## Brush Park Plan and Form-Based Code



### Brush Park: Scope of Work and Timeline

- B Phase Two (May-August)
- 1 Second Workshop (2-3 day visit to Detroit)
  - Public presentation of analysis, early planning for Brush Park, and relevant building prototypes
  - Form Based Code 101 and review of precedent examples
  - Workshop with City staff
- 2 Working Period #2 (5-6 week period)
  - Brush Park Planning Alternatives
  - Develop building prototypes
  - Streetscape/public realm guidelines for all elements of a right-of-way

### Outline

- Public Engagement Recap
- Form-based Building Typologies
- Testing Types for Neighborhood Planning
- Public Realm and Open Space Planning
- Next steps

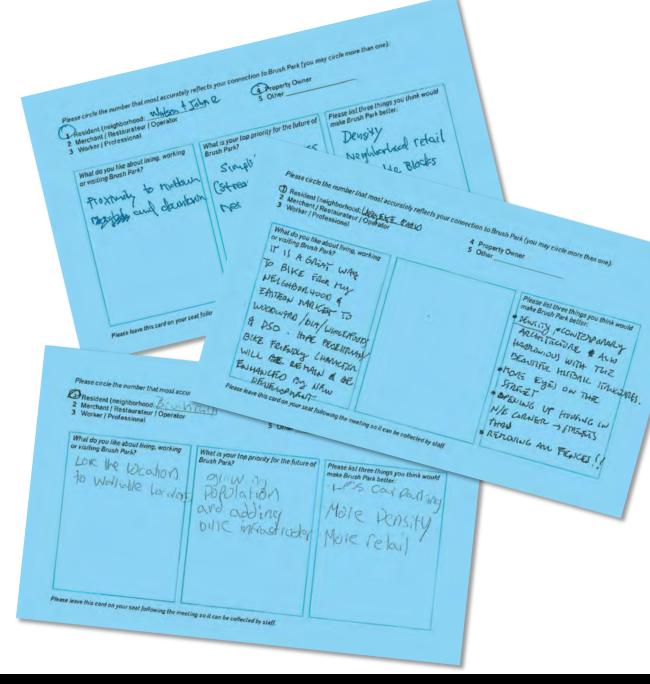


Aerial of the Brush Park neighborhood

### Public Engagement Recap

### Public Meeting #1

- 25 responses to survey questions from property owners, residents, business owners and professionals
- When asked about "what do you like about living in Brush Park?" the audience emphasized
  - Convenience and walkability to downtown
  - Historic character
  - Potential for investment
  - Proximity to transit
- When asked "what is your top priority for Brush Park?" the audience emphasized
  - To make it an urban walkable community
  - Retail and grocery stores
  - Simplified/streamlined process for new projects
  - Balance between density and open green space



### Public Engagement Recap

### Public Engagement Session #1

- Participants ranked their preferences for building typologies
  - 1. Stacked Duplex
  - 2. Multi-family/mid-rise
  - 3. Townhome
- They were asked to vote on preferences for open space types, including
  - Mews
  - Greenways
  - Alleys
  - Neighborhood Parks
- Suggested open space amenities including
  - Safe playgrounds
  - Dog parks
  - Running and walking paths



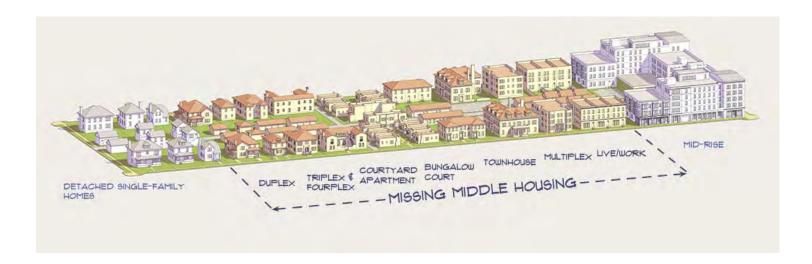






# Building Types: Development Approach

### Building Types: Development Approach



"Missing Middle" was coined by Daniel Parolek of Opticos Design, Inc. in 2010 to define a range of multi-unit or clustered housing types compatible in scale with single-family homes that help meet the growing demand for walkable urban living.



Indian Village



Indian Village



Brush Park

### **Building Types: Principles and Methodology**

- The building types are a kit-of-parts that work on the typical lot module of Brush Park (both single and multiple/aggregated parcels).
- The types provide a wide range of the "Missing Middle" to incentivize a richly diverse streetscape and provide options to the development community.
- The are designed for a wide variety of household sizes and types and incomes.
- The types meet current building and accessibility codes, are relatively inexpensive to build, and meet market expectations for real estate metrics (net/gross efficiencies, etc.).

### Building Types: Principles and Methodology

- The types include specific solutions for parking and private open space.
- The types will inform the Form-based Code for the district.
- The types will be packaged into a design pattern book that can be marketed to developers, builders, and community stakeholders.

## Building Types: Architectural Precedent











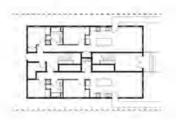








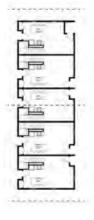
### **Building Types**











A Six-pack

B.1 Double House

B.2 Townhouses

B.3 Stacked Townhouse

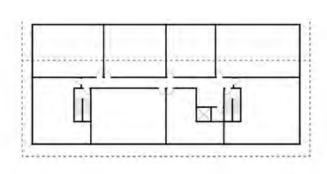
Carriage Home



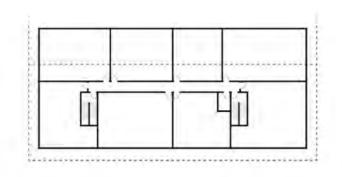








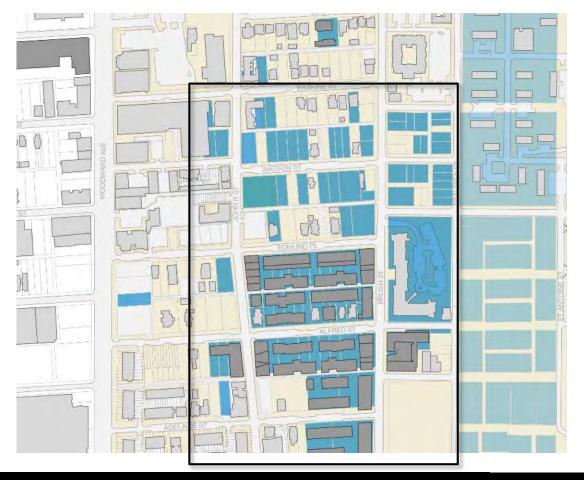


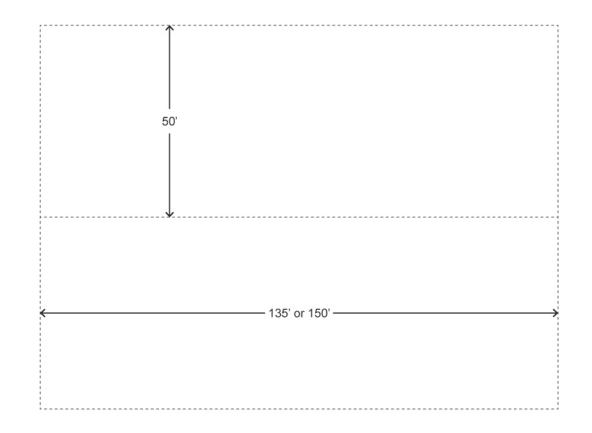


Multi-family Apartments
(walk-up w/ top level duplex)

## **Typical Plots**

The majority of the parcels in the Brush Park neighborhood have a 50' wide street frontage and range from 135' to 150' deep and abut an alley.





Alley Plot Sidewalk Street



The six-pack is partly modeled on the New England triple-decker, but proposes two units/floor (rather than one unit/floor) in order to fully leverage the circulation armature and take full advantage of the 50' lot width.

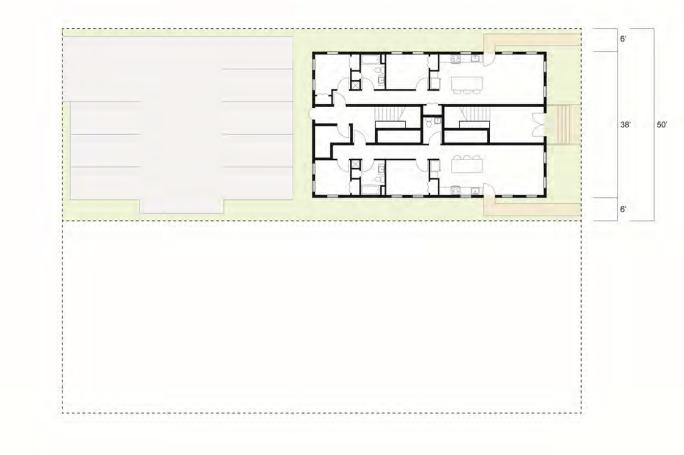
The type is similar in size to the historical houses in the neighborhood.

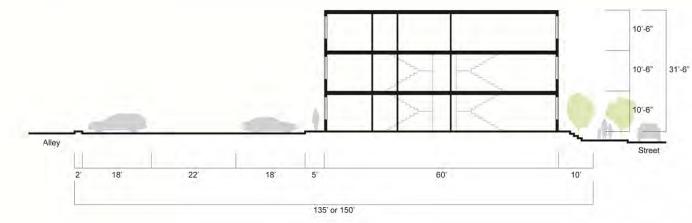
Units: 6

Typ. Unit Area: 875 SF

Parking spaces: 8

Ratio: 1.33







The six-pack is partly modeled on the New England triple-decker, but proposes two units/floor (rather than one unit/floor) in order to fully leverage the circulation armature and take full advantage of the 50' lot width.

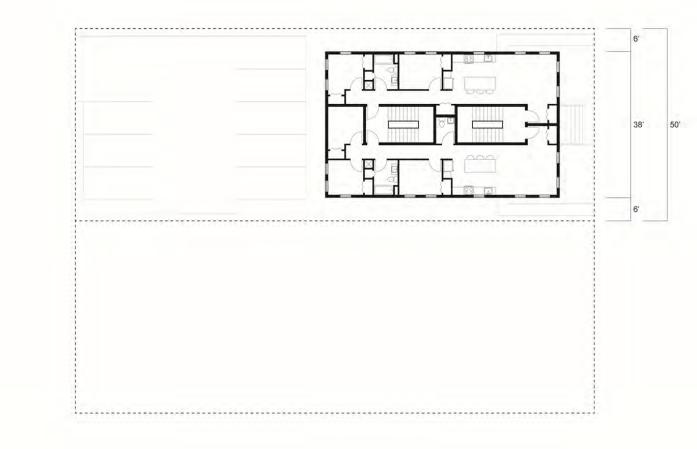
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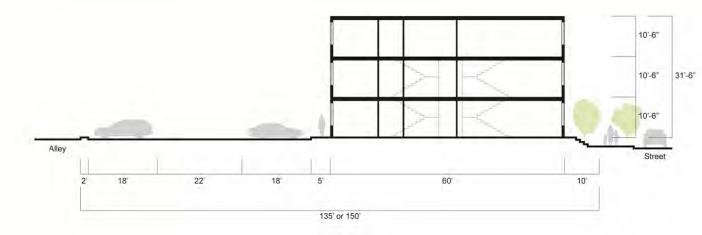
Units: 6

Typ. Unit Area: 875 SF

Parking spaces: 8

Ratio: 1.33







### Stacked Townhouses

The stacked townhouse type is similar to the double-house, but includes a pair of stacked two-story units.

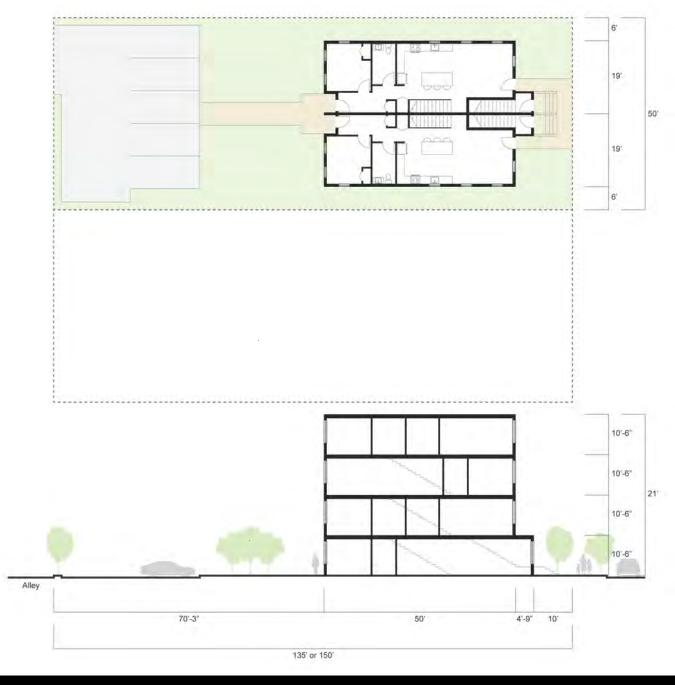
Stairs within the units are stacked above and below the stairs that provide access to the upper floor units.

Units:

Typ. Unit Area: 1,600 SF

Parking spaces:

Ratio: 1.25





### Stacked Townhouses

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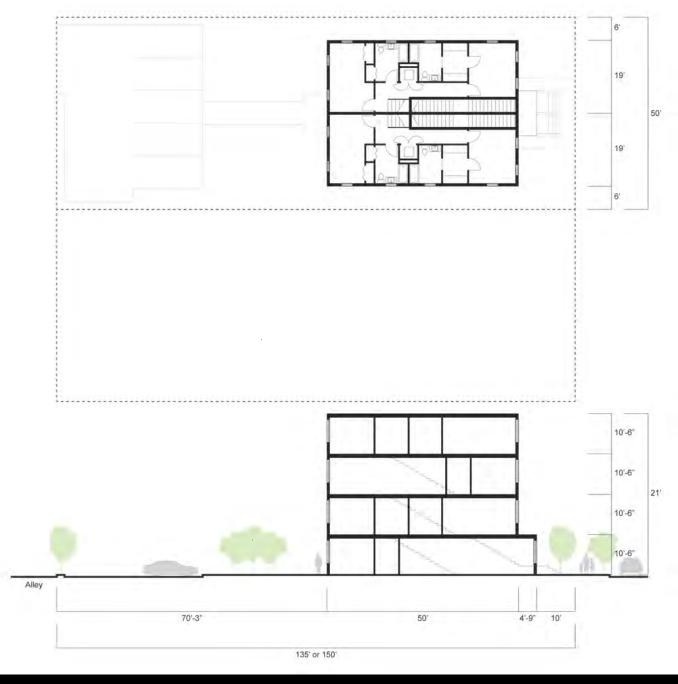
Stairs within the units are stacked above and below the stairs that provide access to the upper floor units.

Units:

Typ. Unit Area: 1,600 SF

Parking spaces:

Ratio: 1.25





## Carriage Home

(with Townhouse and additional parking)

A range of Carriage House/Townhouse combinations on two abutting lots explore a range of solutions for providing parking and private open space.

### **Townhouse**

Units: 5

Typ. Unit Area: 2,100 SF

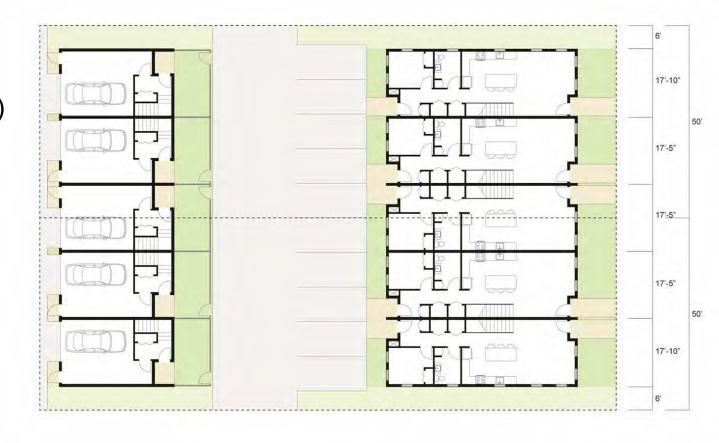
Parking spaces: 10 Ratio: 2.0

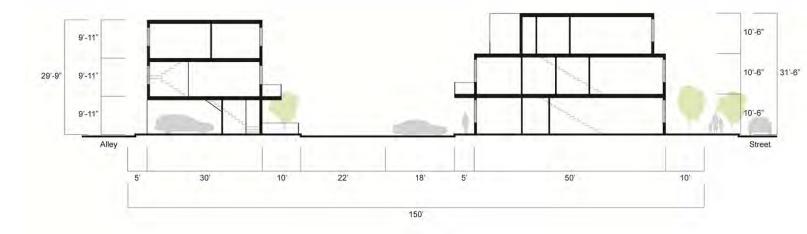
### **Carriage Home**

Units:

Typ. Unit Area: 1,400 SF

Parking spaces: 5
Ratio: 1.0







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A range of Carriage House/Townhouse combinations on two abutting lots explore a range of solutions for providing parking and private open space.

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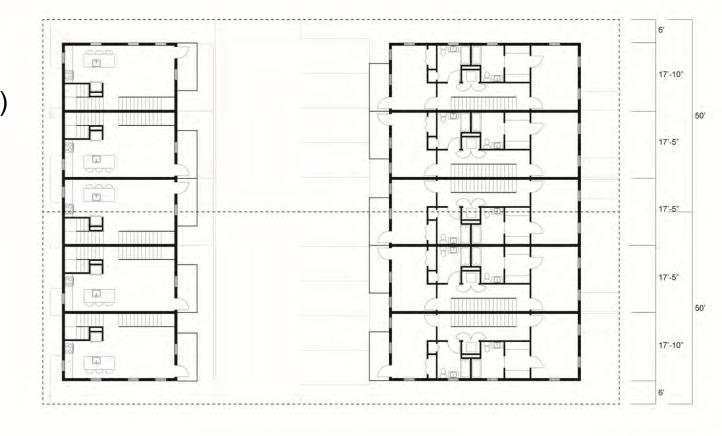
Parking spaces: 10 Ratio: 2.0

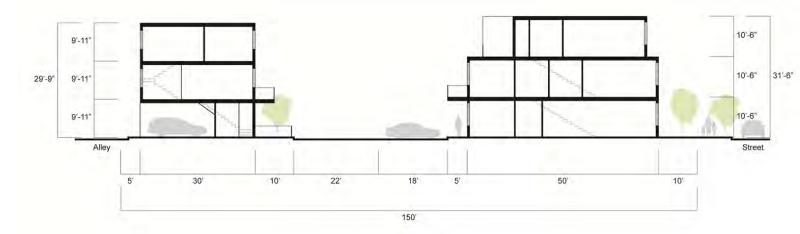
### **Carriage Home**

Units:

Typ. Unit Area: 1,400 SF

Parking spaces: 5
Ratio: 1.0





## Multi-family Apartments

(four levels w/ elevator)

Multi-family buildings are proposed along the northsouth streets and on other streets where a higher density type is appropriate.

The building straddles a surface parking lot that is hidden from the street by a scrim of active uses, including the building lobby.

Units: 32

900 SF Typ. Unit Area:

Ground Level Retail: 1,400 GSF

Parking spaces: 24

0.75 Ratio:



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(four levels w/ elevator)

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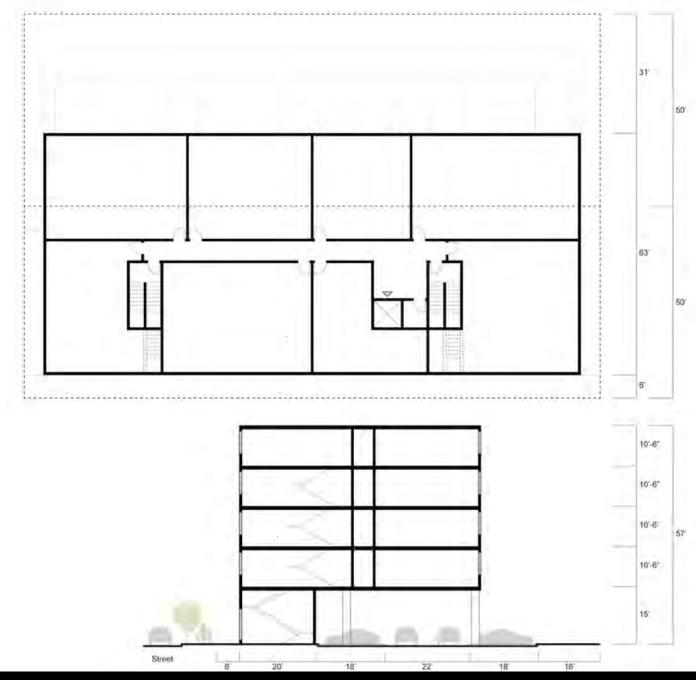
Units: 32

900 SF Typ. Unit Area:

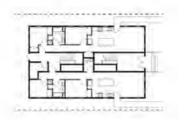
Ground Level Retail: 1,400 GSF

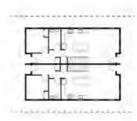
Parking spaces: 24

0.75 Ratio:



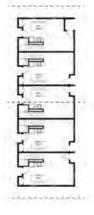
### **Building Types**











A Six-pack

B.1 Double House

B.2 Townhouses

B.3 Stacked Townhouse

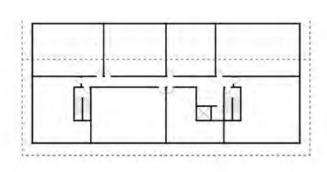
Carriage Home



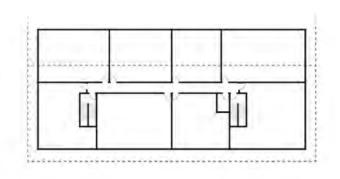








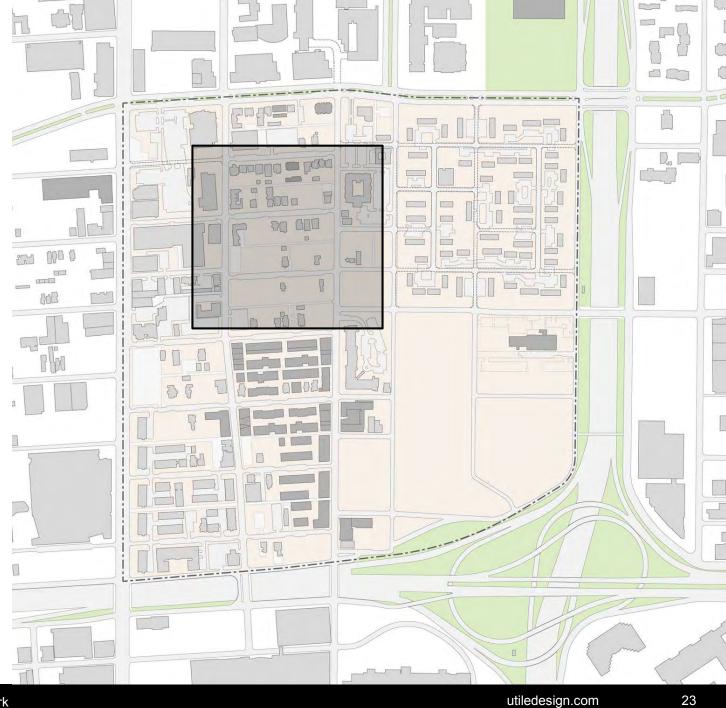




Multi-family Apartments
(walk-up w/ top level duplex)

# Testing Types for Neighborhood Planning

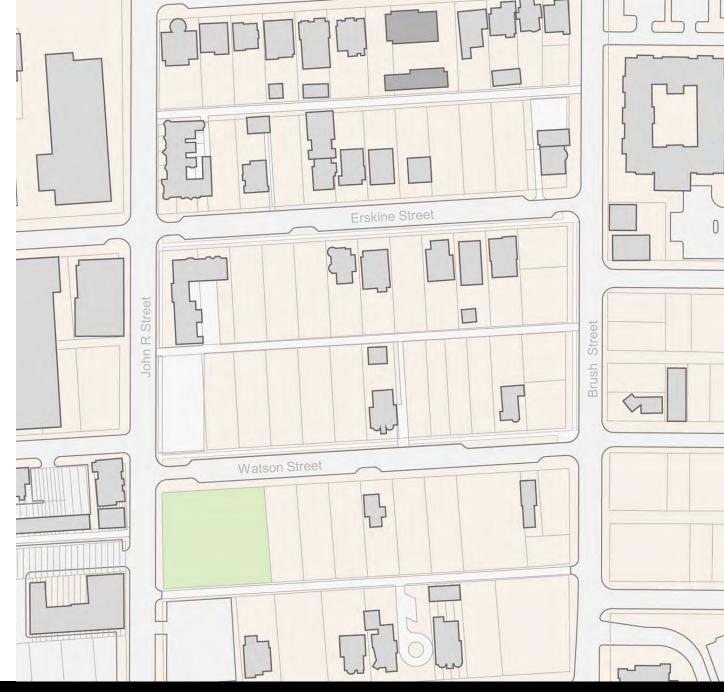
Test-fit of building prototypes in typical block condition, between Erskine Street and Watson Street



### **Block Test-fit**

Typical block structure (50' x 150'), with combination of:

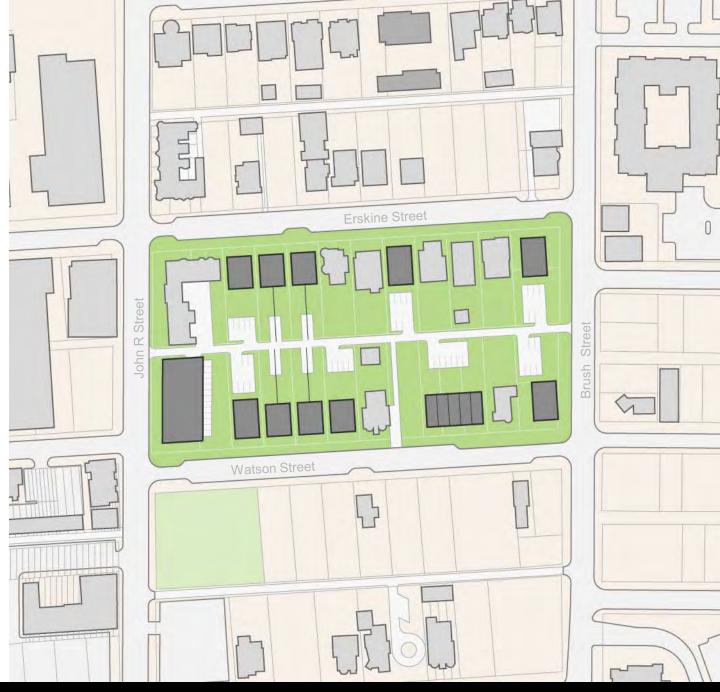
- vacant single lots among existing mansions
- contiguous lots for development similar to City Modern
- potential for higher density multi-family development along John R Street



### **Block Test-fit**

Typical block structure (50' x 150'), with combination of:

- vacant single lots among existing mansions
- contiguous lots for development similar to City Modern
- potential for higher density multi-family development along John R Street



### **Block Test-fit**

### **Unit Counts:**

Multi-family Apartment (3FL) 32
Six-Pack 24
Stacked Townhouse 8
Double House 8
Townhouse 5

TOTAL 77

Units per Acre 29.5

Parking Ratio (block avg.) 1.16



## Building Types: Architectural Precedent



















## Regulating Plan

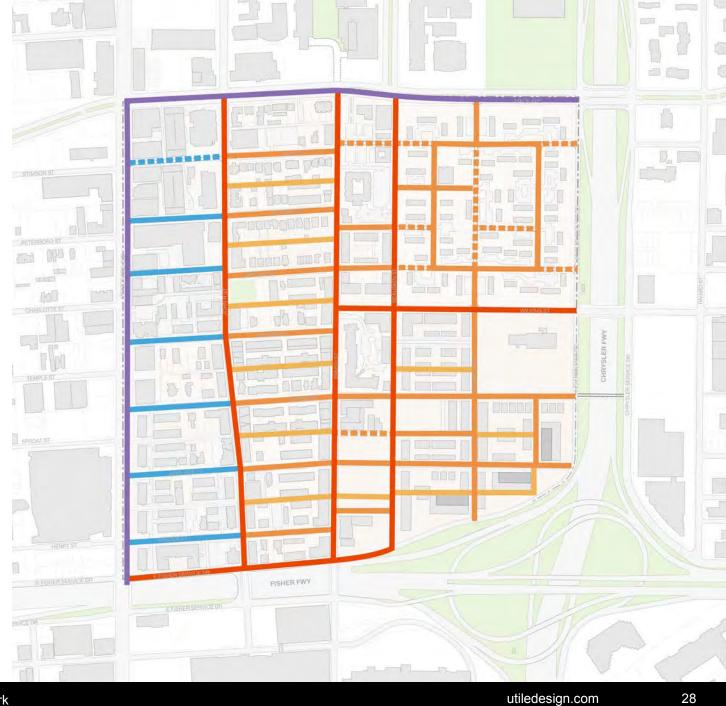
A Street

B Street

C Street

D Street

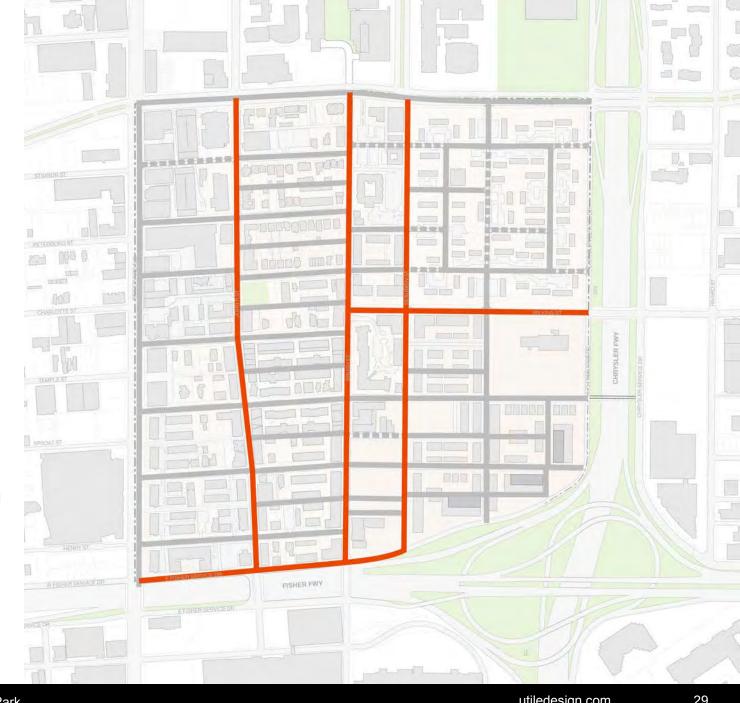
E Street



### Regulating Plan

### **B** Streets

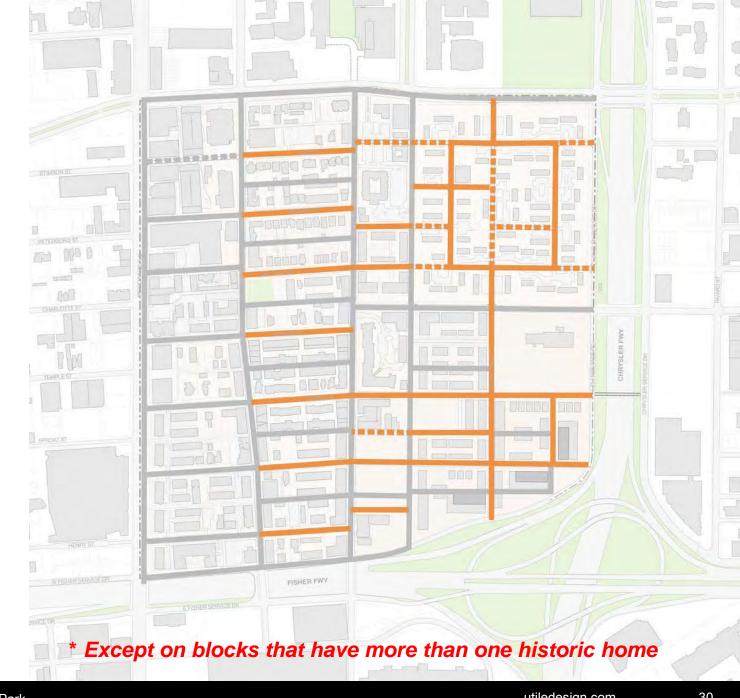
- Primary north/south streets (John R, Brush and Beaubien), as well as Wilkins and the Service Drive
- Retail/commercial ground floor uses are permitted at select intersections
- Of the developed building typologies, the following apply
  - E.1 Multi-family Apartments (with elevator)
  - E.2 Multi-family Apartments (walk up with duplex)
  - B.2 Townhouses
  - B.3 Stacked Townhouses



### Regulating Plan

### **C** Streets

- Most east/west streets west of John R.
- Lower scale and height, and primarily residential buildings
- Curb cuts are permitted if no alley access is provided
- Of the developed building typologies, the following apply.
  - A Six Pack
  - B.1 Double House
  - B.2 Townhouses\*
  - B.3 Stacked Townhouses\*
  - D.1 2-over-1
  - D.2 2-over-1 (multi-plot)\*



Building Types

SIX-PACK
 Lot Standards

a. Building Placement



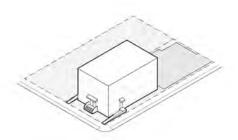


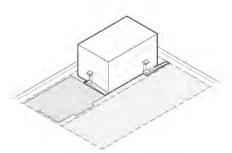
Required Street Frontage	C Street
Lot Dimensions	
A Width	50' min
B Depth	135' min
Lot Development	
C Lot Coverage	XX% max

Building Setbacks			
0	Primary Front Setback	10' min	20' max
0	Secondary Front Setback	10' min	20' max
Ø	Side Setback	6'	min
0	Rear Setback	20° min	

a. Building Standards

a. Access/Parking





Ma	assing		
	Facade Build Out	75%	min
0	Width	??' min	38' max
0	Depth	?? min	60' max
G	Building Height	2 st	ories
	Story Height	10	min
	Ground Floor Elevation	2'	min
	Roof Type	F	lat

Fenestration		
Ground Story Fenestration	20% min	50% max
Upper Story Fenestration	20% min	50% max
Use & Occupancy		_
Dwelling Units	6 units	
Outdoor Amenity Space	XX/ DU min	
Outdoor Amenity Space	XX/L	O Min

XX/ DO min
Stoop
4' x 4' min
100% max

Parking Setbacks	
A Primary Front Setback	10' min
B Secondary Front Setback	10' min
C Side Setback	6' min
Rear Setback	2' min
Parking Ratio	
Parking Spaces	1,33/DU max

Parking Access		
0	Primary Front Curb Cuts	1 max
Ø	Secondary Front Curb Cut	1 max
0	Driveway Width	12' max

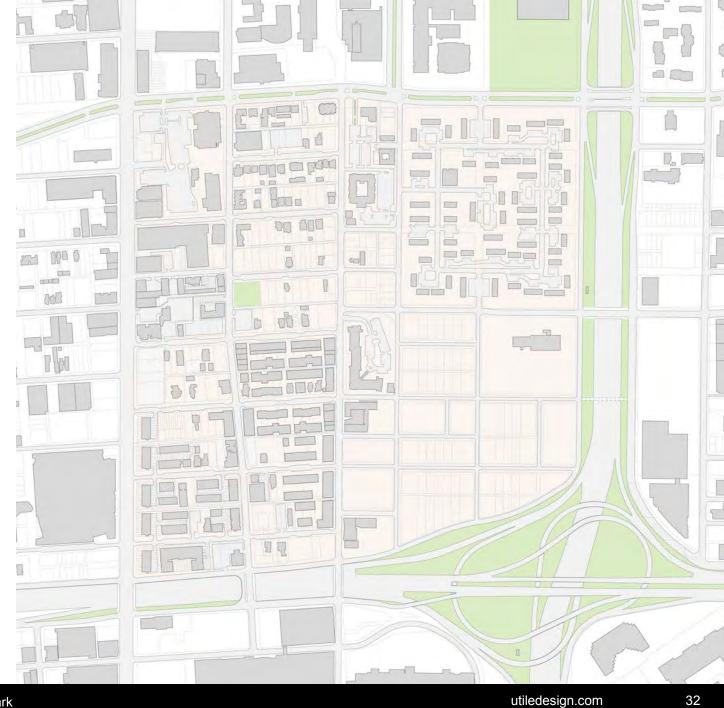
andscape Buffers	
Width	XX' min
Fence/Wall Height	XX' min
Large Trees per 100 ft	XX min
Shrubs per 100 ft	XX min

Detroit Zoning Ordinance (07/07/17)

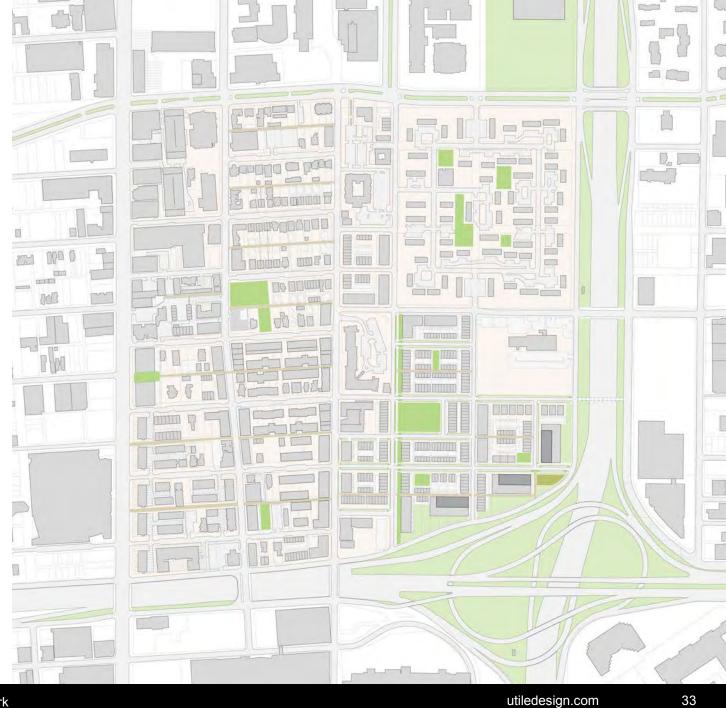
Detroit Zoning Ordinance (07/07/17)

5

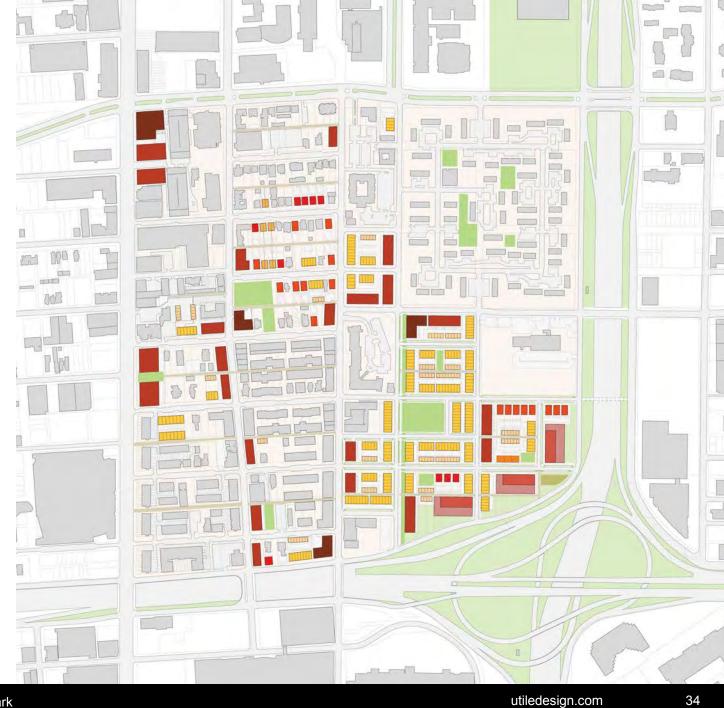
Conceptual neighborhood build-out



Conceptual neighborhood build-out

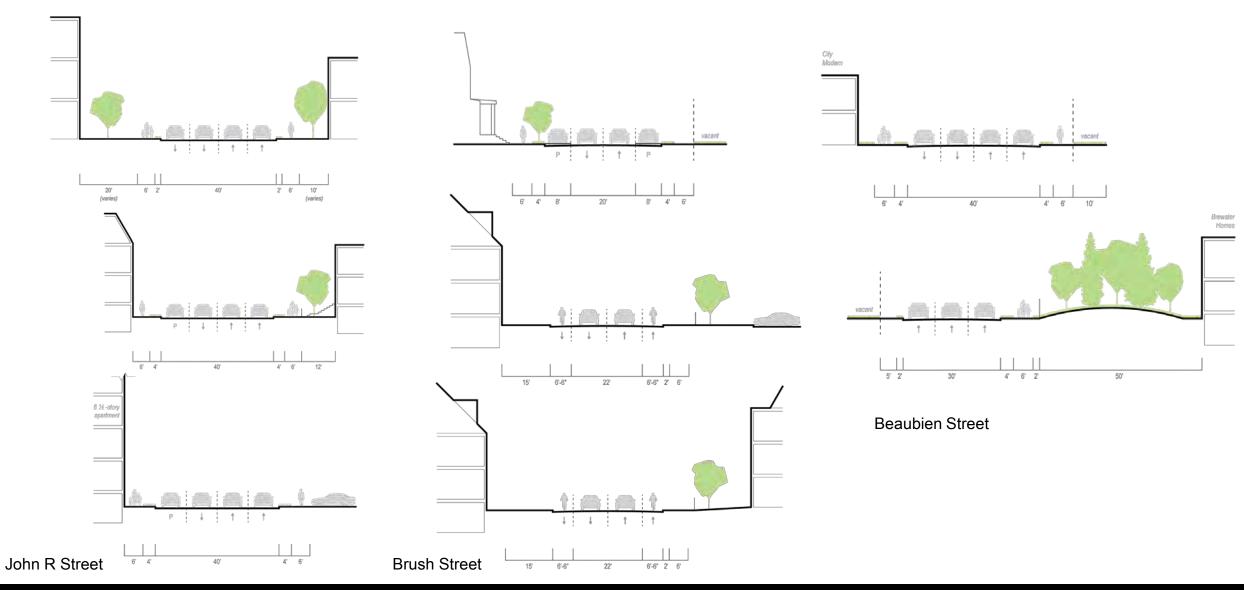


Conceptual neighborhood build-out



# Public Realm and Open Space Planning

## **Existing Street Sections**



# Beaubien Street - existing

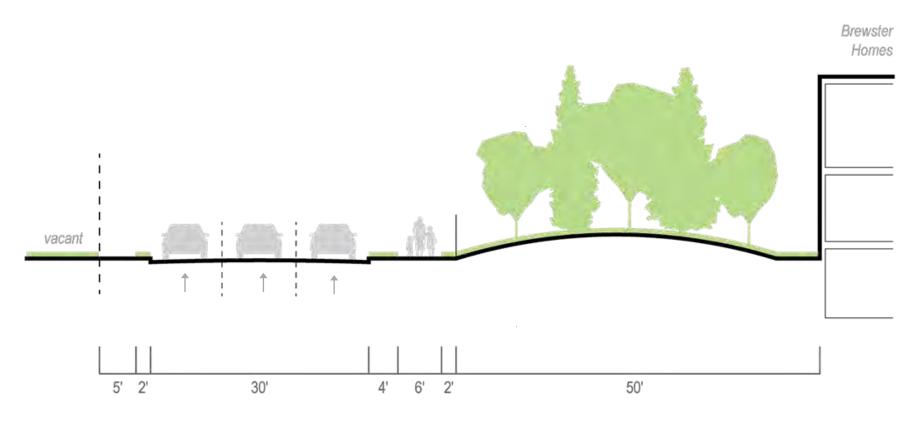




# Beaubien Street - existing







# Beaubien Street - proposed



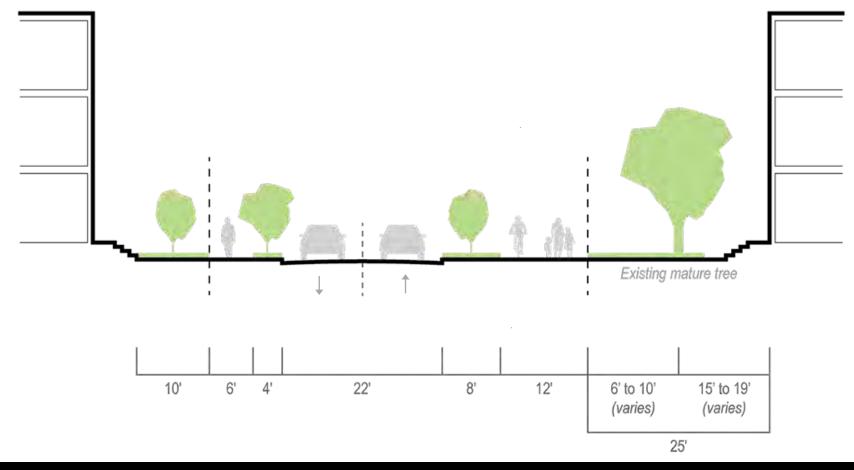




# Beaubien Street - proposed





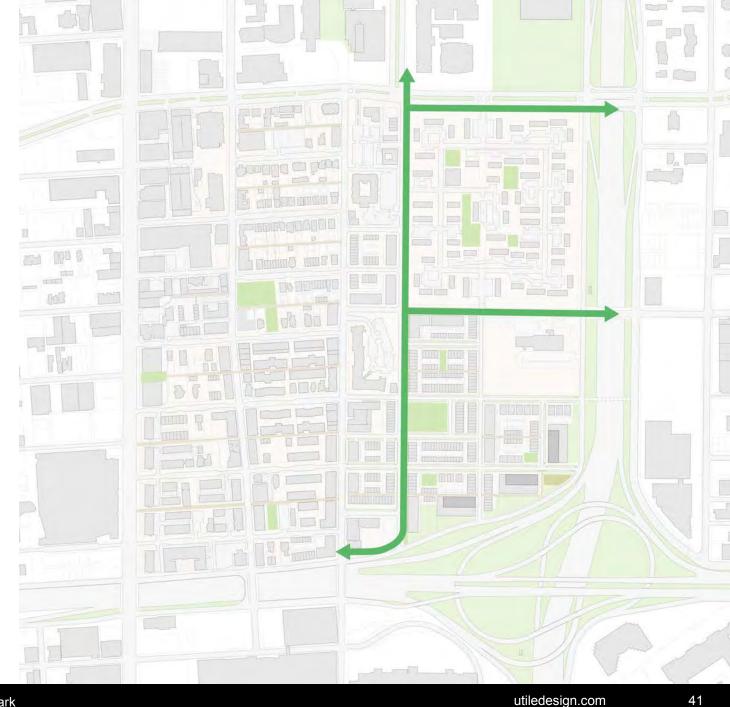


## Greenways

Take advantage of excess right-of-way to build a connective greenway network.





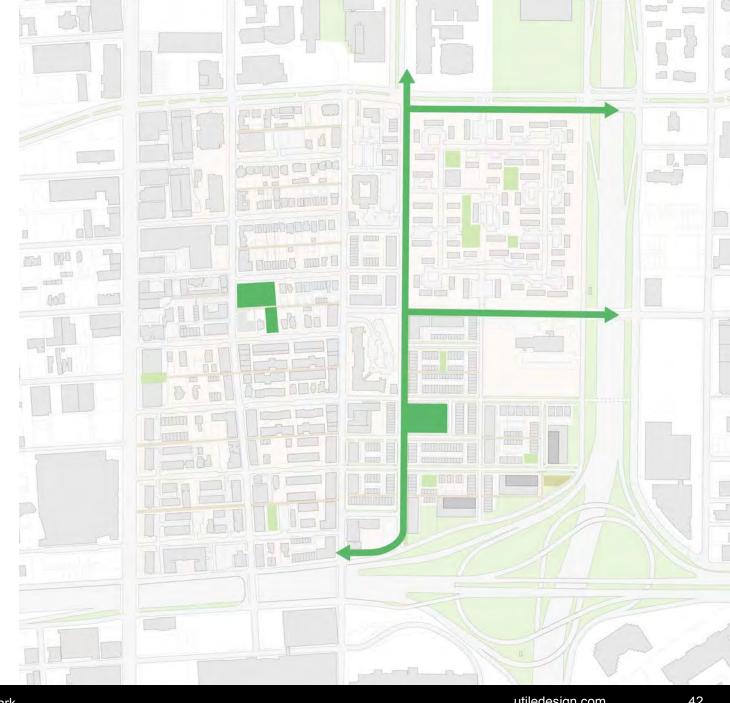


# Neighborhood Parks

New and expanded parks provide local access to open space and community recreation amenities.





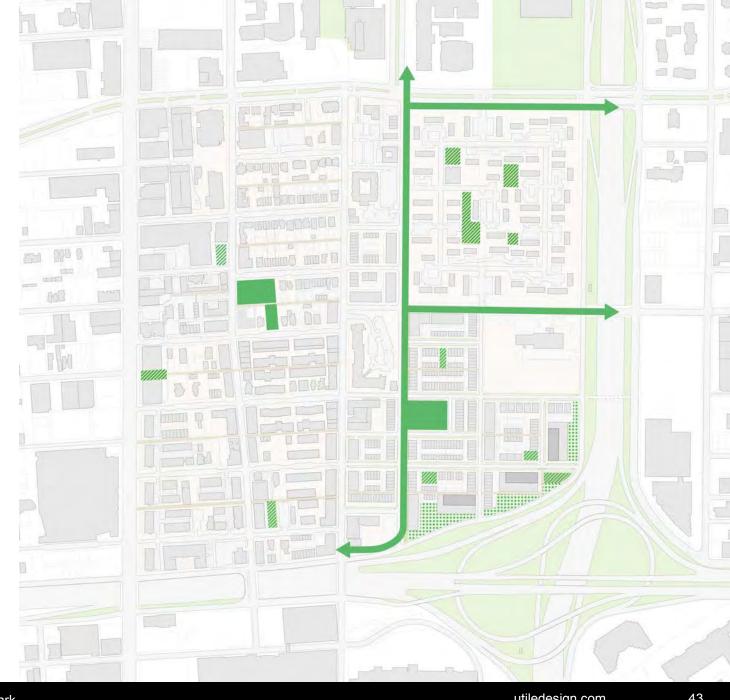


## **Pocket Parks**

Smaller than the neighborhood parks, these provide the opportunity for more localized community building.







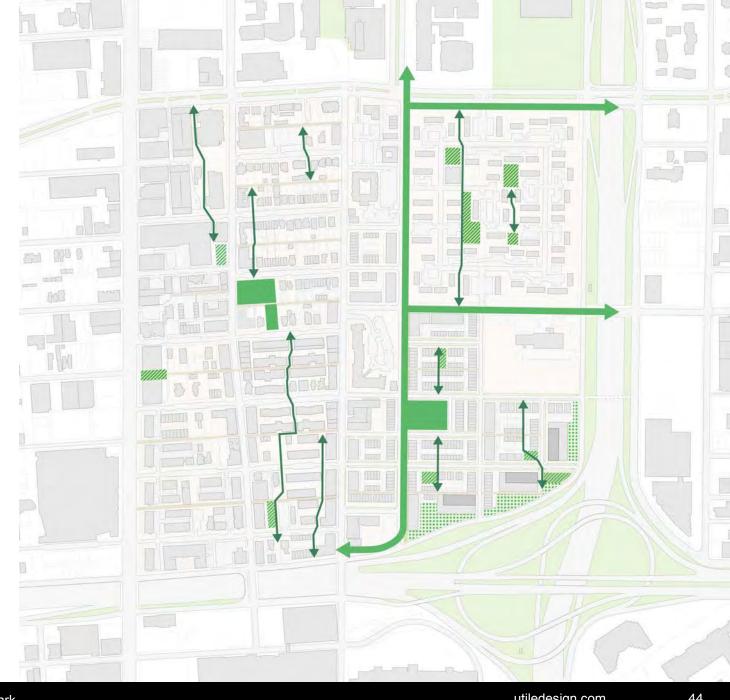
## Mews & Linear Connections

Mews typology continues through the study area, building on the City Modern open space concept.







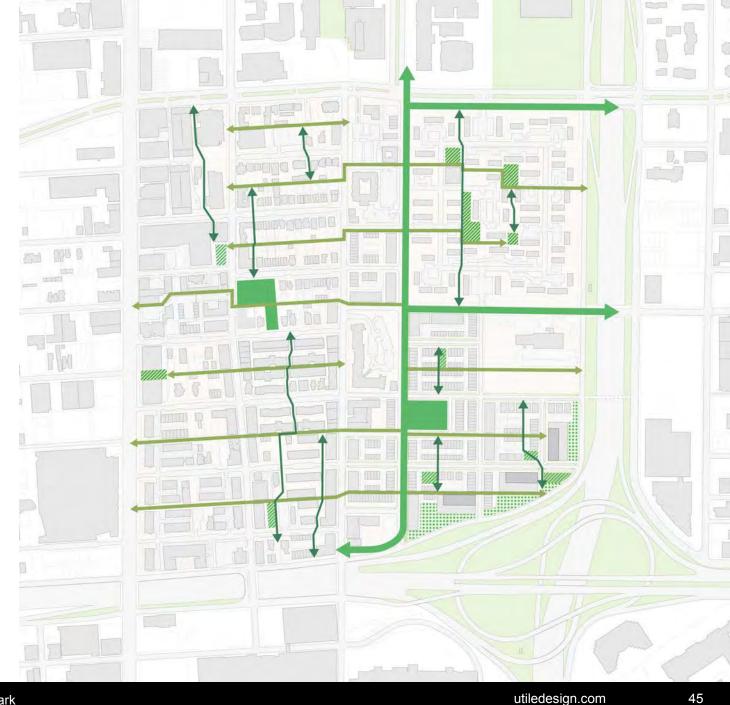


# Alleyways

Use existing alleyways as a shared space to build on linear and networked open space system.

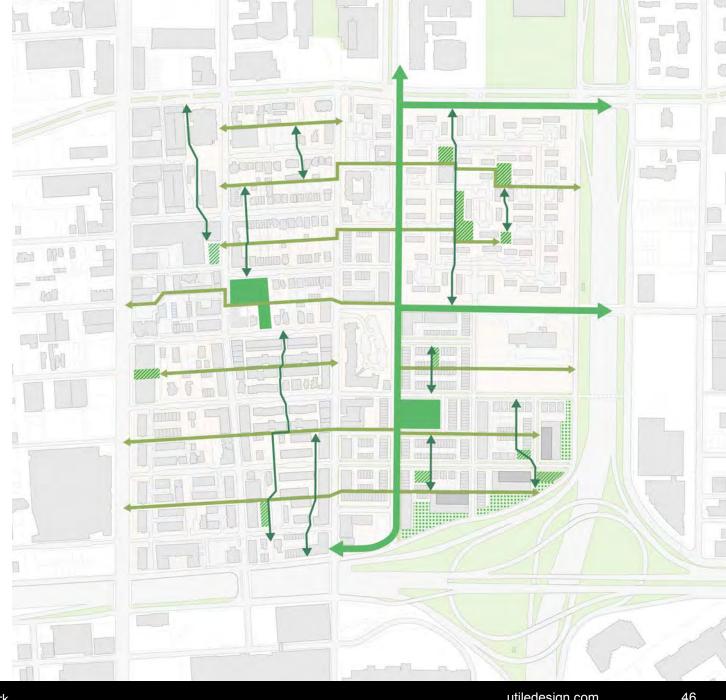






## Open Space Network





**Building Types** 

Building Types

1. SIX-PACK

a. Lot Standards

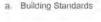
a. Building Placement

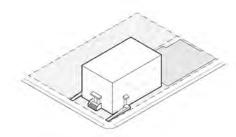




Frontage	
Required Street Frontage	C Street
Lot Dimensions	
A Width	50' min
B Depth	135' min
Lot Development	
Lot Coverage	XX% max

Bu	Building Setbacks		
0	Primary Front Setback	10' min	20' max
0	Secondary Front Setback	10' min	20' max
0	Side Setback	6' min	
0	Rear Setback	20° min	





Ma	ssing		
	Facade Build Out	75%	min
0	Width	??' min	38' max
0	Depth	?? min	60' max
Ø	Building Height	2 stories	
	Story Height		
	Ground Floor Elevation	2'	min
	Roof Type	F	lat

Fenestration		
Ground Story Fenestration	20% min	50% max
Upper Story Fenestration	20% min	50% max
Use & Occupancy		_
Dwelling Units	6 u	nits
Outdoor Amenity Space	XX/ E	U min
Frontage		
Type	Ste	oop

4' x 4' min

100% max

/		
2		
	1	

a. Access/Parking

Parking Setbacks	
Primary Front Setback	10' min
B Secondary Front Setback	10' min
C Side Setback	6' min
Rear Setback	2' min
Parking Ratio	
Parking Spaces	1,33/DU max

Parking Access			
0	Primary Front Curb Cuts	1 max	
Ø	Secondary Front Curb Cut.	1 max	
0	Driveway Width	12' max	

andscape Buffers	
Width	XX' min
Fence/Wall Height	XX' min
Large Trees per 100 ft	XX min
Shrubs per 100 ft	XX min

Detroit Zoning Ordinance (07/07/17)

Detroit Zoning Ordinance (07/07/17)

Front Setback Encroachment

Landing Dimensions

5

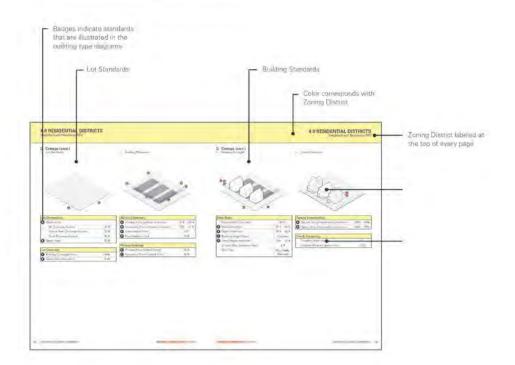
## 2. OVERVIEW & GUIDE

Standards & Measurements

## 3. Understanding the Building Type Pages

- The standards for building types identified in this
   Ordinance are presented across four pages that are the
   same for each building type:
  - i. Description & Precedents. The first page for each Building Type provides a general description and shows several images of typical buildings indicative of the variety possible within the definition of each type. The images are intended only for illustrative purposes and do not fully exemplify all of the requirements or possibilities for each type.
  - Diagrams & Dimensional Tables. Page two and three provide the key spread of dimensional standards.
  - Additional Standards. The fourth and final page for each Building Type identifies various provisions applicable to the specific building type, standards linked to the dimensional table, and includes any additional illustrative diagrams that are necessary.

 Section 2.2 provides an explanation of each line item in the building type dimensional tables, defines how to measure each requirement, and provides other standards and reference information as necessary.



## 2.2 STANDARDS & MEASUREMENTS

#### 1. General

a This section provides an explanation of each line item in the building type tables found in this Ordinance, defines how to measure each requirement, and provides other standards and reference information as necessary.

#### 2. Lot Standards

## a. General

 One (1) Principle and one Acessory Building Type may be built on each lot.

## b. Lot Lines

- Any lot line abutting a pedestrian street is a primary front lot line.
- The front lot line of any interior cor or key cor is a primary FRONT COT LINE.
- iii. For corner Lors, the primary FRONT LOT LINE is designated as follows:
  - a). Any front lot line abutting a Pedestrian Street is a primary FRONT LOT LINE.
  - b). For all other CORNER LOTS, the primary FRONT LOT LINE is designated by the property owner, with all remaining FRONT LOT LINES are designated as secondary FRONT LOT LINES.

## c. Lot Dimensions

## i. Lot Width

- a). Lot width is measured as the length of the front lot line of a lot, except as follows:
  - For a flag lot, only the 'pole' or 'post' portion of the lot is used to measure lot width.

#### ii Lot Depth

 a) Lot depth is measured as the horizontal distance between the front and rear lot lines measured in the mean direction of the side lot lines.

## d. Lot Development

#### i. Lot Coverage

 The maximum area of a lot that is permitted to be covered by structures and impermeable surfaces.

## II. Green Factor

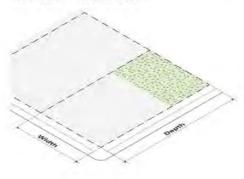
 a) Green factor is landscape requirement measured as a ratio of the weighted value of various landscape elements to total lot area.
 See § 10.3 Green Factor for more information.

## 3. Building Placement

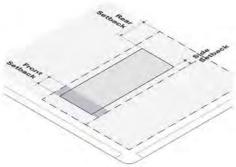
## a. Building Setbacks

- Setbacks are measured parallel to lot lines.
- All buildings and structures must be located at or behind any required minimum front, side, or rear setback except as indicated in §2.2.3.c. Setback Encroachments.
- iii. The facade of a principal building must be built at or in front of any maximum front setback for each story of a building. The façade of upper stories may not project forward of the façade of the first story except through the use of permitted building components and building frontages.
- Buildings and structures are not permitted to encroach upon any easement or the right-of-way of any public thoroughfare
- v. Lots that cannot meet tower setback requirements

#### FIGURE 2.4.2 Lot Dimensions



## FIGURE 2.4.2 Setbacks



utiledesign.com

utile

## 2. OVERVIEW & GUIDE

Standards & Measurements

## FIGURE 2.4.3 Parking Setbacks



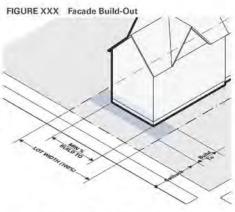
on all sides are not appropriate for tall buildings.

#### b. Parking Setbacks

 Unless otherwise specified, all off-street parking, including surface and structured parking, but excluding underground parking, must be located at or behind any required parking setback.

## c. Setback Encroachments

- Building frontages and components may extend beyond a required front setback as indicated for each type.
- Cornices, belt courses, sills, buttresses and other architectural features may encroach up to two (2) feet.
- Chimneys and flues may encroach up to four
   (4) feet, provided that at least two (2) feet is maintained from the vertical plane of any lot line
- iv. Building eaves and roof overhangs may encroach up to three (3) feet, provided that at least two (2) feet is maintained from the vertical plane of any lot line.
- v. Unenclosed fire escapes or emergency egress stairways may encroach up to four (4) feet into a required side or rear setback, provided that at least two (2) feet is maintained from the vertical plane of any lot line.
- vi Mechanical equipment associated with residential uses, such as HVAC units and security lighting, may encroach into a required side or rear setback, provided that at least two (2) feet is maintained from the vertical plane of any lot line.
- Vii. Terraces, uncovered and unenclosed patios, and/or structures below and covered by the ground may fully encroach into a required setback.
- viii Minor structures accessory to utilities, such as



hydrants, manholes, transformers, and other cabinet structures, may fully encroach into a required setback.

 Accessory structures, fences and walls, signs, and landscape buffers may encroach as indicated in Article 10: Development Standards.

### 4. Massing & Height

#### a. General

The upper stories of a building may not project, in any direction, beyond the exterior wall plane of the stories below, except through the use of permitted building components and building frontages.

#### b. Facade Orientation

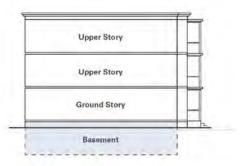
 The facade of a principal building must be built parallel to a front lot line or to the tangent of a curved front lot line.

#### c. Main Body

- I. Facade Build Out
  - Façade build out is a ratio of building width to lot-width, measured at the maximum front setback line. See figure XXX.
  - b). The façade of a building must be built to the façade build out ratio as specified for each building type
  - c). For lots with frontage on three (3) sides, façade build out along a secondary frontage is only applicable to the minimum number of stories required for each building type.
- II. Building Width
  - a). Width is measured parallel to the facade of a building.
- III. Building Depth
  - a). Depth is measured perpendicularly from the

**Detroit Brush Park** 

#### FIGURE 2.3 Building Height in Stories



facade as the maximum length of any exterior side wall of a building:

#### iv. Floor Plate

 a) Floor plate is measured as the total gross floor area of each story of a building, excluding building components and frontages.

## v. Building Height, Stories

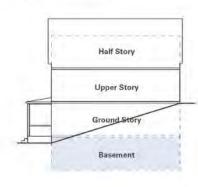
- The total number of stories of a building is calculated as follows:
  - The ground story is counted as one (1) story, except that a single ground story of twenty-five (25) feet or more is counted as two (2) stories.

additional story, except that any story, excluding the ground story, with a mezzanine or loft is counted as two (2) stories,

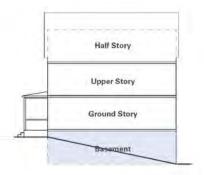
ii). Each upper story is counted as one (1).

- III). Interstitial space between stories is counted as an additional story if the space has a walking surface, permanent lighting, a ceiling height of seven feet sixinches (7'6") or more, or is accessed via a stairwell or elevator door.
- Basements are counted as one (1) story only when the finished floor of the ground story is five (5) feet or more above the average ground level of the lot. Walkout basements are exempt.
- v). For any lot with frontage on (2) two or more thoroughfares with a difference in elevation of at least ten (10), feet, the ground story at the lower elevation is not included in the calculation of total number of stories.
- vi). Each story of above ground structured parking is counted as one (1) story regardless of its relationship to habitable stories, except that up to two (2) stories of above ground structured parking may be counted as one (1) story when those stories are fully screened by a single ground story with an equal or greater story height.
- When building height allows for a half-story, the half-story is counted as the habitable

## FIGURE 2.3 Upward Slope



## FIGURE 2.3 Downward Slope



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## 2. OVERVIEW & GUIDE Standards & Measurements

2. OVERVIEW & GUIDE Standards & Measurements

## FIGURE 2.3 Half-Stories



space located directly under a pitched roof. The following standards apply:

- i). The roof rafters must intersect the wall plate or top of wall frame of the extenor walls at a height no more than two (2) feet a. Facade Composition above the finished floor of the half-story
- iii. Ceiling height of a half story must not exceed twelve (12) feet in height at any point.
- cl. Non-habitable attic space located under a pitched roof is not counted as a half story.
- d) Where a grade of a lot slopes downward by more than five (5) feet from the facade toward the rear of a lot, the basement is not counted
- e). Where the grade of a lot increases by more than five (5) feet from the facade to the rear of the building, a basement is counted as one (1)

## vi. Story Height

- a). Story height is measured vertically from the surface of the finished floor to the surface of the finished floor above. When there is no floor above, story height is measured from the surface of the finished floor to the top of the structural beam or joists above or the top of the wall plate, whichever is more
- b). Minimum story height requirements are not measured for half-stories.

### vii Ground Story Elevation

a). Ground story elevation is measured from the average grade of the sidewalk of the abutting thoroughfare or from the crown of the roadway of the adjacent thoroughfare when no sidewalk

exists, to the top of the finished floor of the ground story of a building.

## viii. Building Height, Feet

a). Building height in feet is measured as the vertical distance from the finished ground level at the facade of the building to the top of the structural beam or joists of the upper most

#### ix. Roots

a). Defined roof types are permitted as indicated for each building type. If this line item is not identified on the building type table, the roof is not regulated.

## x. Roof Features

a). Roof decks conforming to \$3 G.7 Roof Deck; mechanical & stairwell penthouses; roof mounted cellular, radio, and Internet transmission equipment; vents or exhausts; solar panels or skylights; flagpoles; belfries, chimneys, cupolas, monuments, parapets, spires, steeples, and other non-habitable architectural features are permitted on roofs.

#### 5. Uses and Features

- i Fenestration
  - a). Fenestration must be provided as indicated for each building type and is calculated as a percentage of the area of a façade.
    - i). Ground story fenestration is measured between two (2) feet and twelve (12) feet above the Abutting sidewalk:
    - ii). Upper story fenestration is measured independently for each story, from the top of a finished floor to the top of the finished floor above.
  - b) Fenestration enclosed with glazing may be included in the calculation if it meets the following criteria:
    - I). For ground story fenestration, glazing must have a minimum 60% Visible Light Transmittance (VLT) and no more than 15% Visible Light Reflectance (VLR).
    - ii). For upper story fenestration, glazing must have must have a minimum of 40% VLT. and no more than 15% VLR.

#### II. Blank Wall Area

a). Blank wall area is any portion of a facade that does not include fenestration (doors and windows) and surface relief through the use of columns, cornices, moldings, piers, pilasters, sills, sign bands, other equivalent architectural features that either recess or project from the average plane of the facade by at least four (4)

#### FIGURE 2.3 Fenestration

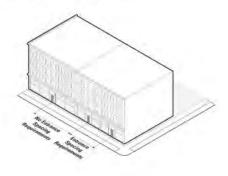


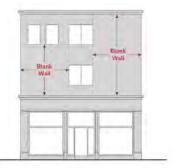
b). Blank wall area limitations apply both vertically and horizontally for all stories of a building for any facade.

#### Pedestrian Access

- Principal entrances must located on the facade of a building, provide both ingress and egress, and be operable at all times.
- c. Use & Occupancy
  - i. Dwelling Units
    - a). The maximum number of dwelling units permitted for a building type.
  - li. Density Factor

## FIGURE 2.4.1 Entrance Spacing





- a). The maximum number of dwelling units permitted is equal to the total residential gross floor area of a building or portion of a building divided by the density factor indicated for the appropriate building type.
- iii Outdoor Amenity Space
  - a). Where required, outdoor amenity space must be provwided for each dwelling unit as a balcony, deck, patio, porch, roof deck, roof terrace, or yard.
  - b). Each outdoor amenity space must provide at least twenty-four (24) square feet of unobstructed seating area.

## FIGURE 2.4.2 Commercial Space Depth

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