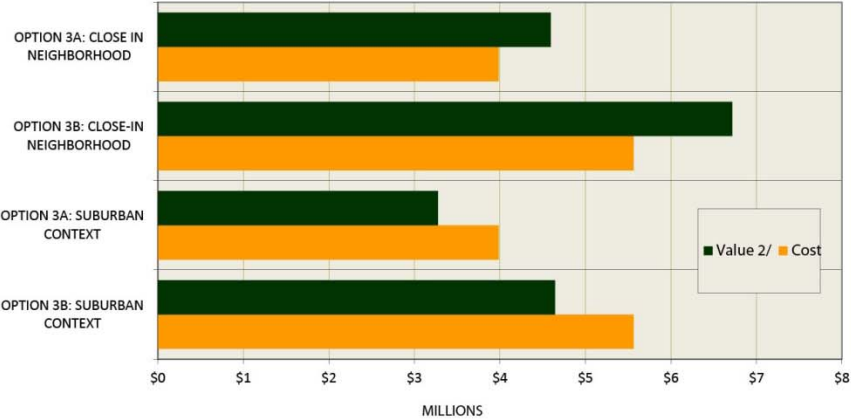
Option	Value (\$/SF)
OPTION 2A: CLOSE IN NEIGHBORHOOD	\$70
OPTION 2B: CLOSE IN NEIGHBORHOOD	\$101
OPTION 2A: SUBURBAN CONTEXT	\$13
OPTION 2B: SUBURBAN CONTEXT	-\$33

1/ Reflects capitalized value at first stabilized year. Not intended as a legal representation of value.

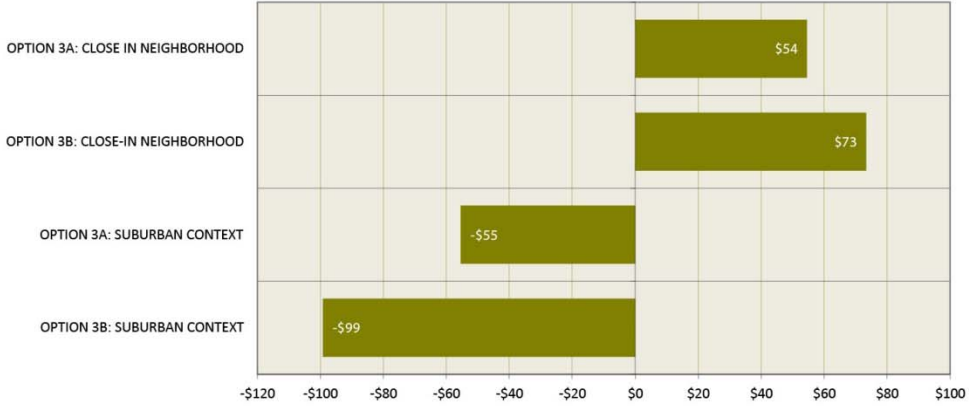
Table 3-7: Financial Summary of Options 3A and 3B

Option	Program			Costs			Stabilized NOI	Return on Cost	Indicated Value 1/	Value/ Cost	Calculated Viability Gap		Indicated Residual Land Value	
	Res S.F.	Retail S.F.	Parking Spaces	Property Acquisition	Hard & Soft	Total Cost					Total 2/	% of Cost	Total	PSF
OPTION 3A: CLOSE IN NEIGHBORHOOD	13,778	3,400	6	\$700,000	\$3,285,240	\$3,985,240	\$275,773	6.92%	\$4,596,217	115%	\$155,060	3.9%	\$544,940	\$54
OPTION 3B: CLOSE-IN NEIGHBORHOOD	23,323	2,550	10	\$700,000	\$4,864,041	\$5,564,041	\$403,039	7.24%	\$6,717,318	121%	(\$33,723)	-0.6%	\$733,723	\$73
OPTION 3A: SUBURBAN CONTEXT	13,778	3,400	6	\$700,000	\$3,285,240	\$3,985,240	\$196,619	4.93%	\$3,276,975	82%	\$1,254,427	31.5%	(\$554,427)	(\$55)
OPTION 3B: SUBURBAN CONTEXT	23,323	2,550	10	\$700,000	\$4,864,041	\$5,564,041	\$278,784	5.01%	\$4,646,406	84%	\$1,692,036	30.4%	(\$992,036)	(\$99)

COST AND STABILIZED VALUE



INDICATED RESIDUAL LAND VALUE/SF



1/ Reflects capitalized value at first stabilized year. Not intended as a legal representation of value.

This page intentionally left blank.

Options 6A and 6B

Option 6A is built to a 3:1 FAR, and includes three stories of rental residential units over a ground floor with commercial space and tuck under parking. Option 6B pushed the density up to a 4.39:1 FAR, with five stories of residential over a ground floor podium.

The indicated residual land values under assumed close-in neighborhood pricing is \$77 per square foot for Option 6A, increasing to \$121 per square foot under option 6B. The shift in indicated residual land value is \$447,000. Both development scenarios yielded negative residual land values in a suburban context.

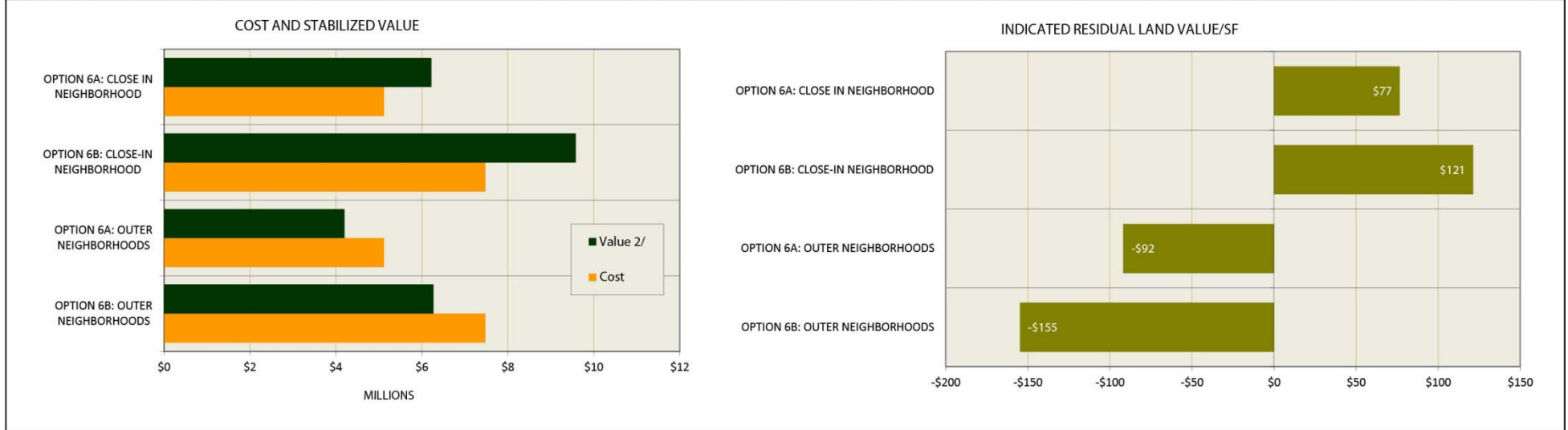
Options 7A and 7B

Option 7 is placed on a 40,000 square foot site, reflecting a full block development. This allowed for scenarios with significantly greater scale than the other scenarios. In Option 7A, the development included four stories of wood frame construction over a concrete podium, yielding a 3:1 FAR and 135,000 gross square feet of building area. Option 7B increased the FAR to 4.5:1 through the addition of an additional floor of residential units.

Project development is estimated to cost over \$19.3 million for Option 7A, excluding land acquisition. Costs for Option 7B were estimated at \$25.5 million. The indicated residual land value under Option 7A would be \$3.2 million (\$81 per square foot) in a close-in neighborhood, while Option 7B supports a residual land value of almost \$3.7 million (\$91 per square foot) in a close-in neighborhood. It is interesting to note that additional FAR above 4.5:1 is very difficult to achieve on a larger site without changing construction types due to the need to keep floor plates appropriate for residential development.

Table 3-8: Financial Summary of Options 6A and 6B

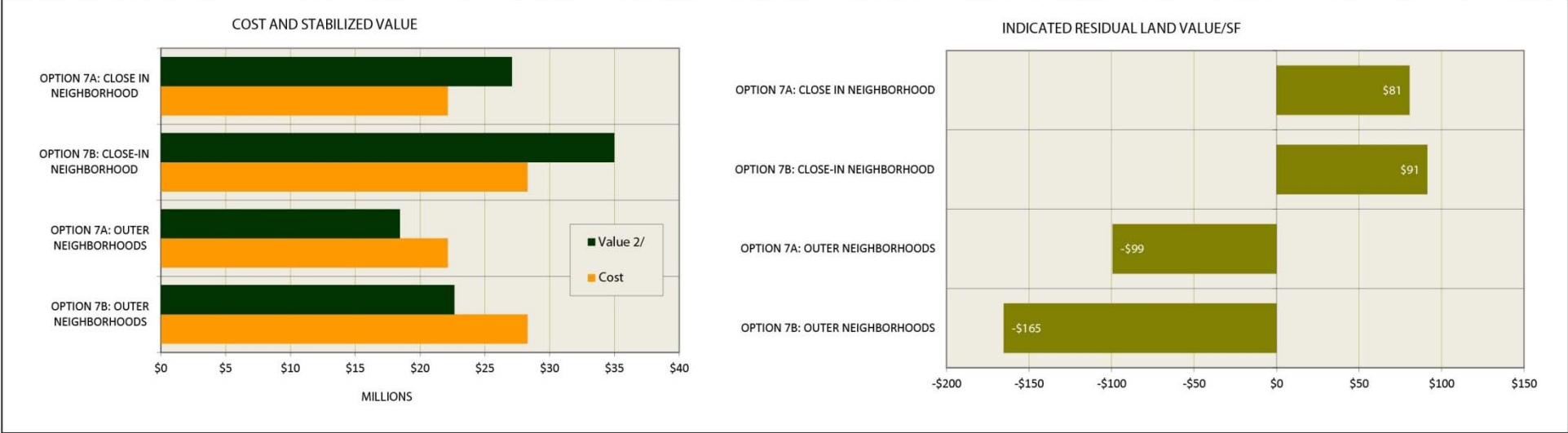
Option	Program			Costs			Stabilized NOI	Return on Cost	Indicated Value 1/	Value/ Cost	Calculated Viability Gap		Indicated Residual Land Value	
	Res S.F.	Retail S.F.	Parking Spaces	Property Acquisition	Hard & Soft	Total Cost					Total 2/	% of Cost	Total	PSF
OPTION 6A: CLOSE IN NEIGHBORHOOD	21,497	2,050	11	\$700,000	\$4,418,555	\$5,118,555	\$373,299	7.29%	\$6,221,646	122%	(\$66,150)	-1.3%	\$766,150	\$77
OPTION 6B: CLOSE-IN NEIGHBORHOOD	35,400	1,300	12	\$700,000	\$6,773,377	\$7,473,377	\$575,009	7.69%	\$9,583,477	128%	(\$512,854)	-6.9%	\$1,212,854	\$121
OPTION 6A: OUTER NEIGHBORHOODS	21,497	2,050	11	\$700,000	\$4,418,555	\$5,118,555	\$251,939	4.92%	\$4,198,980	82%	\$1,619,405	31.6%	(\$919,405)	(\$92)
OPTION 6B: OUTER NEIGHBORHOODS	35,400	1,300	12	\$700,000	\$6,773,377	\$7,473,377	\$376,232	5.03%	\$6,270,526	84%	\$2,247,938	30.1%	(\$1,547,938)	(\$155)



1/ Reflects capitalized value at first stabilized year. Not intended as a legal representation of value.

Table 3-9: Financial Summary of Options 7A and 7B

Option	Program			Costs			Stabilized NOI	Return on Cost	Indicated Value 1/	Value/ Cost	Calculated Viability Gap		Indicated Residual Land Value	
	Res S.F.	Retail S.F.	Parking Spaces	Property Acquisition	Hard & Soft	Total Cost					Total 2/	% of Cost	Total	PSF
OPTION 7A: CLOSE IN NEIGHBORHOOD	89,640	11,800	44	\$2,800,000	\$19,345,480	\$22,145,480	\$1,625,192	7.34%	\$27,086,538	122%	(\$426,635)	-1.9%	\$3,226,635	\$81
OPTION 7B: CLOSE-IN NEIGHBORHOOD	129,978	2,400	68	\$2,800,000	\$25,500,345	\$28,300,345	\$2,099,270	7.42%	\$34,987,831	124%	(\$856,181)	-3.0%	\$3,656,181	\$91
OPTION 7A: OUTER NEIGHBORHOODS	89,640	11,800	44	\$2,800,000	\$19,345,480	\$22,145,480	\$1,106,643	5.00%	\$18,444,052	83%	\$6,775,436	30.6%	(\$3,975,436)	(\$99)
OPTION 7B: OUTER NEIGHBORHOODS	129,978	2,400	68	\$2,800,000	\$25,500,345	\$28,300,345	\$1,359,625	4.80%	\$22,660,421	80%	\$9,416,661	33.3%	(\$6,616,661)	(\$165)



1/ Reflects capitalized value at first stabilized year. Not intended as a legal representation of value.

This page intentionally left blank.

FINANCIAL VIABILITY OF DEVELOPMENT WITH PUBLIC BENEFITS

Affordable Housing

The analysis also looked at the economics of meeting affordable housing and other policy targets in residential projects, and the impact on viability. Table 3-10 summarizes the estimated costs of meeting affordable housing requirements. Table 3-11 provides a summary of eight specific scenarios: each of four development prototypes tested at two affordability thresholds: 20% of units at 60% MFI, and 20% of units at 80% MFI. Pro formas for each of the higher-density prototypes tested at affordable housing thresholds are in Appendix B.

In general, the costs associated with meeting affordable housing targets result from a loss of potential income. The financial impact of meeting affordable housing targets is significant in the close-in markets. The degree of impact is a function of how much potential income is lost, and is subsequently greater for projects with units priced for households at 60% of MFI than it is for units priced at 80% of MFI. For outer neighborhoods, the lower achievable market rent makes the net impact significantly lower. As a result, the cost of meeting affordable housing targets is lower in areas that are already relatively affordable.

The residual land value estimates outlined in the table represent a scenario with higher assumed FARs but without any additional offsets such as the MULTE and LIHTC programs described below.

MULTE and LIHTC Programs

The cost of meeting affordable housing targets can also be offset by other existing programs. The Multiple-Unit Limited Tax Exemption (MULTE) program provides a ten-year property tax exemption on structural improvements for multifamily developments that meet program requirements. The MULTE program is allocated on a competitive basis. It is generally not available for projects that provide housing at 80% MFI in outer Portland neighborhoods, where rents on units restricted to 80% MFI would not vary substantially from market rate units. The MULTE program reduces operating costs significantly, and has substantial market value.

Projects may also apply for Low Income Housing Tax Credits (LIHTC), which also have a significant monetized value. The LIHTC program, administered by Oregon Housing and Community Services (OHCS), offers tax credits at both 4% and 9%, with 9% credits being more competitive. Oregon's LIHTC program is only available for projects providing units at 60% MFI or below. There is a high fixed cost associated with the LIHTC program, and as a result it is unlikely to be used for small projects.

Table 3-10: Estimated Cost of Meeting Affordable Housing Requirements

	60% MFI	80% MFI
Average Rent/SF:		
Allowed	\$1.06	\$1.42
Market – Close-In	\$2.20	\$2.20
Market - Outer	\$1.50	\$1.50
Loss of Rental Income		
Close-In Neighborhoods	(\$0.23)	(\$0.16)
Outer Neighborhoods	(\$0.09)	(\$0.02)
Efficiency Ratio	83%	83%
Assumed Cap Rate	6.00%	6.00%
Implied Loss of Value/SF:		
Close-In Neighborhoods	(\$37.72)	(\$25.94)
Outer Neighborhoods	(\$14.48)	(\$2.70)
MULTE Tax Credit		
Reduction in Operating Costs/SF	\$3.96	\$3.96
Duration/Years:	10	10
Annual Discount Rate:	6.00%	6.00%
Value PSF:	\$27.34	\$27.34
LIHTC		
Value of Credits/SF:	\$44.75	N/A

Table 3-11: Summary of Development Scenarios – Affordable Housing Targets

Option ¹	Land (SF)	Building (SF)	FAR	Parking Spaces	Construction Costs		Net Operating Income		Return on Cost	Indicated Value ²	Value/ Cost	Indicated Residual Land Value	
					Total	PSF	Total	PSF				Total	Per SF
2B w/20% @ 60% MFI	10,000	26,500	2.22	7	\$3,896,931	\$147	\$277,345	\$10.47	7.12%	\$4,622,420	119%	\$655,086	\$66
2B w/20% @ 80% MFI	10,000	26,500	2.22	7	\$3,896,931	\$147	\$293,635	\$11.08	7.54%	\$4,893,910	126%	\$881,328	\$88
3B w/20% @ 60% MFI	10,000	34,500	3.07	10	\$5,564,041	\$161	\$375,358	\$10.88	6.75%	\$6,255,972	112%	\$349,268	\$35
3B w/20% @ 80% MFI	10,000	34,500	3.07	10	\$5,564,041	\$161	\$388,240	\$11.25	6.98%	\$6,470,659	116%	\$528,175	\$53
6B w/20% @ 60% MFI	10,000	48,550	4.40	12	\$7,473,377	\$154	\$528,426	\$10.88	7.07%	\$8,807,099	118%	\$565,873	\$57
6B w/20% @ 80% MFI	10,000	48,550	4.40	12	\$7,473,377	\$154	\$547,977	\$11.29	7.33%	\$9,132,955	122%	\$837,419	\$84
7B w/20% @ 60% MFI	40,000	183,900	3.98	66	\$28,300,345	\$154	\$1,928,205	\$10.49	6.81%	\$32,136,754	114%	\$1,280,283	\$32
7B w/20% @ 80% MFI	40,000	183,900	3.98	66	\$28,300,345	\$154	\$1,999,992	\$10.88	7.07%	\$33,333,198	118%	\$2,277,320	\$57

Notes:

1 All scenarios are tested for site in close-in markets.

2 Reflects capitalized value at first stabilized year. Not intended as a legal representation of value.

Reduced Commercial Rents

A reduction in allowable commercial lease rates would have an impact on viability similar to affordable housing requirements. The impact would result from the difference between allowable and achievable lease rates, and it would vary based on the details of the code language and how “affordable” is defined. If the allowable lease rate is 80% of what is achievable in the market, the requirement would decrease the value proportionately. If it is set at an established “affordable” rate citywide, then the cost would be highest for strong retail sites and in areas where achievable market lease rates are higher.

This analysis assumes that reduced commercial rents would be offset by an increase in allowable FAR. In close-in markets, the value of additional allowable FAR is projected to exceed the estimated cost associated with reduced commercial rents. While the cost of requiring reduced rents would be lower in outer neighborhoods, the additional FAR has no value. Thus the bonus would not be used. Administration of this type of program would likely be difficult, as achievable market lease rates for retail space are highly variable at a local and site-specific level.

Table 3-12: Estimated Cost of Reduced Commercial Rents

	<i>Close-In</i>	<i>Outer</i>
Average Rent/SF:		
Allowed	\$16.50	\$13.50
Market	\$22.00	\$18.00
Loss of Rental Income	(\$5.50)	(\$4.50)
Assumed Cap Rate	7.50%	7.50%
Implied Loss of Value/SF:	(\$73.33)	(\$60.00)
Project Level Reconciliation		
Cost of Requirement/Scenario 2A	(\$205,333)	(\$168,000)
Value of Additional FAR/2A	\$313,179	\$0

Historic Preservation

A historic preservation bonus could be structured to allow the transfer of FAR from nearby historic properties to a development site. The value of this bonus would be based on the value of additional FAR in different locations. A historic preservation bonus would allow a developer to buy additional FAR from proximate property owners. It would have the result of retaining historic structures while maintaining development capacity within the area. By retaining older buildings, it may allow for lower rent levels without a requirement that rents are below market rate.

The value of additional FAR provided through this bonus program would be set by the market. The program would be expected to be effective in markets that place value on additional FAR entitlements. Thus it would be expected to function in close-in neighborhoods but not in outer neighborhoods.

Appendix A: Glossary of Terms

Capitalization Rate or Cap Rate – The rate of return used to derive the capital value of an income stream. The value of a real estate asset is commonly set on the basis of dividing net operating income (NOI) by a capitalization rate.

Debt Coverage Ratio – Defined as net operating income divided by annual debt service. This measure is often used as underwriting criteria for income property mortgage loans, and limits the amount of debt that can be borrowed. Standard minimum debt coverage ratios would be in the 1.20 to 1.30 range. A debt coverage ratio of 1.20 indicates that in your first year of stabilized occupancy, your net operating income (NOI, gross income less expenses) is equal to 120% of your debt service requirements (principal and interest).

Equity – The interest or value that the owner has in real estate over and above the liens held against it.

Internal Rate of Return (IRR) – The true annual rate of earnings on an investment. Equates the value of cash returns with cash invested, considering the application of compound interest factors.

Modified Internal Rate of Return (MIRR) – Similar to an IRR, the MIRR considers both the cost of the investment and the interest received on reinvestment of cash. This measure of return recognizes that cash flows are reinvested at an alternative rate.

Net Operating Income (NOI) – Income from property after operating expenses have been deducted, but before deducting income taxes and financing expenses.

Residual Value – The realized value of a fixed asset after costs associated with the sale. In this analysis, the residual value represents the capitalized value of the development at the end of the period less sales costs.

Return on Cost (ROC) – Net operating income in the initial year, divided by total project cost. This measure is also commonly referred to as the going-in cap rate.

Return on Equity or Equity Yield Rate – The rate of return on the equity portion of an investment, taking into account periodic cash flow. In this analysis, the return on equity represents the initial rate of return, and is defined as the net cash flow after interest costs divided by the developer equity.

Return on Sales – Defined as net profit as a percent of net sales. This measure is most commonly used with for-sale development such as condominiums.

Triple-Net Lease – A lease in which the tenant is to pay all operating expenses of the property, the landlord receives a *net* rent. Operating expenses include taxes, utilities, insurance, repairs, janitorial services and license fees.

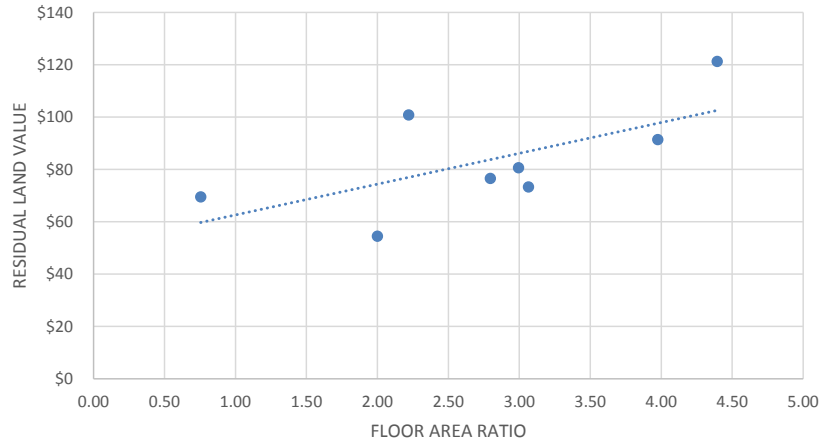
Appendix B: Pro Formas

This page intentionally left blank.

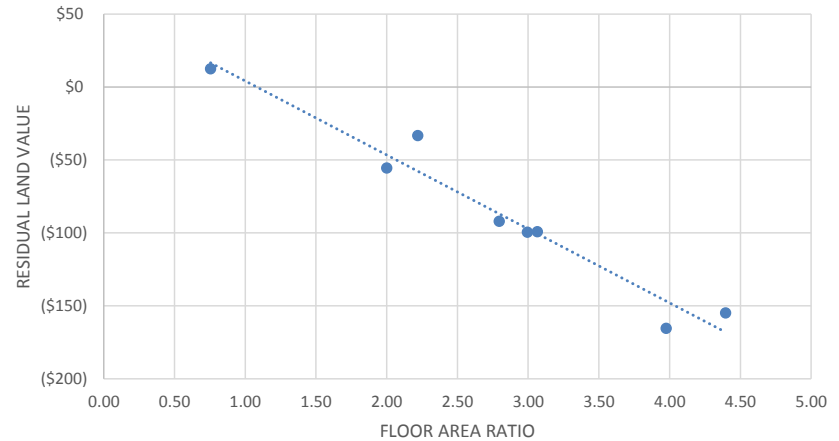
SUMMARY OF DEVELOPMENT SCENARIOS MIXED USE ZONING PROTOTYPES

Option	Land (SF)	Building (SF)	FAR	Parking Spaces	Construction Costs		Net Operating Income		Return on Cost	Indicated Value 1/	Value/ Cost	Indicated Residual Land Value	
					Total	PSF	Total	PSF				Total	PSF
CLOSE IN MARKETS													
2A	10,000	10,000	0.76	7	\$1,401,240	\$140.12	\$150,931	\$15.09	10.77%	\$2,515,515	180%	\$695,022	\$70
2B	10,000	26,500	2.22	7	\$3,214,892	\$121.32	\$304,063	\$11.47	9.46%	\$5,067,712	158%	\$1,008,202	\$101
3A	10,000	22,900	2.00	6	\$3,285,240	\$143.46	\$275,773	\$12.04	8.39%	\$4,596,217	140%	\$544,940	\$54
3B	10,000	34,500	3.07	10	\$4,864,041	\$140.99	\$403,039	\$11.68	8.29%	\$6,717,318	138%	\$733,723	\$73
6A	10,000	31,550	2.80	11	\$4,418,555	\$140.05	\$373,299	\$11.83	8.45%	\$6,221,646	141%	\$766,150	\$77
6B	10,000	48,550	4.40	12	\$6,773,377	\$139.51	\$575,009	\$11.84	8.49%	\$9,583,477	141%	\$1,212,854	\$121
7A	40,000	135,000	3.00	44	\$19,345,480	\$143.30	\$1,625,192	\$12.04	8.40%	\$27,086,538	140%	\$3,226,635	\$81
7B	40,000	183,900	3.98	68	\$25,500,345	\$138.66	\$2,099,270	\$11.42	8.23%	\$34,987,831	137%	\$3,656,181	\$91
OUTER MARKETS													
2A	10,000	10,000	0.76	7	\$1,401,240	\$140.12	\$109,959	\$11.00	7.85%	\$1,832,653	131%	\$125,971	\$13
2B	10,000	26,500	2.22	7	\$3,214,892	\$121.32	\$207,603	\$7.83	6.46%	\$3,460,054	108%	(\$331,514)	(\$33)
3A	10,000	22,900	2.00	6	\$3,285,240	\$143.46	\$196,619	\$8.59	5.98%	\$3,276,975	100%	(\$554,427)	(\$55)
3B	10,000	34,500	3.07	10	\$4,864,041	\$140.99	\$278,784	\$8.08	5.73%	\$4,646,406	96%	(\$992,036)	(\$99)
6A	10,000	31,550	2.80	11	\$4,418,555	\$140.05	\$251,939	\$7.99	5.70%	\$4,198,980	95%	(\$919,405)	(\$92)
6B	10,000	48,550	4.40	12	\$6,773,377	\$139.51	\$376,232	\$7.75	5.55%	\$6,270,526	93%	(\$1,547,938)	(\$155)
7A	40,000	135,000	3.00	44	\$19,345,480	\$143.30	\$1,106,643	\$8.20	5.72%	\$18,444,052	95%	(\$3,975,436)	(\$99)
7B	40,000	183,900	3.98	68	\$25,500,345	\$138.66	\$1,359,625	\$7.39	5.33%	\$22,660,421	89%	(\$6,616,661)	(\$165)

FAR AND RESIDUAL RELATIONSHIP - CLOSE-IN MARKETS



FAR AND RESIDUAL RELATIONSHIP - OUTER MARKETS

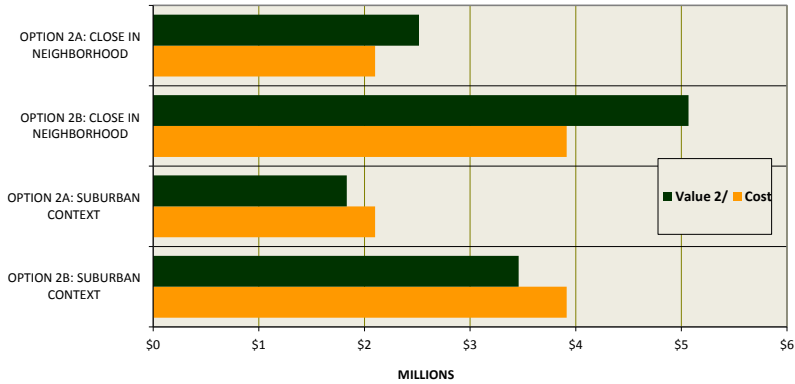


1/ Reflects capitalized value at first stabilized year. Not intended as a legal representation of value.

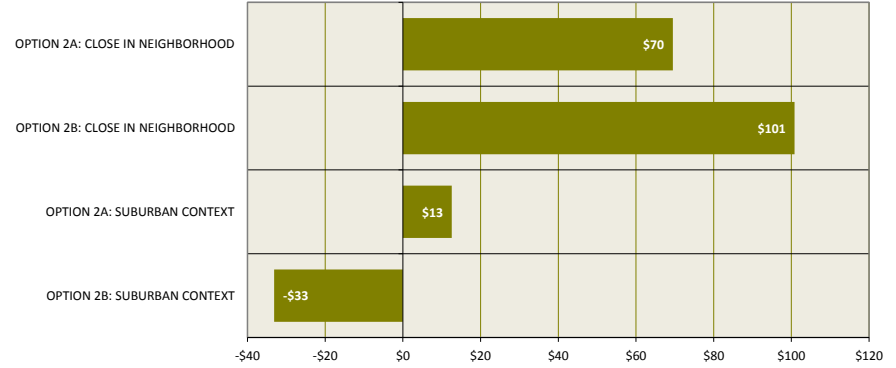
**SUMMARY OF DEVELOPMENT SCENARIOS
MIXED USE ZONING PROTOTYPES**

Option	Program			Costs			Stabilized NOI	Return on Cost	Indicated Value 1/	Value/ Cost	Calculated Viability Gap		Indicated Residual Land Value	
	Res S.F.	Retail S.F.	Parking Spaces	Property Acquisition	Hard & Soft	Total Cost					Total 2/	% of Cost	Total	PSF
OPTION 2A: CLOSE IN NEIGHBORHOOD	5,976	2,800	7	\$700,000	\$1,401,240	\$2,101,240	\$150,931	7.18%	\$2,515,515	120%	\$4,978	0.2%	\$695,022	\$70
OPTION 2B: CLOSE IN NEIGHBORHOOD	16,434	2,400	7	\$700,000	\$3,214,892	\$3,914,892	\$304,063	7.77%	\$5,067,712	129%	(\$308,202)	-7.9%	\$1,008,202	\$101
OPTION 2A: SUBURBAN CONTEXT	5,976	2,800	7	\$700,000	\$1,401,240	\$2,101,240	\$109,959	5.23%	\$1,832,653	87%	\$574,029	27.3%	\$125,971	\$13
OPTION 2B: SUBURBAN CONTEXT	16,434	2,400	7	\$700,000	\$3,214,892	\$3,914,892	\$207,603	5.30%	\$3,460,054	88%	\$1,031,514	26.3%	(\$331,514)	(\$33)

COST AND STABILIZED VALUE



INDICATED RESIDUAL LAND VALUE/SF



1/ Reflects capitalized value at first stabilized year. Not intended as a legal representation of value.

**OPTION 2A: CLOSE IN NEIGHBORHOOD
STANDARD MARKET PARAMETERS**

January 20, 2015

AREA SUMMARY:				EQUITY ASSUMPTIONS:			
Site Size (SF):	10,000			Total Development Cost			\$2,101,240
Building Size (SF):	10,000			(-) Permanent Loan			(\$1,638,538)
FAR (Excluding Parking):	0.76			Tax Credit Percentage			3.22%
Building Efficiency:	88%			Tax Credit Discount Factor			80.00%
Saleable and Leasable Area (SF):	8,776			(-) Net Value of Tax Credits			\$0
INCOME SUMMARY:				Net Permanent Loan Equity Required	22.0%		\$462,702
	Total	Average	Income	PERMANENT FINANCING ASSUMPTIONS:			
	SF/Units	Rent/SF		DCR	LTV	LTC	
Retail Space	2,800	\$22.00	\$61,600	Interest Rate	5.50%	5.50%	5.50%
Live / Work	0	\$21.91	\$0	Term (Years)	25	25	30
Market Rate Apartments	5,976	\$21.91	\$130,946	Debt-Coverage Ratio	1.25		
Affordable Apartments	0	\$12.77	\$0	Loan-to-Value		75%	80%
Parking - Surface	2,450	\$3.09	\$7,560	Stabilized NOI (Year 2)	\$150,931	\$150,931	
Operating Expenses		32.0%	(\$41,903)	CAP Rate		6.00%	
Vacancy/Collection		5.0%	(\$10,005)	Supportable Mortgage	\$1,638,538	\$1,886,636	\$1,680,992
TOTAL	11,226	\$13.20	\$148,198	Annual Debt Service	\$120,745	\$139,027	\$114,534
COST SUMMARY:				MEASURES OF RETURN:			
	Per SF		Total	Indicated Value @ Stabilization			\$2,515,515
					Value/Cost		
Property Acquisition	\$70		\$700,000	Return on Cost (ROC)			7.18%
Direct Construction Cost	\$105		\$1,048,000	ESTIMATION OF VIABILITY GAP			
Soft Costs	\$27		\$265,840	Targeted Return on Cost (ROC)			7.20%
Contingencies	\$9		\$87,400	Calculated Gap-Income Components			\$4,978
Sale of Tax Credits	\$0	3.22%	\$0	Overall Gap as % of Development Cost			0.24%
TOTAL / NET	\$210		\$2,101,240	Indicated Residual Value Per Square Foot			\$70

**OPTION 2B: CLOSE IN NEIGHBORHOOD
STANDARD MARKET PARAMETERS**

January 20, 2015

AREA SUMMARY:				EQUITY ASSUMPTIONS:			
Site Size (SF):	10,000			Total Development Cost	\$3,914,892		
Building Size (SF):	26,500			(-) Permanent Loan	(\$3,131,914)		
FAR (Excluding Parking):	2.22			Tax Credit Percentage	3.22%		
Building Efficiency:	87%			Tax Credit Discount Factor	80.00%		
Saleable and Leasable Area (SF):	23,134			(-) Net Value of Tax Credits	\$0		
INCOME SUMMARY:				Net Permanent Loan Equity Required	20.0%	\$782,978	
	Total SF/Units	Average Rent/SF	Income	PERMANENT FINANCING ASSUMPTIONS:			
				DCR	LTV	LTC	
Retail Space	2,400	\$22.00	\$52,800	Interest Rate	5.50%	5.50%	5.50%
Live / Work	0	\$21.91	\$0	Term (Years)	25	25	30
Market Rate Apartments	16,434	\$21.91	\$360,102	Debt-Coverage Ratio	1.25		
Affordable Apartments	0	\$12.77	\$0	Loan-to-Value		75%	80%
Parking - Structured	4,300	\$4.80	\$20,640	Stabilized NOI (Year 2)	\$304,063	\$304,063	
Operating Expenses		32.0%	(\$115,233)	CAP Rate		6.00%	
Vacancy/Collection		5.0%	(\$21,677)	Supportable Mortgage	\$3,300,971	\$3,800,784	\$3,131,914
TOTAL	23,134	\$12.82	\$296,632	Annual Debt Service	\$243,250	\$280,082	\$213,392
COST SUMMARY:				MEASURES OF RETURN:			
	Per SF		Total	Indicated Value @ Stabilization	\$5,067,712		
				Property Acquisition	\$70		\$700,000
Direct Construction Cost	\$92		\$2,451,000	Return on Cost (ROC)	7.77%		
Soft Costs	\$23		\$606,342	ESTIMATION OF VIABILITY GAP			
Contingencies	\$6		\$157,550	Targeted Return on Cost (ROC)	7.20%		
Sale of Tax Credits	\$0	3.22%	\$0	Calculated Gap-Income Components	(\$308,202)		
TOTAL / NET	\$148		\$3,914,892	Overall Gap as % of Development Cost	-7.87%		
				Indicated Residual Value Per Square Foot	\$101		

OPTION 2A: SUBURBAN CONTEXT STANDARD MARKET PARAMETERS

January 20, 2015

AREA SUMMARY:				EQUITY ASSUMPTIONS:			
Site Size (SF):		10,000		Total Development Cost			\$2,101,240
Building Size (SF):		10,000		(-) Permanent Loan			(\$1,193,741)
FAR (Excluding Parking):		0.76		Tax Credit Percentage			3.22%
Building Efficiency:		88%		Tax Credit Discount Factor			80.00%
Saleable and Leasable Area (SF):		8,776		(-) Net Value of Tax Credits			\$0
INCOME SUMMARY:				Net Permanent Loan Equity Required	43.2%		\$907,499
	Total SF/Units	Average Rent/SF	Income	PERMANENT FINANCING ASSUMPTIONS:			
					DCR	LTV	LTC
Retail Space	2,800	\$18.00	\$50,400	Interest Rate	5.50%	5.50%	5.5%
Live / Work	0	\$14.94	\$0	Term (Years)	25	25	30
Market Rate Apartments	5,976	\$14.94	\$89,281	Debt-Coverage Ratio	1.25		
Affordable Apartments	0	\$12.77	\$0	Loan-to-Value		75%	80%
Parking - Surface	2,450	\$1.71	\$4,200	Stabilized NOI (Year 2)	\$109,959	\$109,959	
Operating Expenses		32.0%	(\$28,570)	CAP Rate		6.00%	
Vacancy/Collection		5.0%	(\$7,194)	Supportable Mortgage	\$1,193,741	\$1,374,490	\$1,680,992
TOTAL	11,226	\$9.63	\$108,117	Annual Debt Service	\$87,967	\$101,287	\$114,534
COST SUMMARY:				MEASURES OF RETURN:			
	Per SF		Total	Indicated Value @ Stabilization			\$1,832,653
				Value/Cost			87%
Property Acquisition	\$70		\$700,000	Return on Cost (ROC)			5.23%
Direct Construction Cost	\$105		\$1,048,000	ESTIMATION OF VIABILITY GAP			
Soft Costs	\$27		\$265,840	Targeted Return on Cost (ROC)			7.2%
Contingencies	\$9		\$87,400	Calculated Gap-Income Components			\$574,029
Sale of Tax Credits	\$0	3.22%	\$ -	Overall Gap as % of Development Cost			27.3%
TOTAL / NET	\$210		\$2,101,240	Indicated Residual Value Per Square Foot			\$13

**OPTION 2B: SUBURBAN CONTEXT
STANDARD MARKET PARAMETERS**

January 20, 2015

AREA SUMMARY:				EQUITY ASSUMPTIONS:			
Site Size (SF):		10,000		Total Development Cost			\$3,914,892
Building Size (SF):		26,500		(-) Permanent Loan			(\$2,253,786)
FAR (Excluding Parking):		2.22		Tax Credit Percentage			3.22%
Building Efficiency:		87%		Tax Credit Discount Factor			80.00%
Saleable and Leasable Area (SF):		23,134		(-) Net Value of Tax Credits			\$0
INCOME SUMMARY:				PERMANENT FINANCING ASSUMPTIONS:			
				Net Permanent Loan Equity Required	42.4%		\$1,661,106
	Total SF/Units	Average Rent/SF	Income		DCR	LTV	LTC
Retail Space	2,400	\$18.00	\$43,200	Interest Rate	5.50%	5.50%	5.5%
Live / Work	0	\$14.94	\$0	Term (Years)	25	25	30
Market Rate Apartments	16,434	\$14.94	\$245,524	Debt-Coverage Ratio	1.25		
Affordable Apartments	0	\$12.77	\$0	Loan-to-Value		75%	80%
Parking - Podium	4,300	\$1.71	\$7,371	Stabilized NOI (Year 2)	\$207,603	\$207,603	
Operating Expenses		32.0%	(\$78,568)	CAP Rate		6.00%	
Vacancy/Collection		5.0%	(\$14,805)	Supportable Mortgage	\$2,253,786	\$2,595,041	\$3,131,914
TOTAL	23,134	\$8.76	\$202,723	Annual Debt Service	\$166,083	\$191,230	\$213,392
COST SUMMARY:				MEASURES OF RETURN:			
	Per SF		Total	Indicated Value @ Stabilization			\$3,460,054
Property Acquisition	\$70		\$700,000	Value/Cost			88%
Direct Construction Cost	\$92		\$2,451,000	Return on Cost (ROC)			5.30%
Soft Costs	\$23		\$606,342	ESTIMATION OF VIABILITY GAP			
Contingencies	\$6		\$157,550	Targeted Return on Cost (ROC)			7.20%
Sale of Tax Credits	\$0	3.22%	\$0	Calculated Gap-Income Components			\$1,031,514
TOTAL / NET	\$148		\$3,914,892	Overall Gap as % of Development Cost			26.35%
				Indicated Residual Value Per Square Foot			-\$33

**OPTION 2B: 20% OF UNITS AT 60% MFI
CLOSE IN NEIGHBORHOOD**

April 9, 2015

AREA SUMMARY:				EQUITY ASSUMPTIONS:			
Site Size (SF):	10,000			Total Development Cost	\$3,896,931		
Building Size (SF):	26,500			(-) Permanent Loan	(\$3,010,920)		
FAR (Excluding Parking):	2.22			Tax Credit Percentage	3.22%		
Building Efficiency:	71%			Tax Credit Discount Factor	80.00%		
Saleable and Leasable Area (SF):	18,834			(-) Net Value of Tax Credits	\$0		
INCOME SUMMARY:				PERMANENT FINANCING ASSUMPTIONS:			
				Net Permanent Loan Equity Required	22.7%	\$886,011	
	Total	Average	Income	PERMANENT FINANCING ASSUMPTIONS:			
	SF/Units	Rent/SF			DCR	LTV	LTC
Retail Space	2,400	\$22.00	\$52,800	Interest Rate	5.50%	5.50%	5.50%
Live / Work	0	\$21.91	\$0	Term (Years)	25	25	30
Market Rate Apartments	13,147	\$21.91	\$288,081	Debt-Coverage Ratio	1.25		
Affordable Apartments	3,287	\$12.77	\$41,962	Loan-to-Value		75%	80%
Parking - Surface	4,300	\$3.09	\$13,269	Stabilized NOI (Year 2)	\$277,345	\$277,345	
Operating Expenses		32.0%	(\$105,614)	CAP Rate		6.00%	
Vacancy/Collection		5.0%	(\$19,806)	Supportable Mortgage	\$3,010,920	\$3,466,815	\$3,117,545
TOTAL	23,134	\$11.70	\$270,693	Annual Debt Service	\$221,876	\$255,471	\$212,413
COST SUMMARY:				MEASURES OF RETURN:			
	Per SF		Total	MEASURES OF RETURN:			
Property Acquisition	\$70		\$700,000	Indicated Value @ Stabilization			
Direct Construction Cost	\$92		\$2,451,000	\$4,622,420			
Soft Costs	\$22		\$588,381	Value/Cost			
Contingencies	\$6		\$157,550	119%			
Sale of Tax Credits	\$0	3.22%	\$0	Return on Cost (ROC)			
TOTAL / NET	\$147		\$3,896,931	7.12%			
				ESTIMATION OF VIABILITY GAP			
				Targeted Return on Cost (ROC)			
				7.20%			
				Calculated Gap-Income Components			
				\$44,914			
				Overall Gap as % of Development Cost			
				1.15%			
				Indicated Residual Value Per Square Foot			
				\$66			

**OPTION 2B: 20% OF UNITS AT 80% MFI
CLOSE IN NEIGHBORHOOD**

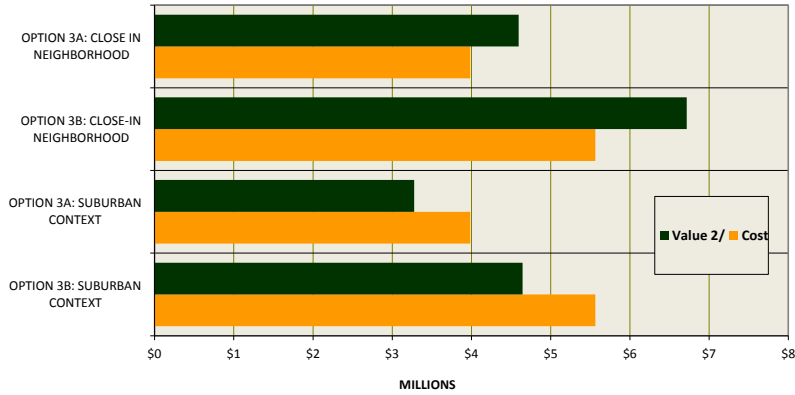
April 9, 2015

AREA SUMMARY:				EQUITY ASSUMPTIONS:			
Site Size (SF):		10,000		Total Development Cost			\$3,896,931
Building Size (SF):		26,500		(-) Permanent Loan			(\$3,117,545)
FAR (Excluding Parking):		2.22		Tax Credit Percentage			3.22%
Building Efficiency:		87%		Tax Credit Discount Factor			80.00%
Saleable and Leasable Area (SF):		23,134		(-) Net Value of Tax Credits			\$0
INCOME SUMMARY:				Net Permanent Loan Equity Required	20.0%		\$779,386
	Total SF/Units	Average Rent/SF	Income	PERMANENT FINANCING ASSUMPTIONS:			
					DCR	LTV	LTC
Retail Space	2,400	\$22.00	\$52,800	Interest Rate	5.50%	5.50%	5.50%
Live / Work	0	\$21.91	\$0	Term (Years)	25	25	30
Market Rate Apartments	13,147	\$21.91	\$288,081	Debt-Coverage Ratio	1.25		
Affordable Apartments	3,287	\$17.02	\$55,950	Loan-to-Value		75%	80%
Parking - Structured	4,300	\$4.80	\$20,640	Stabilized NOI (Year 2)	\$293,635	\$293,635	
Operating Expenses		32.0%	(\$110,090)	CAP Rate		6.00%	
Vacancy/Collection		5.0%	(\$20,874)	Supportable Mortgage	\$3,187,761	\$3,670,433	\$3,117,545
TOTAL	23,134	\$12.38	\$286,508	Annual Debt Service	\$234,908	\$270,476	\$212,413
COST SUMMARY:				MEASURES OF RETURN:			
	Per SF		Total	Indicated Value @ Stabilization			\$4,893,910
Property Acquisition	\$70		\$700,000	Value/Cost			126%
Direct Construction Cost	\$92		\$2,451,000	Return on Cost (ROC)			7.54%
Soft Costs	\$22		\$588,381	ESTIMATION OF VIABILITY GAP			
Contingencies	\$6		\$157,550	Targeted Return on Cost (ROC)			7.20%
Sale of Tax Credits	\$0	3.22%	\$0	Calculated Gap-Income Components			(\$181,328)
TOTAL / NET	\$147		\$3,896,931	Overall Gap as % of Development Cost			-4.65%
				Indicated Residual Value Per Square Foot			\$88

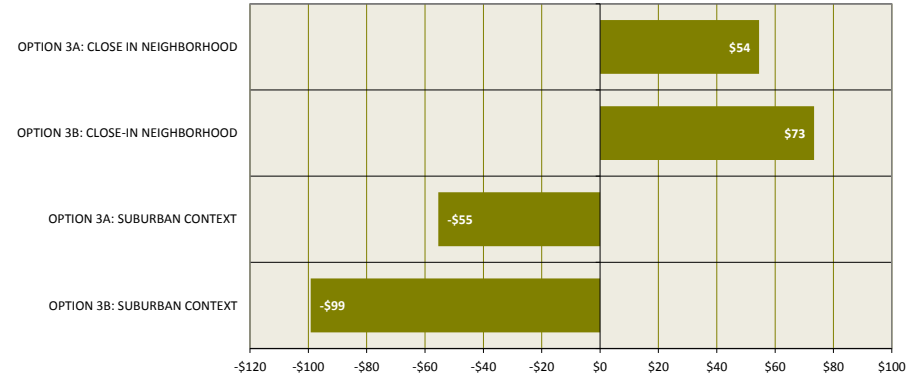
**SUMMARY OF DEVELOPMENT SCENARIOS
MIXED USE ZONING PROTOTYPES**

Option	Program			Costs			Stabilized NOI	Return on Cost	Indicated Value 1/	Value/ Cost	Calculated Viability Gap		Indicated Residual Land Value	
	Res S.F.	Retail S.F.	Parking Spaces	Property Acquisition	Hard & Soft	Total Cost					Total 2/	% of Cost	Total	PSF
OPTION 3A: CLOSE IN NEIGHBORHOOD	13,778	3,400	6	\$700,000	\$3,285,240	\$3,985,240	\$275,773	6.92%	\$4,596,217	115%	\$155,060	3.9%	\$544,940	\$54
OPTION 3B: CLOSE-IN NEIGHBORHOOD	23,323	2,550	10	\$700,000	\$4,864,041	\$5,564,041	\$403,039	7.24%	\$6,717,318	121%	(\$33,723)	-0.6%	\$733,723	\$73
OPTION 3A: SUBURBAN CONTEXT	13,778	3,400	6	\$700,000	\$3,285,240	\$3,985,240	\$196,619	4.93%	\$3,276,975	82%	\$1,254,427	31.5%	(\$554,427)	(\$55)
OPTION 3B: SUBURBAN CONTEXT	23,323	2,550	10	\$700,000	\$4,864,041	\$5,564,041	\$278,784	5.01%	\$4,646,406	84%	\$1,692,036	30.4%	(\$992,036)	(\$99)

COST AND STABILIZED VALUE



INDICATED RESIDUAL LAND VALUE/SF



1/ Reflects capitalized value at first stabilized year. Not intended as a legal representation of value.

**OPTION 3A: CLOSE IN NEIGHBORHOOD
STANDARD MARKET PARAMETERS**

January 20, 2015

AREA SUMMARY:				EQUITY ASSUMPTIONS:			
Site Size (SF):	10,000			Total Development Cost			\$3,985,240
Building Size (SF):	22,900			(-) Permanent Loan			(\$2,993,851)
FAR (Excluding Parking):	2.00			Tax Credit Percentage			3.22%
Building Efficiency:	88%			Tax Credit Discount Factor			80.00%
Saleable and Leasable Area (SF):	20,078			(-) Net Value of Tax Credits			\$0
INCOME SUMMARY:				Net Permanent Loan Equity Required	24.9%		\$991,389
	Total	Average		PERMANENT FINANCING ASSUMPTIONS:			
	SF/Units	Rent/SF	Income		DCR	LTV	LTC
Retail Space	3,400	\$22.00	\$74,800	Interest Rate	5.50%	5.50%	5.5%
Live / Work	0	\$21.91	\$0	Term (Years)	25	25	30
Market Rate Apartments	13,778	\$21.91	\$301,904	Debt-Coverage Ratio	1.25		
Affordable Apartments	0	\$12.77	\$0	Loan-to-Value		75%	80%
Parking - Structure	2,900	\$3.09	\$8,949	Stabilized NOI (Year 2)	\$275,773	\$275,773	
Operating Expenses		32.0%	(\$96,609)	CAP Rate		6.00%	
Vacancy/Collection		5.0%	(\$19,283)	Supportable Mortgage	\$2,993,851	\$3,447,162	\$3,188,192
TOTAL	20,078	\$13.44	\$269,760	Annual Debt Service	\$220,618	\$254,023	\$217,226
COST SUMMARY:				MEASURES OF RETURN:			
	Per SF		Total	Indicated Value @ Stabilization			\$4,596,217
Property Acquisition	\$70		\$700,000	Value/Cost			115%
Direct Construction Cost	\$109		\$2,493,000	Return on Cost (ROC)			6.92%
Soft Costs	\$28		\$632,590	ESTIMATION OF VIABILITY GAP			
Contingencies	\$16		\$159,650	Targeted Return on Cost (ROC)			7.20%
Sale of Tax Credits	\$0	3.22%	\$0	Calculated Gap-Income Components			\$155,060
TOTAL / NET	\$174		\$3,985,240	Overall Gap as % of Development Cost			3.89%
				Indicated Residual Value Per Square Foot			\$54

OPTION 3B: CLOSE-IN NEIGHBORHOOD STANDARD MARKET PARAMETERS

January 20, 2015

AREA SUMMARY:				EQUITY ASSUMPTIONS:			
Site Size (SF):		10,000		Total Development Cost			\$5,564,041
Building Size (SF):		34,500		(-) Permanent Loan			(\$4,375,479)
FAR (Excluding Parking):		3.07		Tax Credit Percentage			3.22%
Building Efficiency:		86%		Tax Credit Discount Factor			80.00%
Saleable and Leasable Area (SF):		29,723		(-) Net Value of Tax Credits			\$0
INCOME SUMMARY:				Net Permanent Loan Equity Required	21.4%		\$1,188,562
	Total SF/Units	Average Rent/SF	Income	PERMANENT FINANCING ASSUMPTIONS:			
					DCR	LTV	LTC
Retail Space	2,550	\$22.00	\$56,100	Interest Rate	5.50%	5.50%	5.5%
Live / Work	0	\$21.91	\$0	Term (Years)	25	25	30
Market Rate Apartments	23,323	\$21.91	\$511,054	Debt-Coverage Ratio	1.25		
Affordable Apartments	0	\$12.77	\$0	Loan-to-Value		75%	80%
Parking - Structured	3,850	\$4.80	\$18,480	Stabilized NOI (Year 2)	\$403,039	\$403,039	
Operating Expenses		32.0%	(\$163,537)	CAP Rate		6.00%	
Vacancy/Collection		5.0%	(\$29,282)	Supportable Mortgage	\$4,375,479	\$5,037,988	\$4,451,233
TOTAL	29,723	\$13.22	\$392,815	Annual Debt Service	\$322,431	\$371,252	\$303,283
COST SUMMARY:				MEASURES OF RETURN:			
	Per SF		Total	Indicated Value @ Stabilization			\$6,717,318
				Value/Cost			121%
Property Acquisition	\$70		\$700,000	Return on Cost (ROC)			7.24%
Direct Construction Cost	\$107		\$3,691,750	ESTIMATION OF VIABILITY GAP			
Soft Costs	\$28		\$952,704	Targeted Return on Cost (ROC)			7.20%
Contingencies	\$22		\$219,588	Calculated Gap-Income Components			(\$33,723)
Sale of Tax Credits	\$0	3.22%	\$0	Overall Gap as % of Development Cost			-0.61%
TOTAL / NET	\$161		\$5,564,041				

**OPTION 3A: SUBURBAN CONTEXT
STANDARD MARKET PARAMETERS**

January 20, 2015

AREA SUMMARY:				EQUITY ASSUMPTIONS:				
Site Size (SF):		10,000		Total Development Cost			\$3,985,240	
Building Size (SF):		22,900		(-) Permanent Loan			(\$2,134,533)	
FAR (Excluding Parking):		2.00		Tax Credit Percentage			3.22%	
Building Efficiency:		88%		Tax Credit Discount Factor			80.00%	
Saleable and Leasable Area (SF):		20,078		(-) Net Value of Tax Credits			\$0	
INCOME SUMMARY:				Net Permanent Loan Equity Required	46.4%		\$1,850,707	
	Total SF/Units	Average Rent/SF	Income	PERMANENT FINANCING ASSUMPTIONS:				
					DCR	LTV	LTC	
Retail Space	3,400	\$18.00	\$61,200	Interest Rate	5.50%	5.50%	5.5%	
Live / Work	0	\$14.94	\$0	Term (Years)	25	25	30	
Market Rate Apartments	13,778	\$14.94	\$205,843	Debt-Coverage Ratio	1.25			
Affordable Apartments	0	\$12.77	\$0	Loan-to-Value		75%	80%	
Parking	2,900	\$1.71	\$4,971	Stabilized NOI (Year 2)	\$196,619	\$196,619		
Operating Expenses		32.0%	(\$65,870)	CAP Rate		6.00%		
Vacancy/Collection		5.0%	(\$13,601)	Supportable Mortgage	\$2,134,533	\$2,457,731	\$3,188,192	
TOTAL	20,078	\$9.59	\$192,544	Annual Debt Service	\$157,295	\$181,111	\$217,226	
COST SUMMARY:				MEASURES OF RETURN:				
	Per SF		Total	Indicated Value @ Stabilization				\$3,276,975
				Value/Cost				82%
Property Acquisition	\$70		\$700,000	Return on Cost (ROC)				4.93%
Direct Construction Cost	\$109		\$2,493,000	ESTIMATION OF VIABILITY GAP				
Soft Costs	\$28		\$632,590	Targeted Return on Cost (ROC)				7.20%
Contingencies	\$16		\$159,650	Calculated Gap-Income Components				\$1,254,427
Sale of Tax Credits	\$0	3.22%	\$ -	Overall Gap as % of Development Cost				31.48%
TOTAL / NET	\$174		\$3,985,240	Indicated Residual Value Per Square Foot				-\$55

**OPTION 3B: SUBURBAN CONTEXT
STANDARD MARKET PARAMETERS**

January 20, 2015

AREA SUMMARY:				EQUITY ASSUMPTIONS:			
Site Size (SF):		10,000		Total Development Cost			\$5,564,041
Building Size (SF):		34,500		(-) Permanent Loan			(\$3,026,543)
FAR (Excluding Parking):		3.07		Tax Credit Percentage			3.22%
Building Efficiency:		86%		Tax Credit Discount Factor			80.00%
Saleable and Leasable Area (SF):		29,723		(-) Net Value of Tax Credits			\$0
INCOME SUMMARY:				PERMANENT FINANCING ASSUMPTIONS:			
	Total	Average	Income		DCR	LTV	LTC
	SF/Units	Rent/SF					
Retail Space	2,550	\$18.00	\$45,900	Interest Rate	5.50%	5.50%	5.5%
Live / Work	0	\$14.94	\$0	Term (Years)	25	25	30
Market Rate Apartments	23,323	\$14.94	\$348,446	Debt-Coverage Ratio	1.25		
Affordable Apartments	0	\$12.77	\$0	Loan-to-Value		75%	80%
Parking - Podium	3,850	\$2.40	\$9,240	Stabilized NOI (Year 2)	\$278,784	\$278,784	
Operating Expenses		32.0%	(\$111,503)	CAP Rate		6.00%	
Vacancy/Collection		5.0%	(\$20,179)	Supportable Mortgage	\$3,026,543	\$3,484,805	\$4,451,233
TOTAL	29,723	\$9.15	\$271,904	Annual Debt Service	\$223,027	\$256,797	\$303,283
COST SUMMARY:				MEASURES OF RETURN:			
	Per SF		Total	Indicated Value @ Stabilization			\$4,646,406
Property Acquisition	\$70		\$700,000	Value/Cost			84%
Direct Construction Cost	\$107		\$3,691,750	Return on Cost (ROC)			5.01%
Soft Costs	\$28		\$952,704	ESTIMATION OF VIABILITY GAP			
Contingencies	\$22		\$219,588	Targeted Return on Cost (ROC)			7.20%
Sale of Tax Credits	\$0	3.22%	\$0	Calculated Gap-Income Components			\$1,692,036
TOTAL / NET	\$161		\$5,564,041	Overall Gap as % of Development Cost			30.41%
				Indicated Residual Value Per Square Foot			-\$99

**OPTION 3A: 20% OF UNITS AT 60% MFI
CLOSE IN NEIGHBORHOOD**

April 9, 2015

AREA SUMMARY:				EQUITY ASSUMPTIONS:			
Site Size (SF):	10,000			Total Development Cost			\$5,564,041
Building Size (SF):	34,500			(-) Permanent Loan			(\$4,074,971)
FAR (Excluding Parking):	3.07			Tax Credit Percentage			3.22%
Building Efficiency:	75%			Tax Credit Discount Factor			80.00%
Saleable and Leasable Area (SF):	25,873			(-) Net Value of Tax Credits			\$0
INCOME SUMMARY:				Net Permanent Loan Equity Required	26.8%		\$1,489,070
	Total	Average	Income	PERMANENT FINANCING ASSUMPTIONS:			
	SF/Units	Rent/SF		DCR	LTV	LTC	
Retail Space	2,550	\$22.00	\$56,100	Interest Rate	5.50%	5.50%	5.50%
Live / Work	0	\$21.91	\$0	Term (Years)	25	25	30
Market Rate Apartments	18,658	\$21.91	\$408,843	Debt-Coverage Ratio	1.25		
Affordable Apartments	4,665	\$12.77	\$59,553	Loan-to-Value		75%	80%
Parking - Surface	3,850	\$4.80	\$18,480	Stabilized NOI (Year 2)	\$375,358	\$375,358	
Operating Expenses		32.0%	(\$149,887)	CAP Rate		6.00%	
Vacancy/Collection		5.0%	(\$27,149)	Supportable Mortgage	\$4,074,971	\$4,691,979	\$4,451,233
TOTAL	29,723	\$12.31	\$365,940	Annual Debt Service	\$300,287	\$345,754	\$303,283
COST SUMMARY:				MEASURES OF RETURN:			
	Per SF		Total	Indicated Value @ Stabilization			\$6,255,972
					Value/Cost		
Property Acquisition	\$70		\$700,000	Return on Cost (ROC)			6.75%
Direct Construction Cost	\$107		\$3,691,750	ESTIMATION OF VIABILITY GAP			
Soft Costs	\$28		\$952,704	Targeted Return on Cost (ROC)			7.20%
Contingencies	\$6		\$219,588	Calculated Gap-Income Components			\$350,732
Sale of Tax Credits	\$0	3.22%	\$0	Overall Gap as % of Development Cost			6.30%
TOTAL / NET	\$161		\$5,564,041	Indicated Residual Value Per Square Foot			\$35

**OPTION 3B: 20% OF UNITS AT 80% MFI
CLOSE IN NEIGHBORHOOD**

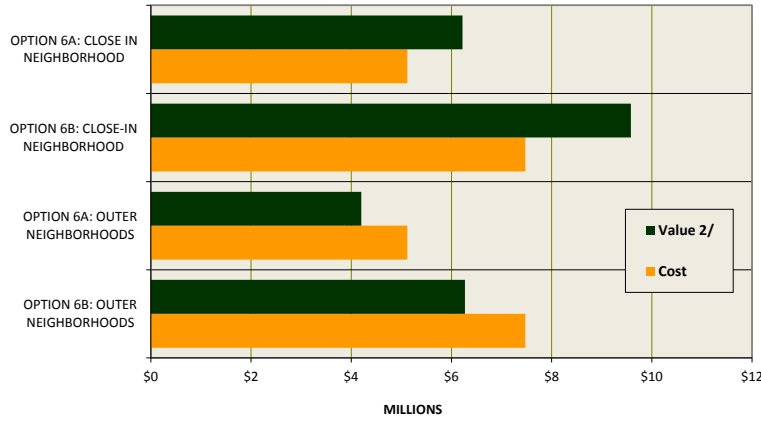
April 9, 2015

AREA SUMMARY:				EQUITY ASSUMPTIONS:			
Site Size (SF):		10,000		Total Development Cost			\$5,564,041
Building Size (SF):		34,500		(-) Permanent Loan			(\$4,214,813)
FAR (Excluding Parking):		3.07		Tax Credit Percentage			3.22%
Building Efficiency:		86%		Tax Credit Discount Factor			80.00%
Saleable and Leasable Area (SF):		29,723		(-) Net Value of Tax Credits			\$0
INCOME SUMMARY:				Net Permanent Loan Equity Required	24.2%		\$1,349,229
	Total SF/Units	Average Rent/SF	Income	PERMANENT FINANCING ASSUMPTIONS:			
					DCR	LTV	LTC
Retail Space	2,550	\$22.00	\$56,100	Interest Rate	5.50%	5.50%	5.50%
Live / Work	0	\$21.91	\$0	Term (Years)	25	25	30
Market Rate Apartments	18,658	\$21.91	\$408,843	Debt-Coverage Ratio	1.25		
Affordable Apartments	4,665	\$17.02	\$79,404	Loan-to-Value		75%	80%
Parking - Structured	3,850	\$4.80	\$18,480	Stabilized NOI (Year 2)	\$388,240	\$388,240	
Operating Expenses		32.0%	(\$156,239)	CAP Rate		6.00%	
Vacancy/Collection		5.0%	(\$28,141)	Supportable Mortgage	\$4,214,813	\$4,852,994	\$4,451,233
TOTAL	29,723	\$12.73	\$378,446	Annual Debt Service	\$310,592	\$357,620	\$303,283
COST SUMMARY:				MEASURES OF RETURN:			
	Per SF		Total	Indicated Value @ Stabilization			\$6,470,659
				Property Acquisition	\$70		\$700,000
Direct Construction Cost	\$107		\$3,691,750	Return on Cost (ROC)			6.98%
Soft Costs	\$28		\$952,704	ESTIMATION OF VIABILITY GAP			
Contingencies	\$6		\$219,588	Targeted Return on Cost (ROC)			7.20%
Sale of Tax Credits	\$0	3.22%	\$0	Calculated Gap-Income Components			\$171,825
TOTAL / NET	\$161		\$5,564,041	Overall Gap as % of Development Cost			3.09%
				Indicated Residual Value Per Square Foot			\$53

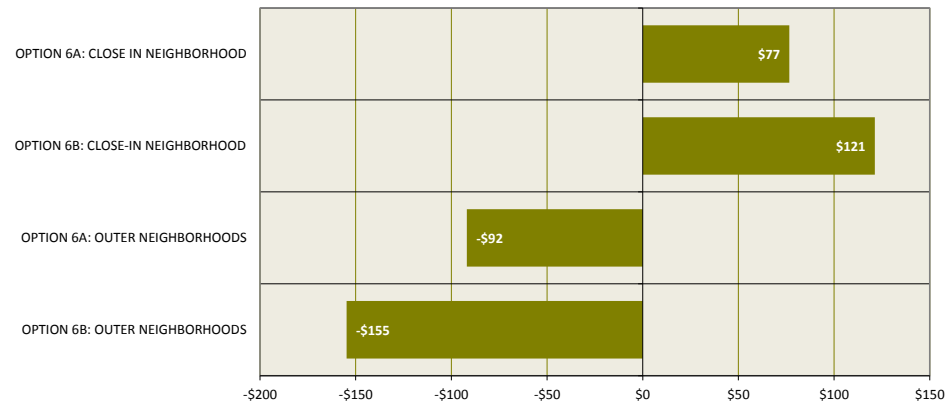
SUMMARY OF DEVELOPMENT SCENARIOS MIXED USE ZONING PROTOTYPES

Option	Program			Costs			Stabilized NOI	Return on Cost	Indicated Value 1/	Value/ Cost	Calculated Viability Gap		Indicated Residual Land Value	
	Res S.F.	Retail S.F.	Parking Spaces	Property Acquisition	Hard & Soft	Total Cost					Total 2/	% of Cost	Total	PSF
OPTION 6A: CLOSE IN NEIGHBORHOOD	21,497	2,050	11	\$700,000	\$4,418,555	\$5,118,555	\$373,299	7.29%	\$6,221,646	122%	(\$66,150)	-1.3%	\$766,150	\$77
OPTION 6B: CLOSE-IN NEIGHBORHOOD	35,400	1,300	12	\$700,000	\$6,773,377	\$7,473,377	\$575,009	7.69%	\$9,583,477	128%	(\$512,854)	-6.9%	\$1,212,854	\$121
OPTION 6A: OUTER NEIGHBORHOODS	21,497	2,050	11	\$700,000	\$4,418,555	\$5,118,555	\$251,939	4.92%	\$4,198,980	82%	\$1,619,405	31.6%	(\$919,405)	(\$92)
OPTION 6B: OUTER NEIGHBORHOODS	35,400	1,300	12	\$700,000	\$6,773,377	\$7,473,377	\$376,232	5.03%	\$6,270,526	84%	\$2,247,938	30.1%	(\$1,547,938)	(\$155)

COST AND STABILIZED VALUE



INDICATED RESIDUAL LAND VALUE/SF



1/ Reflects capitalized value at first stabilized year. Not intended as a legal representation of value.

**OPTION 6A: CLOSE IN NEIGHBORHOOD
STANDARD MARKET PARAMETERS**

January 20, 2015

AREA SUMMARY:				EQUITY ASSUMPTIONS:			
Site Size (SF):	10,000			Total Development Cost	\$5,118,555		
Building Size (SF):	31,550			(-) Permanent Loan	(\$4,052,612)		
FAR (Excluding Parking):	2.80			Tax Credit Percentage	3.22%		
Building Efficiency:	86%			Tax Credit Discount Factor	80.00%		
Saleable and Leasable Area (SF):	27,147			(-) Net Value of Tax Credits	\$0		
INCOME SUMMARY:				PERMANENT FINANCING ASSUMPTIONS:			
	Total SF/Units	Average Rent/SF	Income		DCR	LTV	LTC
Retail Space	2,050	\$22.00	\$45,100	Interest Rate	5.50%	5.50%	5.5%
Live / Work	0	\$22.91	\$0	Term (Years)	25	25	30
Market Rate Apartments	21,497	\$22.91	\$492,453	Debt-Coverage Ratio	1.25		
Affordable Apartments	0	\$12.77	\$0	Loan-to-Value		75%	80%
Parking - Structure	3,600	\$3.09	\$11,109	Stabilized NOI (Year 2)	\$373,299	\$373,299	
Operating Expenses		32.0%	(\$157,585)	CAP Rate		6.00%	
Vacancy/Collection		5.0%	(\$27,433)	Supportable Mortgage	\$4,052,612	\$4,666,235	\$4,094,844
TOTAL	27,147	\$13.40	\$363,644	Annual Debt Service	\$298,639	\$343,857	\$279,001
COST SUMMARY:				MEASURES OF RETURN:			
	Per SF		Total	Indicated Value @ Stabilization			
Property Acquisition	\$70		\$700,000	\$6,221,646			
Direct Construction Cost	\$107		\$3,362,250	Value/Cost			
Soft Costs	\$27		\$853,193	122%			
Contingencies	\$20		\$203,113	Return on Cost (ROC)			
Sale of Tax Credits	\$0	3.22%	\$0	7.29%			
TOTAL / NET	\$162		\$5,118,555	ESTIMATION OF VIABILITY GAP			
				Targeted Return on Cost (ROC)			
				7.20%			
				Calculated Gap-Income Components			
				(\$66,150)			
				Overall Gap as % of Development Cost			
				-1.29%			
				Indicated Residual Value Per Square Foot			
				\$77			

OPTION 6B: CLOSE-IN NEIGHBORHOOD STANDARD MARKET PARAMETERS

January 20, 2015

AREA SUMMARY:				EQUITY ASSUMPTIONS:				
Site Size (SF):	10,000			Total Development Cost	\$7,473,377			
Building Size (SF):	48,550			(-) Permanent Loan	(\$5,978,701)			
FAR (Excluding Parking):	4.40			Tax Credit Percentage	3.22%			
Building Efficiency:	85%			Tax Credit Discount Factor	80.00%			
Saleable and Leasable Area (SF):	41,300			(-) Net Value of Tax Credits	\$0			
INCOME SUMMARY:				Net Permanent Loan Equity Required	20.0%	\$1,494,675		
	Total SF/Units	Average Rent/SF	Income	PERMANENT FINANCING ASSUMPTIONS:				
					DCR	LTV	LTC	
Retail Space	1,300	\$22.00	\$28,600	Interest Rate	5.50%	5.50%	5.5%	
Live / Work	0	\$22.91	\$0	Term (Years)	25	25	30	
Market Rate Apartments	35,400	\$22.91	\$810,932	Debt-Coverage Ratio	1.25			
Affordable Apartments	0	\$12.77	\$0	Loan-to-Value		75%	80%	
Parking - Structured	4,600	\$4.80	\$22,080	Stabilized NOI (Year 2)	\$575,009	\$575,009		
Operating Expenses		32.0%	(\$259,498)	CAP Rate		6.00%		
Vacancy/Collection		5.0%	(\$43,081)	Supportable Mortgage	\$6,242,418	\$7,187,608	\$5,978,701	
TOTAL	41,300	\$13.54	\$559,033	Annual Debt Service	\$460,007	\$529,658	\$407,357	
COST SUMMARY:				MEASURES OF RETURN:				
	Per SF		Total	Indicated Value @ Stabilization				\$9,583,477
Property Acquisition	\$70		\$700,000	Value/Cost				128%
Direct Construction Cost	\$106		\$5,156,000	Return on Cost (ROC)				7.69%
Soft Costs	\$27		\$1,324,577	ESTIMATION OF VIABILITY GAP				
Contingencies	\$29		\$292,800	Targeted Return on Cost (ROC)				7.20%
Sale of Tax Credits	\$0	3.22%	\$0	Calculated Gap-Income Components				(\$512,854)
TOTAL / NET	\$154		\$7,473,377	Overall Gap as % of Development Cost				-6.86%

OPTION 6A: OUTER NEIGHBORHOODS STANDARD MARKET PARAMETERS

January 20, 2015

AREA SUMMARY:				EQUITY ASSUMPTIONS:			
Site Size (SF):		10,000		Total Development Cost			\$5,118,555
Building Size (SF):		31,550		(-) Permanent Loan			(\$2,735,102)
FAR (Excluding Parking):		2.80		Tax Credit Percentage			3.22%
Building Efficiency:		86%		Tax Credit Discount Factor			80.00%
Saleable and Leasable Area (SF):		27,147		(-) Net Value of Tax Credits			\$0
INCOME SUMMARY:				Net Permanent Loan Equity Required	46.6%		\$2,383,453
	Total SF/Units	Average Rent/SF	Income	PERMANENT FINANCING ASSUMPTIONS:			
					DCR	LTV	LTC
Retail Space	2,050	\$18.00	\$36,900	Interest Rate	5.50%	5.50%	5.5%
Live / Work	0	\$14.94	\$0	Term (Years)	25	25	30
Market Rate Apartments	21,497	\$14.94	\$321,165	Debt-Coverage Ratio	1.25		
Affordable Apartments	0	\$12.77	\$0	Loan-to-Value		75%	80%
Parking	3,600	\$2.40	\$8,640	Stabilized NOI (Year 2)	\$251,939	\$251,939	
Operating Expenses		32.0%	(\$102,773)	CAP Rate		6.00%	
Vacancy/Collection		5.0%	(\$18,335)	Supportable Mortgage	\$2,735,102	\$3,149,235	\$4,094,844
TOTAL	27,147	\$9.05	\$245,597	Annual Debt Service	\$201,551	\$232,069	\$279,001
COST SUMMARY:				MEASURES OF RETURN:			
	Per SF		Total	Indicated Value @ Stabilization			\$4,198,980
				Property Acquisition	\$70		\$700,000
Direct Construction Cost	\$107		\$3,362,250	Return on Cost (ROC)			4.92%
Soft Costs	\$27		\$853,193	ESTIMATION OF VIABILITY GAP			
Contingencies	\$20		\$203,113	Targeted Return on Cost (ROC)			7.20%
Sale of Tax Credits	\$0	3.22%	\$ -	Calculated Gap-Income Components			\$1,619,405
TOTAL / NET	\$162		\$5,118,555	Overall Gap as % of Development Cost			31.64%
				Indicated Residual Value Per Square Foot			-\$92

**OPTION 6B: OUTER NEIGHBORHOODS
STANDARD MARKET PARAMETERS**

January 20, 2015

AREA SUMMARY:				EQUITY ASSUMPTIONS:			
Site Size (SF):		10,000		Total Development Cost			\$7,473,377
Building Size (SF):		48,550		(-) Permanent Loan			(\$4,084,451)
FAR (Excluding Parking):		4.40		Tax Credit Percentage			3.22%
Building Efficiency:		85%		Tax Credit Discount Factor			80.00%
Saleable and Leasable Area (SF):		41,300		(-) Net Value of Tax Credits			\$0
INCOME SUMMARY:				Net Permanent Loan Equity Required	45.3%		\$3,388,925
	Total SF/Units	Average Rent/SF	Income	PERMANENT FINANCING ASSUMPTIONS:			
					DCR	LTV	LTC
Retail Space	1,300	\$18.00	\$23,400	Interest Rate	5.50%	5.50%	5.5%
Live / Work	0	\$14.94	\$0	Term (Years)	25	25	30
Market Rate Apartments	35,400	\$14.94	\$528,869	Debt-Coverage Ratio	1.25		
Affordable Apartments	0	\$12.77	\$0	Loan-to-Value		75%	80%
Parking - Podium	4,600	\$2.40	\$11,040	Stabilized NOI (Year 2)	\$376,232	\$376,232	
Operating Expenses		32.0%	(\$169,238)	CAP Rate		6.00%	
Vacancy/Collection		5.0%	(\$28,165)	Supportable Mortgage	\$4,084,451	\$4,702,895	\$5,978,701
TOTAL	41,300	\$8.86	\$365,905	Annual Debt Service	\$300,985	\$346,559	\$407,357
COST SUMMARY:				MEASURES OF RETURN:			
	Per SF		Total	Indicated Value @ Stabilization			\$6,270,526
				Property Acquisition	\$70		\$700,000
Direct Construction Cost	\$106		\$5,156,000	Return on Cost (ROC)			5.03%
Soft Costs	\$27		\$1,324,577	ESTIMATION OF VIABILITY GAP			
Contingencies	\$29		\$292,800	Targeted Return on Cost (ROC)			7.20%
Sale of Tax Credits	\$0	3.22%	\$0	Calculated Gap-Income Components			\$2,247,938
TOTAL / NET	\$154		\$7,473,377	Overall Gap as % of Development Cost			30.08%
				Indicated Residual Value Per Square Foot			-\$155

**OPTION 6A: 20% OF UNITS AT 60% MFI
CLOSE IN NEIGHBORHOOD**

April 9, 2015

AREA SUMMARY:				EQUITY ASSUMPTIONS:			
Site Size (SF):	10,000			Total Development Cost	\$7,473,377		
Building Size (SF):	48,550			(-) Permanent Loan	(\$5,736,706)		
FAR (Excluding Parking):	4.40			Tax Credit Percentage	3.22%		
Building Efficiency:	76%			Tax Credit Discount Factor	80.00%		
Saleable and Leasable Area (SF):	36,700			(-) Net Value of Tax Credits	\$0		
INCOME SUMMARY:				Net Permanent Loan Equity Required	23.2% \$1,736,670		
	Total SF/Units	Average Rent/SF	Income	PERMANENT FINANCING ASSUMPTIONS:			
Retail Space	1,300	\$22.00	\$28,600	Interest Rate	5.50%	5.50%	5.50%
Live / Work	0	\$22.91	\$0	Term (Years)	25	25	30
Market Rate Apartments	28,320	\$22.91	\$648,755	Debt-Coverage Ratio	1.25		
Affordable Apartments	7,080	\$12.77	\$90,390	Loan-to-Value	75% 80%		
Parking - Surface	4,600	\$4.80	\$22,080	Stabilized NOI (Year 2)	\$528,426	\$528,426	
Operating Expenses	0	32.0%	(\$236,526)	CAP Rate	6.00%		
Vacancy/Collection		5.0%	(\$39,491)	Supportable Mortgage	\$5,736,706	\$6,605,324	\$5,978,701
TOTAL	41,300	\$12.44	\$513,807	Annual Debt Service	\$422,741	\$486,750	\$407,357
COST SUMMARY:				MEASURES OF RETURN:			
	Per SF		Total	Indicated Value @ Stabilization	\$8,807,099		
Property Acquisition	\$70		\$700,000	Value/Cost	118%		
Direct Construction Cost	\$106		\$5,156,000	Return on Cost (ROC)	7.07%		
Soft Costs	\$27		\$1,324,577	ESTIMATION OF VIABILITY GAP			
Contingencies	\$6		\$292,800	Targeted Return on Cost (ROC)	7.20%		
Sale of Tax Credits	\$0	3.22%	\$0	Calculated Gap-Income Components	\$134,127		
TOTAL / NET	\$154		\$7,473,377	Overall Gap as % of Development Cost	1.79%		
				Indicated Residual Value Per Square Foot	\$57		

**OPTION 6B: 20% OF UNITS AT 80% MFI
CLOSE IN NEIGHBORHOOD**

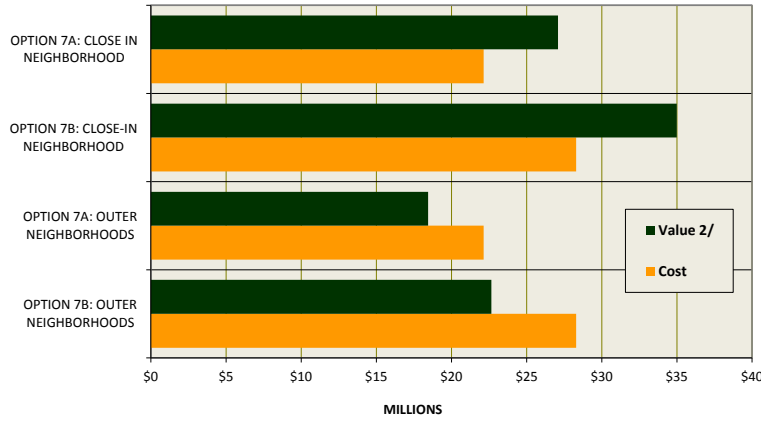
April 9, 2015

AREA SUMMARY:				EQUITY ASSUMPTIONS:			
Site Size (SF):		10,000		Total Development Cost			\$7,473,377
Building Size (SF):		48,550		(-) Permanent Loan			(\$5,948,960)
FAR (Excluding Parking):		4.40		Tax Credit Percentage			3.22%
Building Efficiency:		85%		Tax Credit Discount Factor			80.00%
Saleable and Leasable Area (SF):		41,300		(-) Net Value of Tax Credits			\$0
INCOME SUMMARY:				PERMANENT FINANCING ASSUMPTIONS:			
	Total SF/Units	Average Rent/SF	Income		DCR	LTV	LTC
Retail Space	1,300	\$22.00	\$28,600	Interest Rate	5.50%	5.50%	5.50%
Live / Work	0	\$22.91	\$0	Term (Years)	25	25	30
Market Rate Apartments	28,320	\$22.91	\$648,755	Debt-Coverage Ratio	1.25		
Affordable Apartments	7,080	\$17.02	\$120,520	Loan-to-Value		75%	80%
Parking - Structured	4,600	\$4.80	\$22,080	Stabilized NOI (Year 2)	\$547,977	\$547,977	
Operating Expenses		32.0%	(\$246,168)	CAP Rate		6.00%	
Vacancy/Collection		5.0%	(\$40,998)	Supportable Mortgage	\$5,948,960	\$6,849,717	\$5,978,701
TOTAL	41,300	\$12.90	\$532,789	Annual Debt Service	\$438,382	\$504,759	\$407,357
COST SUMMARY:				MEASURES OF RETURN:			
	Per SF		Total	Indicated Value @ Stabilization			\$9,132,955
Property Acquisition	\$70		\$700,000	Value/Cost			122%
Direct Construction Cost	\$106		\$5,156,000	Return on Cost (ROC)			7.33%
Soft Costs	\$27		\$1,324,577	ESTIMATION OF VIABILITY GAP			
Contingencies	\$6		\$292,800	Targeted Return on Cost (ROC)			7.20%
Sale of Tax Credits	\$0	3.22%	\$0	Calculated Gap-Income Components			(\$137,419)
TOTAL / NET	\$154		\$7,473,377	Overall Gap as % of Development Cost			-1.84%
				Indicated Residual Value Per Square Foot			\$84

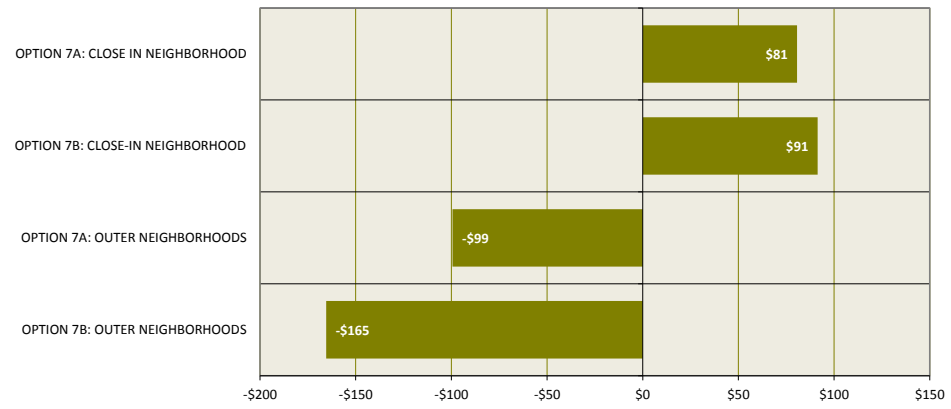
**SUMMARY OF DEVELOPMENT SCENARIOS
MIXED USE ZONING PROTOTYPES**

Option	Program			Costs			Stabilized NOI	Return on Cost	Indicated Value 1/	Value/ Cost	Calculated Viability Gap		Indicated Residual Land Value	
	Res S.F.	Retail S.F.	Parking Spaces	Property Acquisition	Hard & Soft	Total Cost					Total 2/	% of Cost	Total	PSF
OPTION 7A: CLOSE IN NEIGHBORHOOD	89,640	11,800	44	\$2,800,000	\$19,345,480	\$22,145,480	\$1,625,192	7.34%	\$27,086,538	122%	(\$426,635)	-1.9%	\$3,226,635	\$81
OPTION 7B: CLOSE-IN NEIGHBORHOOD	129,978	2,400	68	\$2,800,000	\$25,500,345	\$28,300,345	\$2,099,270	7.42%	\$34,987,831	124%	(\$856,181)	-3.0%	\$3,656,181	\$91
OPTION 7A: OUTER NEIGHBORHOODS	89,640	11,800	44	\$2,800,000	\$19,345,480	\$22,145,480	\$1,106,643	5.00%	\$18,444,052	83%	\$6,775,436	30.6%	(\$3,975,436)	(\$99)
OPTION 7B: OUTER NEIGHBORHOODS	129,978	2,400	68	\$2,800,000	\$25,500,345	\$28,300,345	\$1,359,625	4.80%	\$22,660,421	80%	\$9,416,661	33.3%	(\$6,616,661)	(\$165)

COST AND STABILIZED VALUE



INDICATED RESIDUAL LAND VALUE/SF



1/ Reflects capitalized value at first stabilized year. Not intended as a legal representation of value.

**OPTION 7A: CLOSE IN NEIGHBORHOOD
STANDARD MARKET PARAMETERS**

January 20, 2015

AREA SUMMARY:				EQUITY ASSUMPTIONS:			
Site Size (SF):	40,000			Total Development Cost	\$22,145,480		
Building Size (SF):	135,000			(-) Permanent Loan	(\$17,643,439)		
FAR (Excluding Parking):	3.00			Tax Credit Percentage	3.22%		
Building Efficiency:	86%			Tax Credit Discount Factor	80.00%		
Saleable and Leasable Area (SF):	116,640			(-) Net Value of Tax Credits	\$0		
INCOME SUMMARY:				Net Permanent Loan Equity Required	20.3%	\$4,502,041	
	Total SF/Units	Average Rent/SF	Income	PERMANENT FINANCING ASSUMPTIONS:			
Retail Space	11,800	\$22.00	\$259,600	Interest Rate	5.50%	5.50%	5.5%
Live / Work	0	\$22.91	\$0	Term (Years)	25	25	30
Market Rate Apartments	89,640	\$22.91	\$2,053,473	Debt-Coverage Ratio	1.25		
Affordable Apartments	0	\$12.77	\$0	Loan-to-Value	75%		
Parking - Structure	15,200	\$3.09	\$46,903	Stabilized NOI (Year 2)	\$1,625,192	\$1,625,192	
Operating Expenses		32.0%	(\$657,111)	CAP Rate	6.00%		
Vacancy/Collection		5.0%	(\$117,999)	Supportable Mortgage	\$17,643,439	\$20,314,903	\$17,716,384
TOTAL	116,640	\$13.59	\$1,584,866	Annual Debt Service	\$1,300,154	\$1,497,015	\$1,207,100
COST SUMMARY:				MEASURES OF RETURN:			
	Per SF		Total	Indicated Value @ Stabilization	\$27,086,538		
Property Acquisition	\$70		\$2,800,000	Value/Cost	122%		
Direct Construction Cost	\$109		\$14,731,000	Return on Cost (ROC)	7.34%		
Soft Costs	\$28		\$3,737,930	ESTIMATION OF VIABILITY GAP			
Contingencies	\$22		\$876,550	Targeted Return on Cost (ROC)	7.20%		
Sale of Tax Credits	\$0	3.22%	\$0	Calculated Gap-Income Components	(\$426,635)		
TOTAL / NET	\$164		\$22,145,480	Overall Gap as % of Development Cost	-1.93%		
				Indicated Residual Value Per Square Foot	\$81		

OPTION 7B: CLOSE-IN NEIGHBORHOOD STANDARD MARKET PARAMETERS

January 20, 2015

AREA SUMMARY:				EQUITY ASSUMPTIONS:			
Site Size (SF):		40,000		Total Development Cost			\$28,300,345
Building Size (SF):		183,900		(-) Permanent Loan			(\$22,640,276)
FAR (Excluding Parking):		3.98		Tax Credit Percentage			3.22%
Building Efficiency:		86%		Tax Credit Discount Factor			80.00%
Saleable and Leasable Area (SF):		157,278		(-) Net Value of Tax Credits			\$0
INCOME SUMMARY:				Net Permanent Loan Equity Required	20.0%		\$5,660,069
	Total SF/Units	Average Rent/SF	Income	PERMANENT FINANCING ASSUMPTIONS:			
					DCR	LTV	LTC
Retail Space	2,400	\$22.00	\$52,800	Interest Rate	5.50%	5.50%	5.5%
Live / Work	0	\$22.91	\$0	Term (Years)	25	25	30
Market Rate Apartments	129,978	\$22.91	\$2,977,536	Debt-Coverage Ratio	1.25		
Affordable Apartments	0	\$12.77	\$0	Loan-to-Value		75%	80%
Parking - Structured	24,900	\$4.80	\$119,520	Stabilized NOI (Year 2)	\$2,099,270	\$2,099,270	
Operating Expenses		32.0%	(\$952,812)	CAP Rate		6.00%	
Vacancy/Collection		5.0%	(\$157,493)	Supportable Mortgage	\$22,790,128	\$26,240,873	\$22,640,276
TOTAL	157,278	\$12.97	\$2,039,552	Annual Debt Service	\$1,679,416	\$1,933,703	\$1,542,588
COST SUMMARY:				MEASURES OF RETURN:			
	Per SF		Total	Indicated Value @ Stabilization			\$34,987,831
				Value/Cost			124%
Property Acquisition	\$70		\$2,800,000	Return on Cost (ROC)			7.42%
Direct Construction Cost	\$106		\$19,441,500	ESTIMATION OF VIABILITY GAP			
Soft Costs	\$27		\$4,946,770	Targeted Return on Cost (ROC)			7.20%
Contingencies	\$28		\$1,112,075	Calculated Gap-Income Components			(\$856,181)
Sale of Tax Credits	\$0	3.22%	\$0	Overall Gap as % of Development Cost			-3.03%
TOTAL / NET	\$154		\$28,300,345				

**OPTION 7A: OUTER NEIGHBORHOODS
STANDARD MARKET PARAMETERS**

January 20, 2015

AREA SUMMARY:				EQUITY ASSUMPTIONS:			
Site Size (SF):		40,000		Total Development Cost			\$22,145,480
Building Size (SF):		135,000		(-) Permanent Loan			(\$12,013,957)
FAR (Excluding Parking):		3.00		Tax Credit Percentage			3.22%
Building Efficiency:		86%		Tax Credit Discount Factor			80.00%
Saleable and Leasable Area (SF):		116,640		(-) Net Value of Tax Credits			\$0
INCOME SUMMARY:				Net Permanent Loan Equity Required	45.7%		\$10,131,523
	Total SF/Units	Average Rent/SF	Income	PERMANENT FINANCING ASSUMPTIONS:			
					DCR	LTV	LTC
Retail Space	11,800	\$18.00	\$212,400	Interest Rate	5.50%	5.50%	5.5%
Live / Work	0	\$14.94	\$0	Term (Years)	25	25	30
Market Rate Apartments	89,640	\$14.94	\$1,339,222	Debt-Coverage Ratio	1.25		
Affordable Apartments	0	\$12.77	\$0	Loan-to-Value		75%	80%
Parking	15,200	\$2.40	\$36,480	Stabilized NOI (Year 2)	\$1,106,643	\$1,106,643	
Operating Expenses		32.0%	(\$428,551)	CAP Rate		6.00%	
Vacancy/Collection		5.0%	(\$79,405)	Supportable Mortgage	\$12,013,957	\$13,833,039	\$17,716,384
TOTAL	116,640	\$9.26	\$1,080,146	Annual Debt Service	\$885,315	\$1,019,364	\$1,207,100
COST SUMMARY:				MEASURES OF RETURN:			
	Per SF		Total	Indicated Value @ Stabilization			\$18,444,052
				Property Acquisition	\$70		\$2,800,000
Direct Construction Cost	\$109		\$14,731,000	Return on Cost (ROC)			5.00%
Soft Costs	\$28		\$3,737,930	ESTIMATION OF VIABILITY GAP			
Contingencies	\$22		\$876,550	Targeted Return on Cost (ROC)			7.20%
Sale of Tax Credits	\$0	3.22%	\$ -	Calculated Gap-Income Components			\$6,775,436
TOTAL / NET	\$164		\$22,145,480	Overall Gap as % of Development Cost			30.60%
				Indicated Residual Value Per Square Foot			-\$99

**OPTION 7B: OUTER NEIGHBORHOODS
STANDARD MARKET PARAMETERS**

January 20, 2015

AREA SUMMARY:				EQUITY ASSUMPTIONS:			
Site Size (SF):		40,000		Total Development Cost			\$28,300,345
Building Size (SF):		183,900		(-) Permanent Loan			(\$14,760,386)
FAR (Excluding Parking):		3.98		Tax Credit Percentage			3.22%
Building Efficiency:		86%		Tax Credit Discount Factor			80.00%
Saleable and Leasable Area (SF):		157,278		(-) Net Value of Tax Credits			\$0
INCOME SUMMARY:				PERMANENT FINANCING ASSUMPTIONS:			
	Total SF/Units	Average Rent/SF	Income	Net Permanent Loan Equity Required		47.8%	\$13,539,959
				PERMANENT FINANCING ASSUMPTIONS:			
					DCR	LTV	LTC
Retail Space	2,400	\$18.00	\$43,200	Interest Rate	5.50%	5.50%	5.5%
Live / Work	0	\$14.94	\$0	Term (Years)	25	25	30
Market Rate Apartments	129,978	\$14.94	\$1,941,871	Debt-Coverage Ratio	1.25		
Affordable Apartments	0	\$12.77	\$0	Loan-to-Value		75%	80%
Parking - Podium	24,900	\$2.40	\$59,760	Stabilized NOI (Year 2)	\$1,359,625	\$1,359,625	
Operating Expenses		32.0%	(\$621,399)	CAP Rate		6.00%	
Vacancy/Collection		5.0%	(\$102,242)	Supportable Mortgage	\$14,760,386	\$16,995,316	\$22,640,276
TOTAL	157,278	\$8.40	\$1,321,191	Annual Debt Service	\$1,087,700	\$1,252,393	\$1,542,588
COST SUMMARY:				MEASURES OF RETURN:			
	Per SF		Total	Indicated Value @ Stabilization			\$22,660,421
Property Acquisition	\$70		\$2,800,000	Value/Cost			80%
Direct Construction Cost	\$106		\$19,441,500	Return on Cost (ROC)			4.80%
Soft Costs	\$27		\$4,946,770	ESTIMATION OF VIABILITY GAP			
Contingencies	\$28		\$1,112,075	Targeted Return on Cost (ROC)			7.20%
Sale of Tax Credits	\$0	3.22%	\$0	Calculated Gap-Income Components			\$9,416,661
TOTAL / NET	\$154		\$28,300,345	Overall Gap as % of Development Cost			33.27%
				Indicated Residual Value Per Square Foot			-\$165

**OPTION 7B: 20% OF UNITS AT 60% MFI
CLOSE IN NEIGHBORHOOD**

April 9, 2015

AREA SUMMARY:				EQUITY ASSUMPTIONS:				
Site Size (SF):	40,000			Total Development Cost	\$28,300,345			
Building Size (SF):	183,900			(-) Permanent Loan	(\$20,933,013)			
FAR (Excluding Parking):	3.98			Tax Credit Percentage	3.22%			
Building Efficiency:	72%			Tax Credit Discount Factor	80.00%			
Saleable and Leasable Area (SF):	132,378			(-) Net Value of Tax Credits	\$0			
INCOME SUMMARY:				Net Permanent Loan Equity Required	26.0% \$7,367,332			
	Total SF/Units	Average Rent/SF	Income	PERMANENT FINANCING ASSUMPTIONS:				
					DCR	LTV	LTC	
Retail Space	2,400	\$22.00	\$52,800		Interest Rate	5.50%	5.50%	5.50%
Live / Work	0	\$22.91	\$0	Term (Years)	25	25	30	
Market Rate Apartments	103,982	\$22.91	\$2,382,029	Debt-Coverage Ratio	1.25			
Affordable Apartments	25,996	\$12.77	\$331,885	Loan-to-Value	75% 80%			
Parking - Surface	24,900	\$4.80	\$119,520	Stabilized NOI (Year 2)	\$1,928,205	\$1,928,205		
Operating Expenses		32.0%	(\$868,452)	CAP Rate	6.00%			
Vacancy/Collection		5.0%	(\$144,312)	Supportable Mortgage	\$20,933,013	\$24,102,565	\$22,640,276	
TOTAL	157,278	\$11.91	\$1,873,470	Annual Debt Service	\$1,542,564	\$1,776,130	\$1,542,588	
COST SUMMARY:				MEASURES OF RETURN:				
	Per SF		Total	Indicated Value @ Stabilization				\$32,136,754
				Value/Cost				114%
Property Acquisition	\$70		\$2,800,000	Return on Cost (ROC)				6.81%
Direct Construction Cost	\$106		\$19,441,500	ESTIMATION OF VIABILITY GAP				
Soft Costs	\$27		\$4,946,770	Targeted Return on Cost (ROC)				7.20%
Contingencies	\$6		\$1,112,075	Calculated Gap-Income Components				\$1,519,717
Sale of Tax Credits	\$0	3.22%	\$0	Overall Gap as % of Development Cost				5.37%
TOTAL / NET	\$154		\$28,300,345	Indicated Residual Value Per Square Foot				\$32

**OPTION 7B: 20% OF UNITS AT 80% MFI
CLOSE IN NEIGHBORHOOD**

April 9, 2015

AREA SUMMARY:				EQUITY ASSUMPTIONS:			
Site Size (SF):		40,000		Total Development Cost			\$28,300,345
Building Size (SF):		183,900		(-) Permanent Loan			(\$21,712,345)
FAR (Excluding Parking):		3.98		Tax Credit Percentage			3.22%
Building Efficiency:		86%		Tax Credit Discount Factor			80.00%
Saleable and Leasable Area (SF):		157,278		(-) Net Value of Tax Credits			\$0
INCOME SUMMARY:				Net Permanent Loan Equity Required	23.3%		\$6,588,000
	Total SF/Units	Average Rent/SF	Income	PERMANENT FINANCING ASSUMPTIONS:			
					DCR	LTV	LTC
Retail Space	2,400	\$22.00	\$52,800	Interest Rate	5.50%	5.50%	5.50%
Live / Work	0	\$22.91	\$0	Term (Years)	25	25	30
Market Rate Apartments	103,982	\$22.91	\$2,382,029	Debt-Coverage Ratio	1.25		
Affordable Apartments	25,996	\$17.02	\$442,513	Loan-to-Value		75%	80%
Parking - Structured	24,900	\$4.80	\$119,520	Stabilized NOI (Year 2)	\$1,999,992	\$1,999,992	
Operating Expenses		32.0%	(\$903,853)	CAP Rate		6.00%	
Vacancy/Collection		5.0%	(\$149,843)	Supportable Mortgage	\$21,712,345	\$24,999,899	\$22,640,276
TOTAL	157,278	\$12.35	\$1,943,165	Annual Debt Service	\$1,599,994	\$1,842,255	\$1,542,588
COST SUMMARY:				MEASURES OF RETURN:			
	Per SF		Total	Indicated Value @ Stabilization			\$33,333,198
				Property Acquisition	\$70		\$2,800,000
Direct Construction Cost	\$106		\$19,441,500	Return on Cost (ROC)			7.07%
Soft Costs	\$27		\$4,946,770	ESTIMATION OF VIABILITY GAP			
Contingencies	\$6		\$1,112,075	Targeted Return on Cost (ROC)			7.20%
Sale of Tax Credits	\$0	3.22%	\$0	Calculated Gap-Income Components			\$522,680
TOTAL / NET	\$154		\$28,300,345	Overall Gap as % of Development Cost			1.85%
				Indicated Residual Value Per Square Foot			\$57

This page intentionally left blank.

Appendix C: Additional Economic Analysis

This page intentionally left blank.



MEMORANDUM

DATE: March 11, 2015

To: Barry Manning
BUREAU OF PLANNING AND SUSTAINABILITY

FROM: Jerry Johnson
JOHNSON ECONOMICS LLC

SUBJECT: Additional Economic Analysis

I. ECONOMIC FEASIBILITY MODELING

Johnson Economics was asked to model the economic feasibility of four prototypes, with the intent to determine the most economically feasible “base” allowed and “bonus” FAR scenarios. The work is based on market variables for inner eastside neighborhood markets, and models a range of affordable housing requirements in exchange for increased allowable FAR.

Marginal Value of Additional FAR

Calculating the marginal value of additional allowed FAR is challenging, as the ability to develop at higher densities is a function of site configuration and construction type. It is not always possible to develop the full increment of additional FAR on a specific site without changing the construction type, which typically shifts the construction cost per square foot higher. Our analysis will look at the marginal value of additional FAR assuming that construction types can be held constant, with the caveat that this is not always possible. In addition, the value of additional FAR is only calculated for close-in markets.

The underlying reason that allowing additional FAR has value is that it allows for a greater intensity of development on a site, which then supports a greater residual land value for the underlying property. Assuming a consistent cost of construction per square foot, as well as consistent achievable pricing and building efficiency, a marginal increase in leasable area will translate into an increase in supportable residual land value. The following table summarizes this basic relationship.



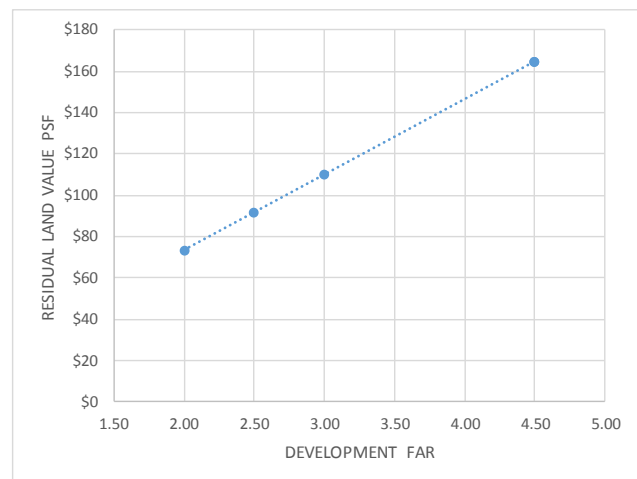
**IMPACT ON RESIDUAL LAND VALUE OF INCREMENTAL INCREASE IN FAR
2.5 FAR TO 3.0 FAR**

	Base FAR	Bonus FAR	Change
Income Characteristics			
Average Rent/SF:			
<i>Market - Close-In</i>	\$2.20	\$2.20	\$0.00
Efficiency Ratio	83%	83%	0%
Assumed Cap Rate	7.20%	7.20%	0.00%
Stabilized Occupancy Rate	95.0%	95.0%	0.0%
Operating Costs/% of Gross	32.0%	32.0%	0.0%
NOI at Stabilization PSF	\$14.16	\$14.16	\$0.00
Implied Value/SF	\$197	\$197	\$0
Project Construction Costs			
<i>Site Size/SF</i>	10,000	10,000	0
<i>Assumed FAR/Thousand</i>	2.50	3.00	0.50
<i>Gross Building Area</i>	25,000	30,000	5,000
<i>Cost PSF/Hard and Soft</i>	\$160	\$160	\$0
<i>Project Cost Excluding Land</i>	\$4,000,000	\$4,800,000	\$800,000
Residual Land Value			
<i>Threshold Yield</i>	7.20%	7.20%	0.00%
<i>Overall Supportable Cost</i>	\$4,914,983	\$5,897,980	\$982,997
<i>Indicated Residual Land Value</i>			
<i>Total</i>	\$914,983	\$1,097,980	\$182,997
<i>Per Square Foot</i>	\$91.50	\$109.80	\$18.30
VALUE OF FAR PSF OF BUILDING AREA			\$36.60

In the preceding example, a 10,000 square foot site is assumed to develop with an FAR of 2.5 and 3.0. Achievable pricing, building efficiency, the capitalization rate and operating cost ratios are held steady. In this example, the marginal shift in FAR of 0.5 increases the indicated residual land value by \$183,000, or \$18.30 per square foot.

This same exercise was performed for a range of prospective alternative allowable FAR scenarios, using the same 10,000 square foot site module. As cost and income variables are held constant, the relationship is linear, with each incremental of 0.5 FAR associated with a marginal increase in supportable residual land value of \$18.30 per square foot.

The following is a series of tables summarizing the results of alternatives proposed for a range of zoning designations. These show the same linear relationship between additional FAR and supportable residual land values.





CM1 ZONING					
		Alternative 1		Alternative 2	
	Current	Base	Bonus	Base	Bonus
Income Characteristics					
Average Rent/SF:					
<i>Market - Close-In</i>	\$2.20	\$2.20	\$2.20	\$2.20	\$2.20
Efficiency Ratio	83%	83%	83%	83%	83%
Assumed Cap Rate	7.20%	7.20%	7.20%	7.20%	7.20%
Stabilized Occupancy Rate	95.0%	95.0%	95.0%	95.0%	95.0%
Operating Costs/% of Gross	32.0%	32.0%	32.0%	32.0%	32.0%
NOI at Stabilization PSF	\$14.16	\$14.16	\$14.16	\$14.16	\$14.16
Implied Value/SF	\$197	\$197	\$197	\$197	\$197
Project Construction Costs					
<i>Site Size/SF</i>	10,000	10,000	10,000	10,000	10,000
<i>Assumed FAR/Thousand</i>	1.00	1.50	3.00	2.50	3.00
<i>Gross Building Area</i>	10,000	15,000	30,000	25,000	30,000
<i>Cost PSF/Hard and Soft</i>	\$160	\$160	\$160	\$160	\$160
<i>Project Cost Excluding Land</i>	\$1,600,000	\$2,400,000	\$4,800,000	\$4,000,000	\$4,800,000
Residual Land Value					
<i>Threshold Yield</i>	7.20%	7.20%	7.20%	7.20%	7.20%
<i>Overall Supportable Cost</i>	\$1,965,993	\$2,948,990	\$5,897,980	\$4,914,983	\$5,897,980
<i>Indicated Residual Land Value</i>					
<i>Total</i>	\$365,993	\$548,990	\$1,097,980	\$914,983	\$1,097,980
<i>Per Square Foot</i>	\$36.60	\$54.90	\$109.80	\$91.50	\$109.80
Value of FAR Bonus					
<i>Total</i>			\$548,990		\$182,997
<i>Per Square Foot of Land Area</i>			\$54.90		\$18.30
CM2 ZONING					
		Alternative 1		Alternative 2	
	Current	Base	Bonus	Base	Bonus
Income Characteristics					
Average Rent/SF:					
<i>Market - Close-In</i>	\$2.20	\$2.20	\$2.20	\$2.20	\$2.20
Efficiency Ratio	83%	83%	83%	83%	83%
Assumed Cap Rate	7.20%	7.20%	7.20%	7.20%	7.20%
Stabilized Occupancy Rate	95.0%	95.0%	95.0%	95.0%	95.0%
Operating Costs/% of Gross	32.0%	32.0%	32.0%	32.0%	32.0%
NOI at Stabilization PSF	\$14.16	\$14.16	\$14.16	\$14.16	\$14.16
Implied Value/SF	\$197	\$197	\$197	\$197	\$197
Project Construction Costs					
<i>Site Size/SF</i>	10,000	10,000	10,000	10,000	10,000
<i>Assumed FAR/Thousand</i>	2.00	2.50	4.50	3.00	4.50
<i>Gross Building Area</i>	20,000	25,000	45,000	30,000	45,000
<i>Cost PSF/Hard and Soft</i>	\$160	\$160	\$160	\$160	\$160
<i>Project Cost Excluding Land</i>	\$3,200,000	\$4,000,000	\$7,200,000	\$4,800,000	\$7,200,000
Residual Land Value					
<i>Threshold Yield</i>	7.20%	7.20%	7.20%	7.20%	7.20%
<i>Overall Supportable Cost</i>	\$3,931,987	\$4,914,983	\$8,846,970	\$5,897,980	\$8,846,970
<i>Indicated Residual Land Value</i>					
<i>Total</i>	\$731,987	\$914,983	\$1,646,970	\$1,097,980	\$1,646,970
<i>Per Square Foot</i>	\$73.20	\$91.50	\$164.70	\$109.80	\$164.70
Value of FAR Bonus					
<i>Total</i>			\$731,987		\$548,990
<i>Per Square Foot of Land Area</i>			\$73.20		\$54.90



CM3 ZONING					
	Current	Alternative 1		Alternative 2	
		Base	Bonus	Base	Bonus
Income Characteristics					
Average Rent/SF:					
<i>Market - Close-In</i>	\$2.20	\$2.20	\$2.20	\$2.20	\$2.20
Efficiency Ratio	83%	83%	83%	83%	83%
Assumed Cap Rate	7.20%	7.20%	7.20%	7.20%	7.20%
Stabilized Occupancy Rate	95.0%	95.0%	95.0%	95.0%	95.0%
Operating Costs/% of Gross	32.0%	32.0%	32.0%	32.0%	32.0%
NOI at Stabilization PSF	\$14.16	\$14.16	\$14.16	\$14.16	\$14.16
Implied Value/SF	\$197	\$197	\$197	\$197	\$197
Project Construction Costs					
<i>Site Size/SF</i>	10,000	10,000	10,000	10,000	10,000
<i>Assumed FAR/Thousand</i>	3.00	3.50	6.00	4.00	6.00
<i>Gross Building Area</i>	30,000	35,000	60,000	40,000	60,000
<i>Cost PSF/Hard and Soft</i>	\$160	\$160	\$160	\$160	\$190
<i>Project Cost Excluding Land</i>	\$4,800,000	\$5,600,000	\$9,600,000	\$6,400,000	\$11,400,000
Residual Land Value					
<i>Threshold Yield</i>	7.20%	7.20%	7.20%	7.20%	7.20%
<i>Overall Supportable Cost</i>	\$5,897,980	\$6,880,977	\$11,795,960	\$7,863,973	\$11,795,960
<i>Indicated Residual Land Value</i>					
<i>Total</i>	\$1,097,980	\$1,280,977	\$2,195,960	\$1,463,973	\$395,960
<i>Per Square Foot</i>	\$109.80	\$128.10	\$219.60	\$146.40	\$39.60
Value of FAR Bonus					
<i>Total</i>			\$914,983		(\$1,068,013)
<i>Per Square Foot of Land Area</i>			\$91.50		(\$106.80)

A key assumption is that the full incremental increase in allowable FAR can be achieved within the allowable building envelope, as well as at the same cost per square foot for construction (which assumes no change in construction typology). The construction form assumed in our modeling is Type V, which can be constructed at up to five stories in height. If a higher structure is needed to achieve higher densities, such as the assumed 6.0 FAR in the CM3 zoning, construction costs would increase significantly for the entire project, yielding no marginal gain associated with the additional FAR.



Marginal Cost of Meeting Affordable Housing Targets

A second task of our analysis was to establish a “monetized cost” of requirements to provide affordable housing units. Our approach to establishing a cost was evaluate the indicated impact on residual land value of a project assuming a reduced level of rental income associated with including a percentage of units with rents limited to households at 60% or 80% of Median Family Income (MFI). Allowed rent levels were estimated at an average of \$1.06 for units at 60% MFI, while rents were \$1.42 for units at 80% MFI. Assuming market rents of \$2.20 per square foot in close-in neighborhoods, the marginal loss of income is considered to be the primary impact.

Average Rent/SF:	
Percent of MFI	60.0%
Allowed	\$1.06
Market - Close-In	\$2.20
Percent of MFI	80.0%
Allowed	\$1.42

The value of this impact can be capitalized into project value, and subsequently supportable residual land value. If an in-lieu fee or credit is offered, that value can be established by monetizing the impact of the affordability requirements (expressed in terms of foregone revenue).

Reconciliation/Inflection Points

Our estimates of the value of incremental increases in allowable FAR and the cost of meeting affordable housing targets can be reconciled. This allows us to test the degree to which the anticipated benefit associated with an FAR bonus is adequate to offset the cost of meeting the bonus requirements.

As shown in the table to the right, the residual land value can be modeled under a baseline FAR assumption, as well as a bonus FAR assumption with a percentage of affordable units. In this case, an assumed increase in allowable FAR of 1.5 offset the lost revenue associated with providing 10% of the units for households at 60% MFI. As a result, we would expect a bonus program structured in this manner to induce some developers to seek the bonus through provision of affordable housing. We would expect that the return should be higher than parity to induce shifts in behavior, as the requirements will require ongoing monitoring and other additional costs.

	10% of Units at 60% MFI		
	Base FAR	Bonus FAR	Change
Income Characteristics			
Percent of MFI		60.0%	
Percent of Units		10.0%	
Average Rent/SF:	\$2.20	\$2.09	-\$0.11
Efficiency Ratio	83%	83%	0%
Assumed Cap Rate	6.00%	6.00%	0.00%
Stabilized Occupancy Rate	95.0%	95.0%	0.0%
Operating Costs/% of Gross	32.0%	33.7%	1.7%
NOI at Stabilization PSF	\$14.16	\$13.08	(\$1.07)
Implied Value/SF	\$236	\$218	(\$18)
Project Construction Costs			
Site Size/SF	10,000	10,000	0
Assumed FAR/Thousand	2.00	3.50	1.50
Gross Building Area	20,000	35,000	15,000
Cost PSF/Hard and Soft	\$160	\$160	\$0
Project Cost Excluding Land	\$3,200,000	\$5,600,000	\$2,400,000
Residual Land Value			
Threshold Yield	7.20%	7.20%	0.00%
Overall Supportable Cost	\$3,931,987	\$6,358,424	\$2,426,437
Indicated Residual Land Value			
Total	\$731,987	\$758,424	\$26,437
Per Square Foot	\$73.20	\$75.84	\$2.64

In the following tables, we have run a series of potential requirements as well as FAR bonus assumptions to test the sensitivity of these assumptions:



	10% of Units at 60% MFI			20% of Units at 60% MFI			10% of Units at 80% MFI			20% of Units at 80% MFI		
	Base FAR	Bonus FAR	Change	Base FAR	Bonus FAR	Change	Base FAR	Bonus FAR	Change	Base FAR	Bonus FAR	Change
Income Characteristics												
Percent of MFI		60.0%			60.0%			80.0%			80.0%	
Percent of Units		10.0%			20.0%			10.0%			20.0%	
Average Rent/SF:	\$2.20	\$2.09	-\$0.11	\$2.20	\$1.97	-\$0.23	\$2.20	\$2.12	-\$0.08	\$2.20	\$2.04	-\$0.16
Efficiency Ratio	83%	83%	0%	83%	83%	0%	83%	83%	0%	83%	83%	0%
Assumed Cap Rate	6.00%	6.00%	0.00%	6.00%	6.00%	0.00%	6.00%	6.00%	0.00%	6.00%	6.00%	0.00%
Stabilized Occupancy Rate	95.0%	95.0%	0.0%	95.0%	95.0%	0.0%	95.0%	95.0%	0.0%	95.0%	95.0%	0.0%
Operating Costs/% of Gross	32.0%	33.7%	1.7%	32.0%	35.7%	3.7%	32.0%	33.2%	1.2%	32.0%	34.4%	2.4%
NOI at Stabilization PSF	\$14.16	\$13.08	(\$1.07)	\$14.16	\$12.01	(\$2.15)	\$14.16	\$13.42	(\$0.74)	\$14.16	\$12.68	(\$1.48)
Implied Value/SF	\$236	\$218	(\$18)	\$236	\$200	(\$36)	\$236	\$224	(\$12)	\$236	\$211	(\$25)
Project Construction Costs												
Site Size/SF	10,000	10,000	0	10,000	10,000	0	10,000	10,000	0	10,000	10,000	0
Assumed FAR/Thousand	2.00	3.50	1.50	2.00	3.50	1.50	2.00	3.50	1.50	2.00	3.50	1.50
Gross Building Area	20,000	35,000	15,000	20,000	35,000	15,000	20,000	35,000	15,000	20,000	35,000	15,000
Cost PSF/Hard and Soft	\$160	\$160	\$0	\$160	\$160	\$0	\$160	\$160	\$0	\$160	\$160	\$0
Project Cost Excluding Land	\$3,200,000	\$5,600,000	\$2,400,000	\$3,200,000	\$5,600,000	\$2,400,000	\$3,200,000	\$5,600,000	\$2,400,000	\$3,200,000	\$5,600,000	\$2,400,000
Residual Land Value												
Threshold Yield	7.20%	7.20%	0.00%	7.20%	7.20%	0.00%	7.20%	7.20%	0.00%	7.20%	7.20%	0.00%
Overall Supportable Cost	\$3,931,987	\$6,358,424	\$2,426,437	\$3,931,987	\$5,835,871	\$1,903,885	\$3,931,987	\$6,521,543	\$2,589,556	\$3,931,987	\$6,162,108	\$2,230,122
Indicated Residual Land Value												
Total	\$731,987	\$758,424	\$26,437	\$731,987	\$235,871	(\$496,115)	\$731,987	\$921,543	\$189,556	\$731,987	\$562,108	(\$169,878)
Per Square Foot	\$73.20	\$75.84	\$2.64	\$73.20	\$23.59	(\$49.61)	\$73.20	\$92.15	\$18.96	\$73.20	\$56.21	(\$16.99)

	10% of Units at 60% MFI			20% of Units at 60% MFI			10% of Units at 80% MFI			20% of Units at 80% MFI		
	Base FAR	Bonus FAR	Change	Base FAR	Bonus FAR	Change	Base FAR	Bonus FAR	Change	Base FAR	Bonus FAR	Change
Income Characteristics												
Percent of MFI		60.0%			60.0%			80.0%			80.0%	
Percent of Units		10.0%			20.0%			10.0%			20.0%	
Average Rent/SF:	\$2.20	\$2.09	-\$0.11	\$2.20	\$1.97	-\$0.23	\$2.20	\$2.12	-\$0.08	\$2.20	\$2.04	-\$0.16
Efficiency Ratio	83%	83%	0%	83%	83%	0%	83%	83%	0%	83%	83%	0%
Assumed Cap Rate	6.00%	6.00%	0.00%	6.00%	6.00%	0.00%	6.00%	6.00%	0.00%	6.00%	6.00%	0.00%
Stabilized Occupancy Rate	95.0%	95.0%	0.0%	95.0%	95.0%	0.0%	95.0%	95.0%	0.0%	95.0%	95.0%	0.0%
Operating Costs/% of Gross	32.0%	33.7%	1.7%	32.0%	35.7%	3.7%	32.0%	33.2%	1.2%	32.0%	34.4%	2.4%
NOI at Stabilization PSF	\$14.16	\$13.08	(\$1.07)	\$14.16	\$12.01	(\$2.15)	\$14.16	\$13.42	(\$0.74)	\$14.16	\$12.68	(\$1.48)
Implied Value/SF	\$236	\$218	(\$18)	\$236	\$200	(\$36)	\$236	\$224	(\$12)	\$236	\$211	(\$25)
Project Construction Costs												
Site Size/SF	10,000	10,000	0	10,000	10,000	0	10,000	10,000	0	10,000	10,000	0
Assumed FAR/Thousand	2.50	4.50	2.00	2.50	4.50	2.00	2.00	4.50	2.50	2.00	4.50	2.50
Gross Building Area	25,000	45,000	20,000	25,000	45,000	20,000	20,000	45,000	25,000	20,000	45,000	25,000
Cost PSF/Hard and Soft	\$160	\$160	\$0	\$160	\$160	\$0	\$160	\$160	\$0	\$160	\$160	\$0
Project Cost Excluding Land	\$4,000,000	\$7,200,000	\$3,200,000	\$4,000,000	\$7,200,000	\$3,200,000	\$3,200,000	\$7,200,000	\$4,000,000	\$3,200,000	\$7,200,000	\$4,000,000
Residual Land Value												
Threshold Yield	7.20%	7.20%	0.00%	7.20%	7.20%	0.00%	7.20%	7.20%	0.00%	7.20%	7.20%	0.00%
Overall Supportable Cost	\$4,914,983	\$8,175,117	\$3,260,133	\$4,914,983	\$7,503,263	\$2,588,280	\$3,931,987	\$8,384,840	\$4,452,854	\$3,931,987	\$7,922,711	\$3,990,724
Indicated Residual Land Value												
Total	\$914,983	\$975,117	\$60,133	\$914,983	\$303,263	(\$611,720)	\$731,987	\$1,184,840	\$452,854	\$731,987	\$722,711	(\$9,276)
Per Square Foot	\$91.50	\$97.51	\$6.01	\$91.50	\$30.33	(\$61.17)	\$73.20	\$118.48	\$45.29	\$73.20	\$72.27	(\$0.93)

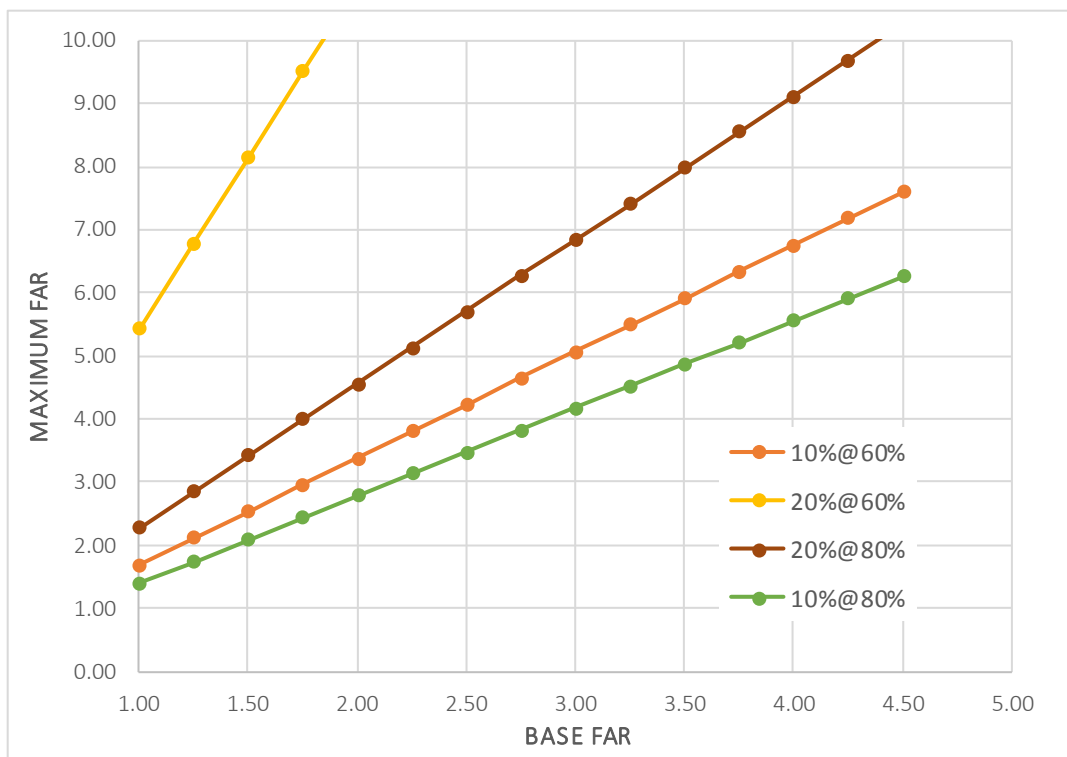


In these cases, a shift in FAR from 2.0 to 3.5 was supported for programs with 10% of their units at 60% or 80% of MFI, but the cost of moving to 20% of units at 60% or 80% of MFI was too high to be offset by the value of the incremental FAR. If the shift in allowable FAR was from 2.5 to 4.5, the program would be very attractive for projects with 10% of their units affordable, while shifting to rough parity with 20% of units at 80% of MFI.

The relationship between the base and maximum FAR with bonuses varies based on the affordable housing requirement as well as the base FAR. The following table solves for a maximum FAR under each requirement and a series of baseline FARs, with the maximum shown reflecting what would be required to maintain the underlying residual land value associated with the base FAR.

Base FAR	Max FAR at Alternative Affordable Housing Targets			
	10%@60%	20%@60%	10%@80%	20%@80%
1.00	1.69	5.43	1.39	2.28
1.25	2.11	6.79	1.74	2.85
1.50	2.53	8.15	2.09	3.42
1.75	2.96	9.50	2.43	3.99
2.00	3.38	10.86	2.78	4.56
2.25	3.80	12.22	3.13	5.13
2.50	4.22	13.58	3.48	5.70
2.75	4.64	14.93	3.82	6.27
3.00	5.07	16.29	4.17	6.84
3.25	5.49	17.65	4.52	7.41
3.50	5.91	19.01	4.87	7.98
3.75	6.33	20.37	5.21	8.55
4.00	6.76	21.72	5.56	9.12
4.25	7.18	23.08	5.91	9.69
4.50	7.60	24.44	6.26	10.25

The cells shaded blue reflect development forms that would likely entail a change in construction type, and as such, calculating an FAR bonus adequate to change the outcome would require further analysis. The following chart outlines the relationship between base and maximum FAR and parity in terms of residual land value by affordable housing requirement.



This page intentionally left blank.

DYETT & BHATIA
Urban and Regional Planners

755 Sansome Street, Suite 400
San Francisco, California 94111
☎ 415 956 4300 📠 415 956 7315