

MMDC Form* Book





MMDC [The Memphis Medical District Collaborative]

MMDC is a community development organization working with anchor institutions to strengthen the connections, communities, and campuses in the Memphis Medical District so they are more vibrant, prosperous, and equitable.

OJT [Office of Jonathan Tate]

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OJT is an urban design and architecture practice. We work on housing, cultural, hospitality, office, planning, and a bit of research, amongst other things.

www.officejt.com

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Edition 01

ISBN 9798393560461

0 5 1 9 2 0 2 3

MMDC Form* Book

Democratizing development in the Medical
District Neighborhoods.

MMDC

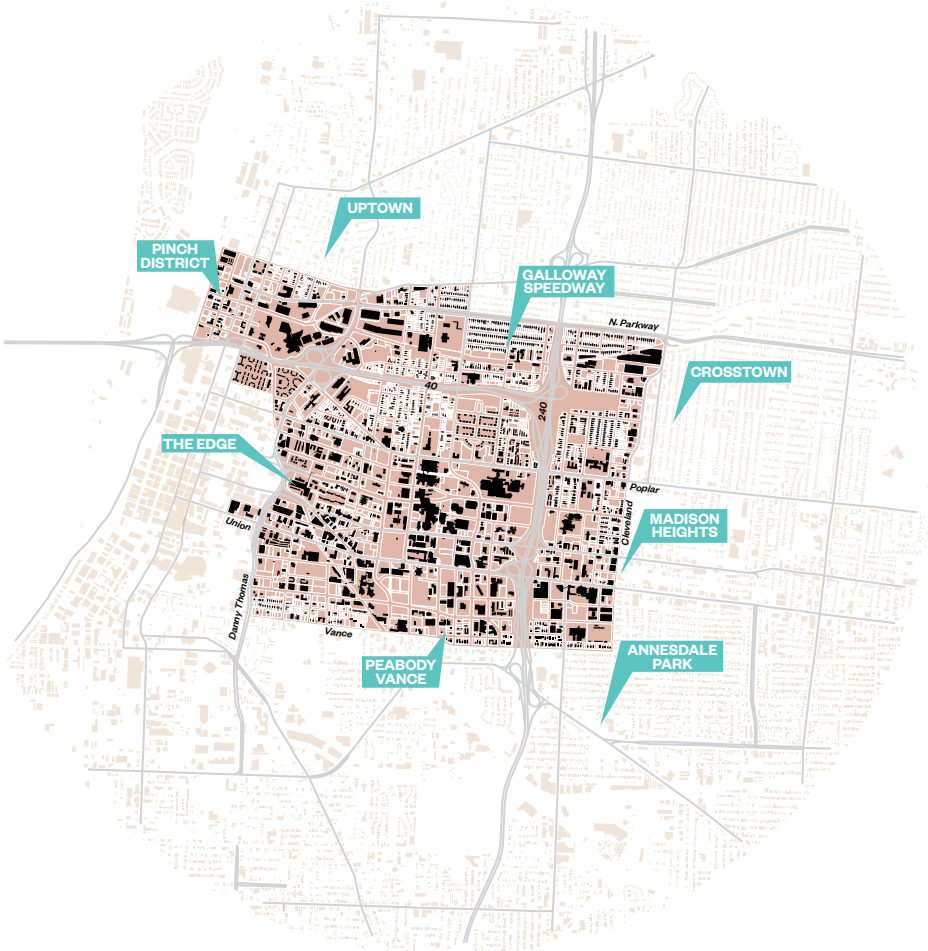
OJT

The first part of the paper discusses the importance of understanding the underlying structure of the data. This is particularly relevant in the context of machine learning, where the ability to identify patterns and relationships in the data is crucial for making accurate predictions. The second part of the paper focuses on the development of a new algorithm for solving the problem of finding the optimal solution to a given set of constraints. This algorithm is based on a combination of linear programming and heuristic search techniques, and is designed to be both efficient and effective. The third part of the paper presents the results of a series of experiments conducted to evaluate the performance of the proposed algorithm. These results show that the algorithm is able to find the optimal solution to the problem in a significantly shorter time than previous methods. Finally, the paper concludes with a discussion of the implications of these findings for future research in the field of optimization.

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This is the Memphis Medical District.

Introduction

The Memphis Medical District is a 2.6 square mile area - located between Downtown and Midtown - composed of the city's largest concentration of medical and educational facilities, set against the backdrop of distinct and historic neighborhoods.

The **Memphis Medical District Collaborative** (MMDC) is a community development organization working with anchor institutions to strengthen the connections, communities, and campuses in the Memphis Medical District so they are more vibrant, prosperous, and equitable. MMDC's programs and incentives work to strengthen the neighborhoods in the District to make the area more livable, vibrant, and safe.

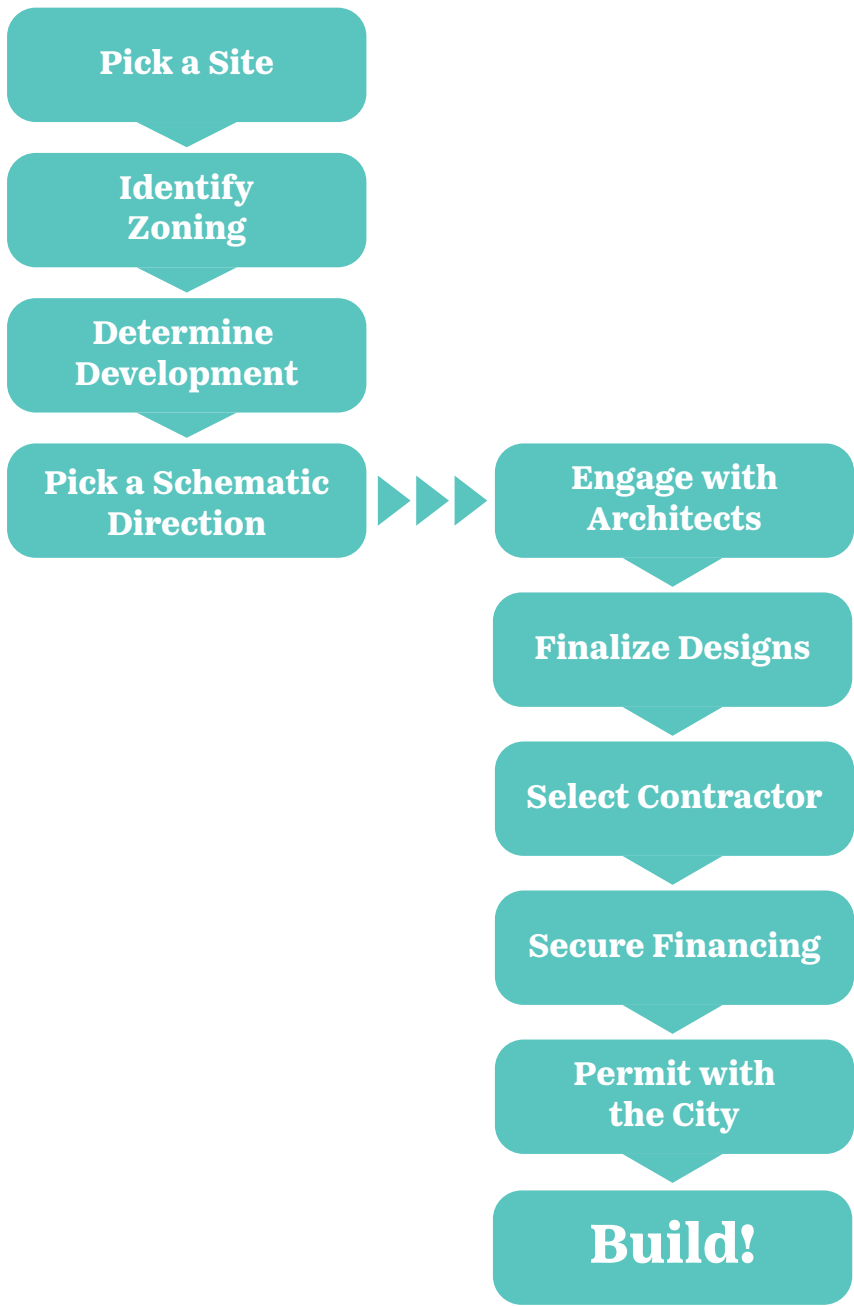
We're here to help you.

It's our goal to help you understand the potentials for developing a typical lot in the area, and to give you the tools you need to understand development, which in turn will help you get a handle on financing, construction timeline, etc. If you own a parcel, you probably want to know what you can build on it. This guide is intended to help you figure out a few basic things to get underway to figure out if you're able to build a single-family house, a double, or add an ADU.

Let's get to work!



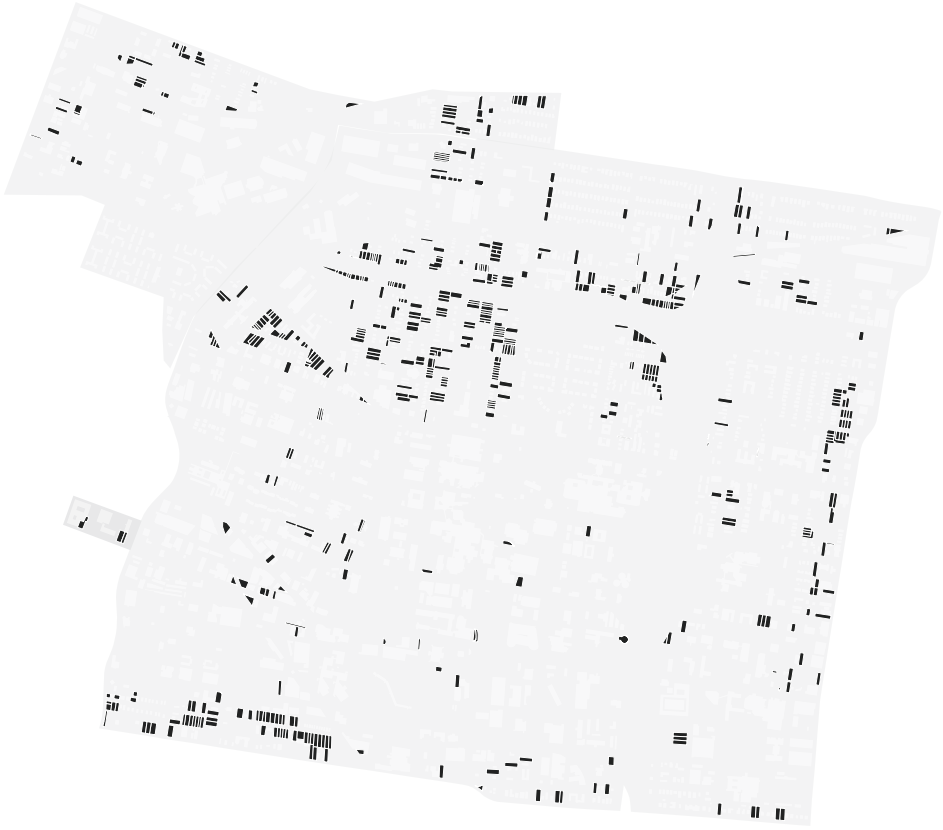




How to use the Form* Book

Whether you have questions about where to get started, to questions about how much it'll cost, this book is an abridged compendium to help you understand some of the basics before you get set up with a design professional. Within the pages of this book, you'll be able to:

- 1. Identify Zoning Parameters.**
- 2. Determine Development.**
- 3. Pick a Schematic Direction.**



Vacant MMD parcels under 10,000 square feet.

Getting Started

You have a lot in the Memphis Medical District. Here's a few things that you'll need to get underway:

1. Parcel Address

This is the most obvious, but the most helpful piece of the puzzle. With your lot address you can access online tools to help you figure out the basic parameters of your site.

2. Zoning Designation

With a quick online search on the Shelby County Zoning department map, (<https://gis.shelbycountyttn.gov/zoning/>), you'll quickly be able to find out your lot's zoning, which will help you figure out what you can put on the site. Need help figuring out what your parcel is zoned? Feel free to reach out to City Hall during normal business hours. Their current number is (901) 636-6619.

3. Lot Dimensions

Most parcels have dimensions that are on the title, or deed. Alternatively, they may show up somewhere in the description of the property online. If you're looking for an official way to measure your property's boundaries, it might be best to order a full survey. A local surveyor can help you with that. The dimensions of the lot will help you determine how big you can build.

Zoning Basics

**THE
MEMPHIS AND SHELBY COUNTY
UNIFIED DEVELOPMENT CODE
ANNOTATED***

**The Zoning Code and Subdivision Regulations
for the City of Memphis and Unincorporated Shelby County**



Approved **as ZTA 09-1** by the **Land Use Control Board on June 10, 2010**,
the Shelby County Board of Commissioners as Ordinance No. 397 on August 9, 2010,
and the Memphis City Council as Ordinance No. 5367 on August 10, 2010,
and Incorporating the Following Amendments:

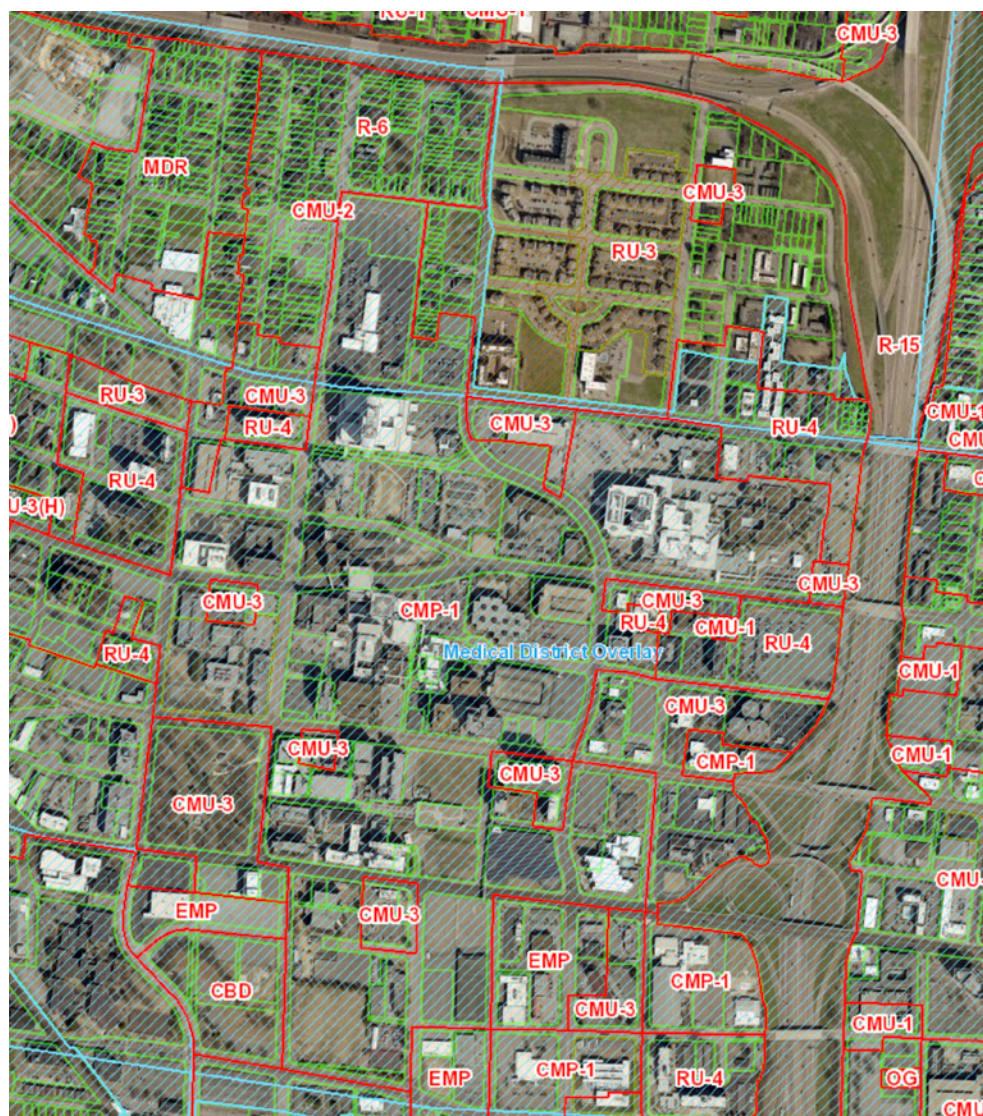
OPD Case No.	Land Use Control Board	Shelby County Board of Commissioners	Memphis City Council
ZTA 10-1	August 12, 2010	Ordinance No. 399, October 25, 2010	Ordinance No. 5381, September 28, 2010
ZTA 11-1	adopted as part of ZTA 09-1	Ordinance No. 399, October 11, 2010	adopted as part of ZTA 09-1
ZTA 12-1	April 12, 2012	Ordinance No. 417, August 27, 2012	Ordinance No. 5458, July 17, 2012
ZTA 12-2	November 8, 2012	Ordinance No. 429, January 28, 2013	Ordinance No. 5491, January 22, 2013
ZTA 13-1	February 14, 2013	Ordinance No. 431, April 15, 2013	Ordinance No. 5504, April 16, 2013
ZTA 13-2	May 9, 2013	Ordinance No. 435, July 8, 2013	Ordinance No. 5517, July 5, 2013
ZTA 13-3	July 11, 2013	Ordinance No. 440, September 23, 2013	Ordinance No. 5532, September 3, 2013
ZTA 13-4	December 12, 2013	Ordinance No. 447, February 24, 2014	Ordinance No. 5544, February 18, 2014
ZTA 14-1	October 9, 2014	Ordinance No. 455, January 26, 2015	Ordinance No. 5577, December 16, 2014
ZTA 15-1	May 14, 2015	N/A	Ordinance No. 5589, June 6, 2015
ZTA 15-2	August 13, 2015	Ordinance No. 463, October 26, 2015	Ordinance No. 5600, October 6, 2015
ZTA 15-3	September 10, 2015	Ordinance No. 464, December 7, 2015	Ordinance No. 5603, November 3, 2015
ZTA 16-1	September 8, 2016	Ordinance No. 467, October 31, 2016	Ordinance No. 5629, October 18, 2016
ZTA 17-1	September 14, 2017	Ordinance No. 476, November 13, 2017	Ordinance No. 5663, November 7, 2017
ZTA 17-2	September 14, 2017	Ordinance No. 478, December 18, 2017	Ordinance No. 5664, December 5, 2017
ZTA 18-1	April 12, 2018	Ordinance No. 483, June 18, 2018	Ordinance No. 5688, May 22, 2018
ZTA 19-1	February 14, 2019	Ordinance No. 504, July 22, 2019	Ordinance No. 5724, July 2, 2019
ZTA 20-1	December 10, 2020	Ordinance No. 516, February 22, 2021	Ordinance No. 5772, February 2, 2021
ZTA 21-1	April 8, 2021	Ordinance No. 520, September 13, 2021	Not adopted
ZTA 21-2	September 9, 2021	Ordinance No. 533, November 15, 2021	Ordinance No. 5796, November 2, 2021
ZTA 21-3	September 8, 2021	N/A	Ordinance No. 5796, September 21, 2021

*For full annotations, please download the Zoning Text Amendment ("ZTA") staff report by clicking on the appropriate color-coded OPD Case No. listed above. Please note that some amendments made by the governing bodies are not reflected in the staff reports that were prepared in advance of the Land Use Control Board hearing. Minor amendments are not included in this annotation.

Zoning in Memphis is governed by the Unified Development Code, or UDC.

The 566-page document, updated by the city periodically (most recently in 2021), provides all of the relevant information on how to develop your site in Memphis.

The most important sections for the purposes of this book are the sections that deal with the various zoning districts. These are the primary geographical boundaries that determine what can get built where, and how large parcels need to be in order to construct certain building types, either residential or commercial. It tells us what setbacks must be, and how tall buildings can be. It tells us whether we can put an accessory structure (such as a garage) on site. Other sections deal with important issues such as parking, signs, fences, etc.



Zoning in the Memphis Medical District looks like this.

The **red boundaries** on the Zoning Atlas show the different zoning districts across Memphis. Each zoning district provides distinct rules that govern massing (how big a building is) and use (what kind of building it is). Depending on where your lot is zoned, you may be able to only construct a single-family house (in lower density districts) – or you may be able to develop a full apartment complex (in higher density districts).

The Medical Overlay District is an overlay defined in the zoning map and the Uniform Development Code. The purpose of the Medical Overlay District is to support the investment efforts of the various institutional uses located within the district.

The most common zoning districts in Medical District in order of density are:

- R-6 — Residential Single-Family (lowest density)
- RU-3 — Residential Urban
- RU-4 — Residential Urban
- MDR — Moderate Density Residential
- MU — Mixed Use
- CMU-1 — Commercial Mixed-Use
- CMU-2 — Commercial Mixed Use
- CMU-3 — Commercial Mixed Use (highest density)

If your proposal doesn't fall under one of those zoning categories, that's OK.

There are plenty of zoning designations within the Medical District that don't fall under the categories above, and that's fine! Think of zoning as a set of guidelines — while it's easiest to stay within the bounds, variation outside of them is also possible. If your proposed development scheme doesn't quite fit, there's always the possibility of pursuing a variance. For example: your lot may be slightly smaller than lot minimums allow for some higher density developments. A variance could allow you to build more units on a smaller site.

Zoning Parameter Basics

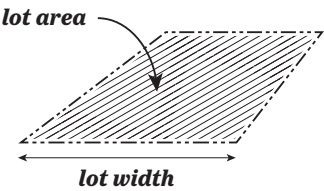
Use Designations

The UDC describes the “use” of a lot in a chart that cross references use designations with zoning types. Zoning will guide you towards what’s allowed — whether it’s a single-family house, a two-family house, or an apartment building, or another kind of development entirely.



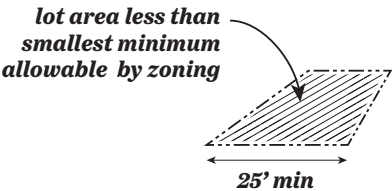
Lot Minimums

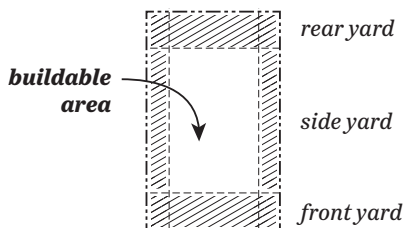
The UDC often gives minimum lot areas and widths to determine how densely you can build on a site. Each use designation typically comes with its own lot minimums.



Non-Conforming Lots

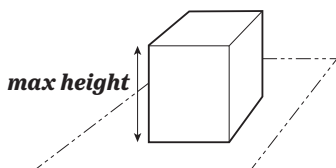
If your lot doesn’t meet the minimum lot width or area for the smallest use (usually a single family house) — you may have a “non-conforming lot.” The UDC has a provision for construction on non-conforming lots: as long as the width of the lot is 25-feet or greater, you can build a single family house. This allows for some infill development schemes on overlooked lots within the city.





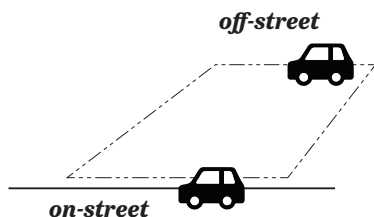
Setbacks

Setbacks, or yards, are designations of how much space you'll need to give your building on each side.



Building Height

Building heights limit how many stories you can put on your building.



Parking Requirements

Each development type comes with certain parking requirements that are defined in the later chapters of the UDC. Typically, there's a 1:1 requirement for parking — one unit requires one parking spot. Some larger developments require additional parking (multifamily buildings may require up to 1.5 per dwelling unit, depending on the number of bedrooms). Often the parking spaces are allowed to be on-street, but sometimes not. There are also exemptions included, such as space reductions, if you're close to transit lines.

Developing Your Lot

MARKET HOUSING EQUATION

$$\begin{array}{ccccccc} \mathbf{L} & + & \mathbf{C} & + & \mathbf{M} & = & \mathbf{P} \\ \text{land cost} & & \text{construction cost} & & \text{margin} & & \text{sale price} \end{array}$$

AFFORDABLE-HOUSING EQUATION

Reduce price by reducing construction cost through
smaller sizes and standardized systems

$$\begin{array}{ccccccc} \begin{array}{|c|} \hline \bigcirc \\ \hline \end{array} & + & \begin{array}{|c|} \hline \text{X} \\ \hline \end{array} & + & \begin{array}{|c|} \hline \bigcirc \\ \hline \end{array} & = & \begin{array}{|c|} \hline \$ \\ \hline \end{array} \\ \text{typical lot} & & \text{construction cost} & & \text{return} & & \text{sale price} \\ \text{land cost} & & & & \text{margin} & & \end{array}$$

Financial Basics

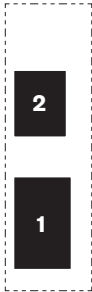
Understanding square foot costs, our intention is to provide a lower construction cost through standardization wherever possible. This includes reducing footprint sizes where possible, but also using standard and readily available materials in order to drive down initial costs.

However, it's important to understand that construction cost is only one component, there's other things to pay for, such as land, permitting fees, utility connections, architects' fees, maintenance costs, etc. Add your rate of return, and you're looking at your sale price (or rental cost, depending on the basics of your pro-forma).



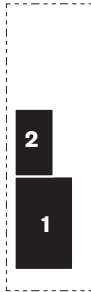
Single Family

1 Unit



Single-Family +ADU

2 Units



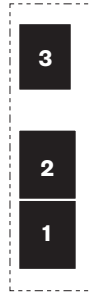
Single-Family +Attached ADU

2 Units



Duplex

2 Units



Duplex +ADU

3 Units



Stacked Duplex

2 Units



Stacked Duplex +ADU

3 Units

One-and-Two-and

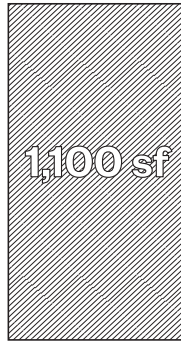
Once you've determined your lot, your lot size, and your zoning, you can move forward with looking at the kind of building you want to put on your property.

The following pages will clarify the kinds of housing that work with most lots — single-family, two-family, and accessory dwellings, and offer some plans to fit your project.

Before we get into the nitty-gritty, we'd like to propose a few basic approaches that we think will attempt to leverage various advantages for prospective home developers, either for affordability or future site adaptation.



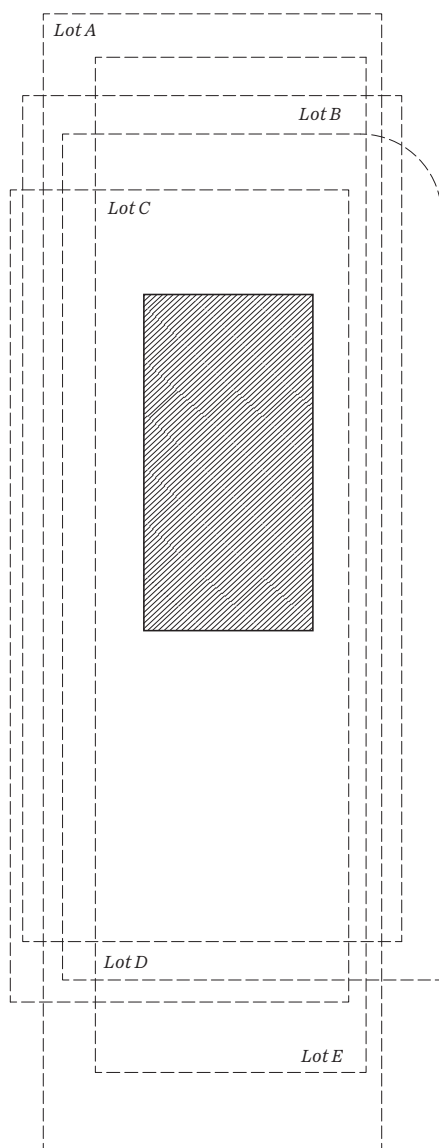
TYPICAL



TIGHT

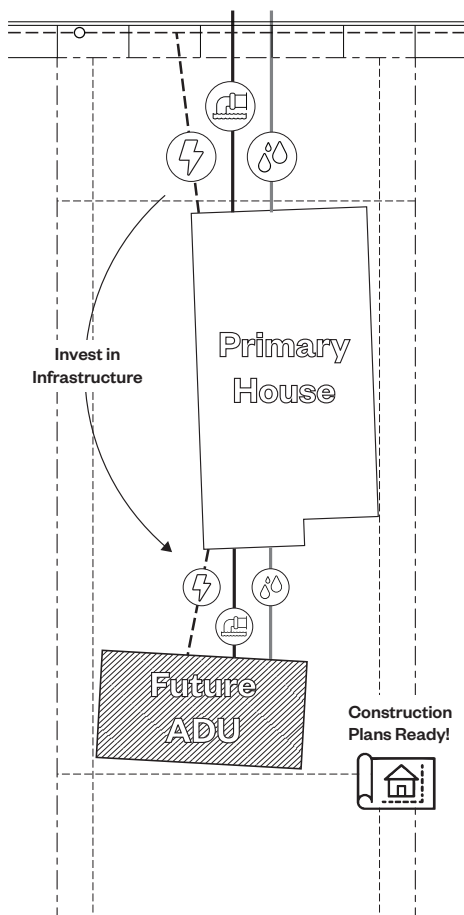
1. Right-Sizing

Reduction of footprint is, for our matters, a question of economics. Right sizing is about taking some of the “air” out of the typical floor plan, which means you’re also spending less up-front cost on per-square-foot costs like framing, flooring, siding, paint, etc.



2. Universal Fit

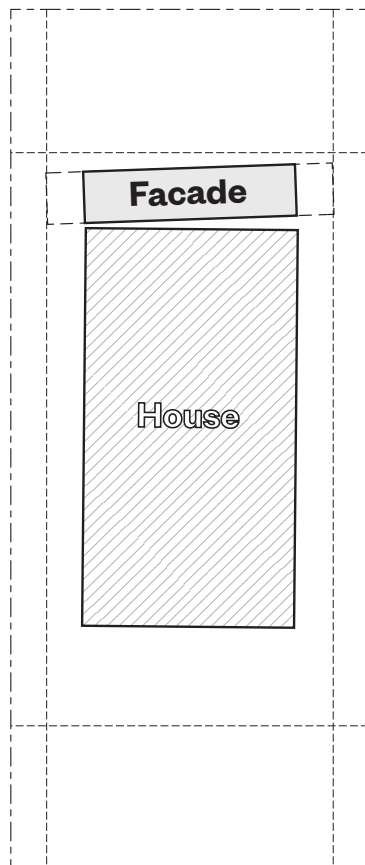
It's also a matter of finding a way to squeeze the most efficient plans onto a given site. It's a baseline from which, of course, we can expand, but it's a starting point nonetheless.



3. Preparing for More

Accessory dwelling units (ADUs) are housing units that are developed as a second building on the same lot. These units are full houses, albeit a little smaller, and have been popping up in zoning codes recently across the United States. They take various forms, whether they're pool houses in Los Angeles, garage apartments in Houston or carriage houses in Chicago. In Memphis, ADUs are now zoned for lots that are 7,000 square feet or more, and with a variance, are potentially viable on lots that are slightly smaller than that. So, even if you're not ready to build an ADU now, bringing utilities to the site to accommodate future ADUs may give you a leg up when the time is right to build another source of rental income on your primary lot.

Even if you aren't financially ready, you can always prepare for the day when it's time to build by preparing construction plans, fully issued by an architect and ready to go. When the time comes, with your construction plans in hand, all you have to do is permit and build, saving you time on the design end that you can move ahead with in building your ADU.



4. Keep the Facade Loose

Whatever neighborhood you build in, you should be able to fit in. Rather than prescribing a “universal” facade, it’s better to develop the design idea for how your house meets the street with a design professional. Even if the unit you build is a “typical” plan provided here, the front porch – or whatever you want to hang out on the street – should be a result of a discussion with you.

Case Studies

Before You Start

A brief but important disclaimer:

The material being presented in the following section as site development options are for the purposes of illustrating potentials only. Every site is different, and most offer several configuration alternatives. But, most importantly — every location deserves a design that responds to its unique context. To that end, the designs in this manual are not intended to be reproduced, nor are they permitted to be reproduced for copyright purposes.

These proposals offer the means to define the initial direction and scale of your project. The next step is to engage an architect to make your project, your project.

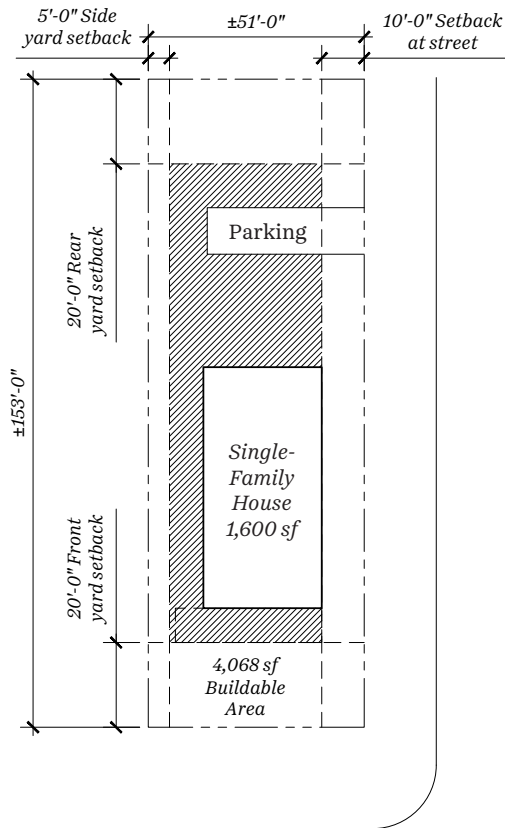
Site 1: Single-Family House

RU-3 Zoning
7,800 sf lot

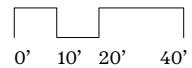


Single-Family House Site.

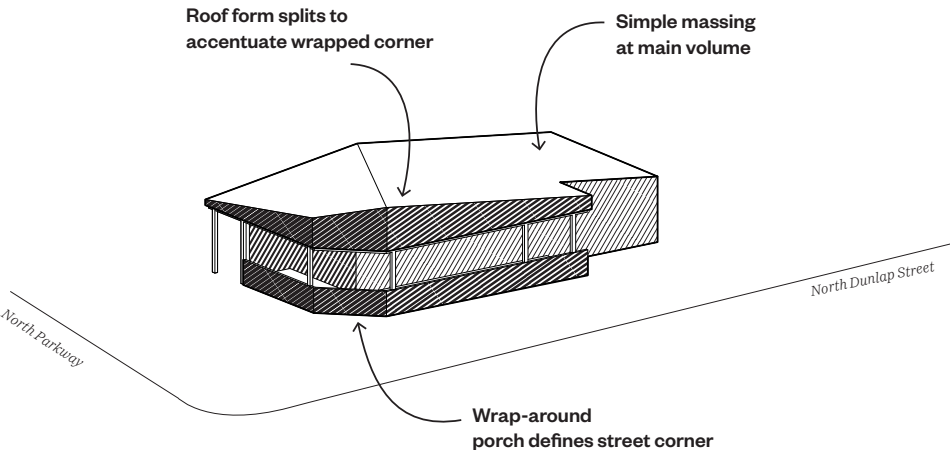
At 7,800 sf, this site is very large for a single-family lot, allowing a larger footprint for a house in the RU-3 zone. Typical single-family lots require 6,000sf at a minimum.

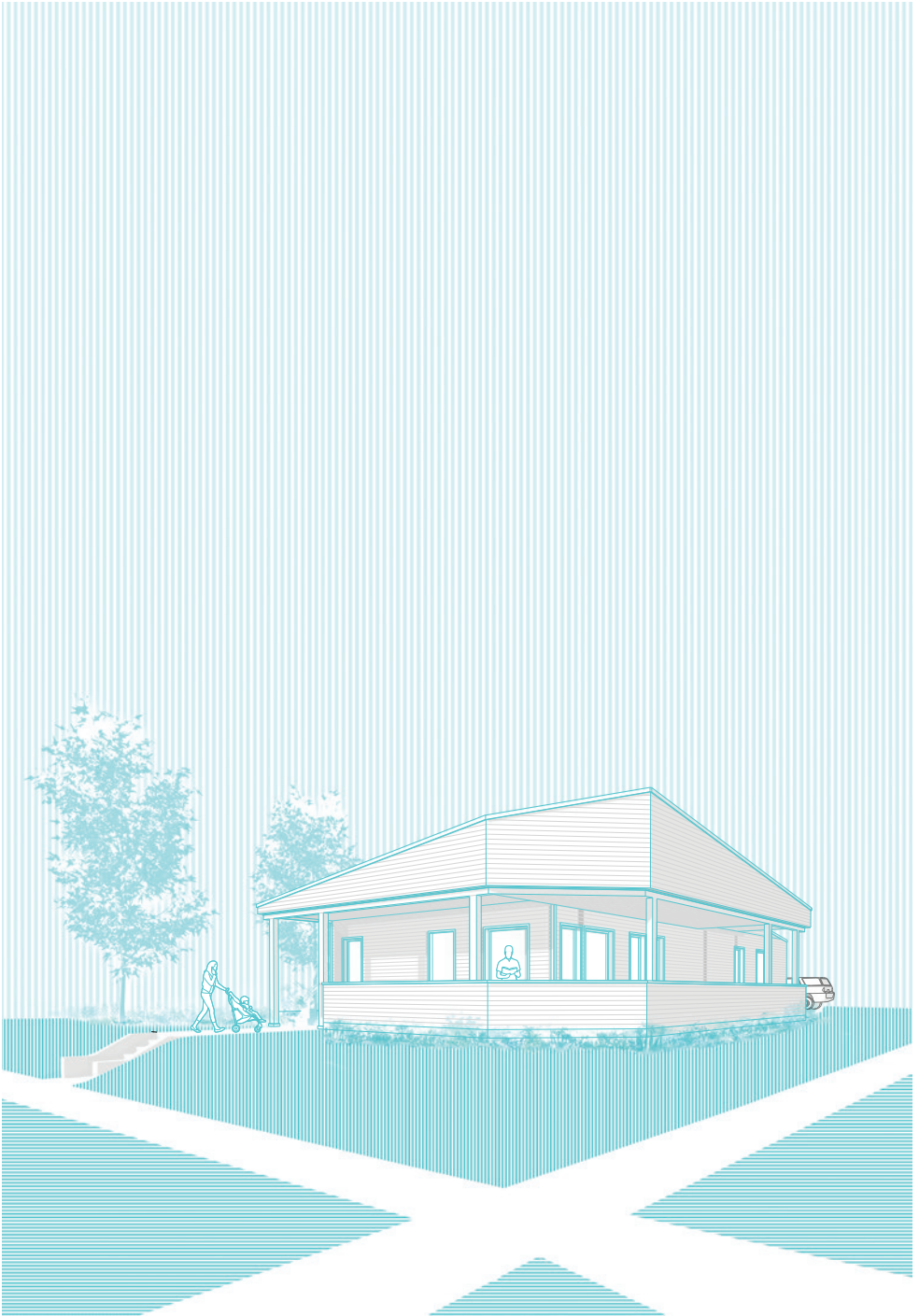


Site Plan Diagram



Site 1: Single-Family House

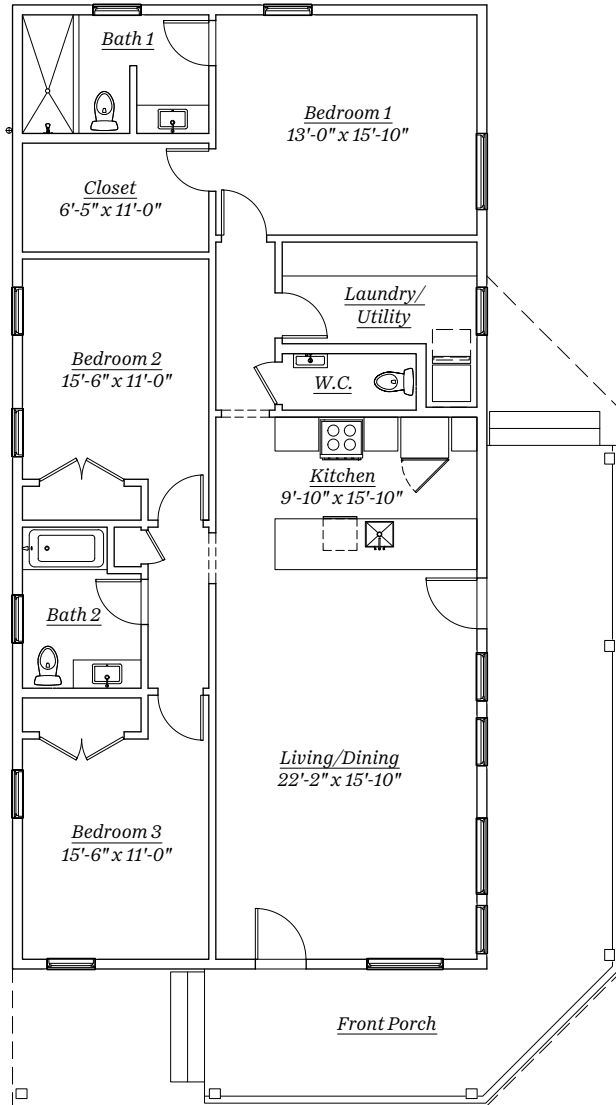




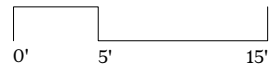
Site 1: Single-Family House

3-Bedroom, 2.5 Bathroom House

1,594 sf gross



First Floor Plan



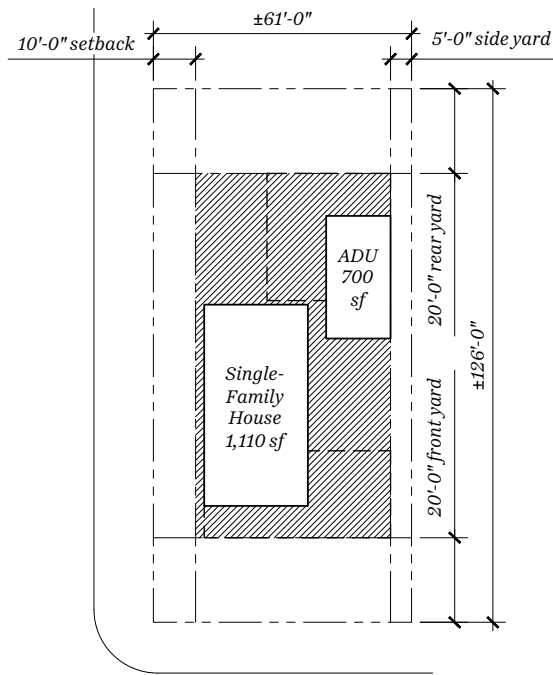
Site 2: Single-Family House + ADU

RU-3 Zoning
7,600 sf lot

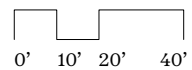


Single-Family + ADU Site.

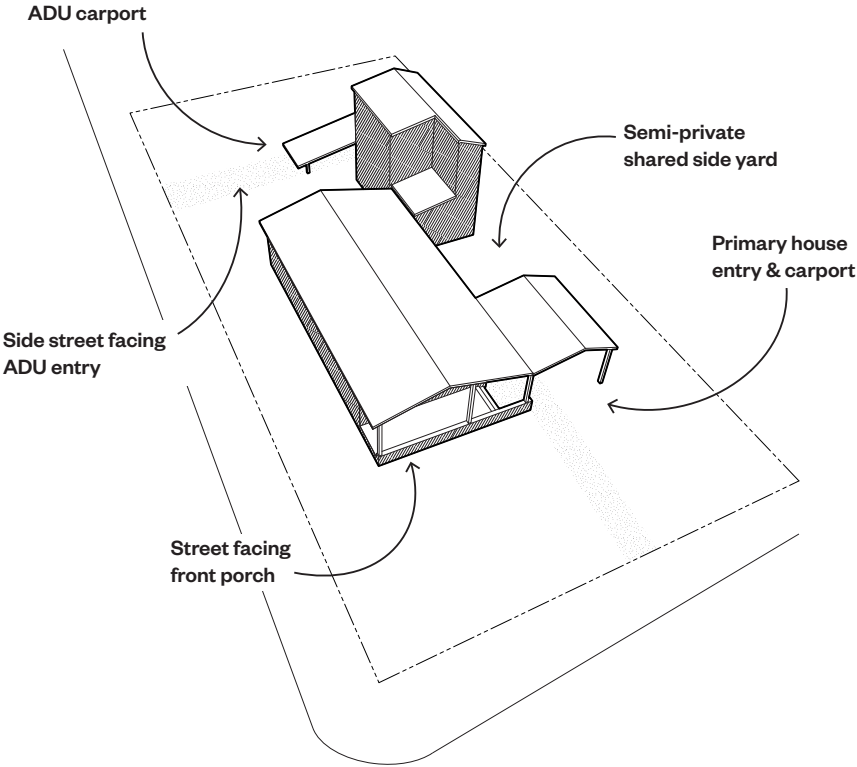
At 7,600 sf, this site meets the criteria for a single family home, and with recent zoning changes, allows for an accessory dwelling unit (ADU). With a right-sized approach, the site can easily accommodate two structures that can either be phased separately or built at the same time.

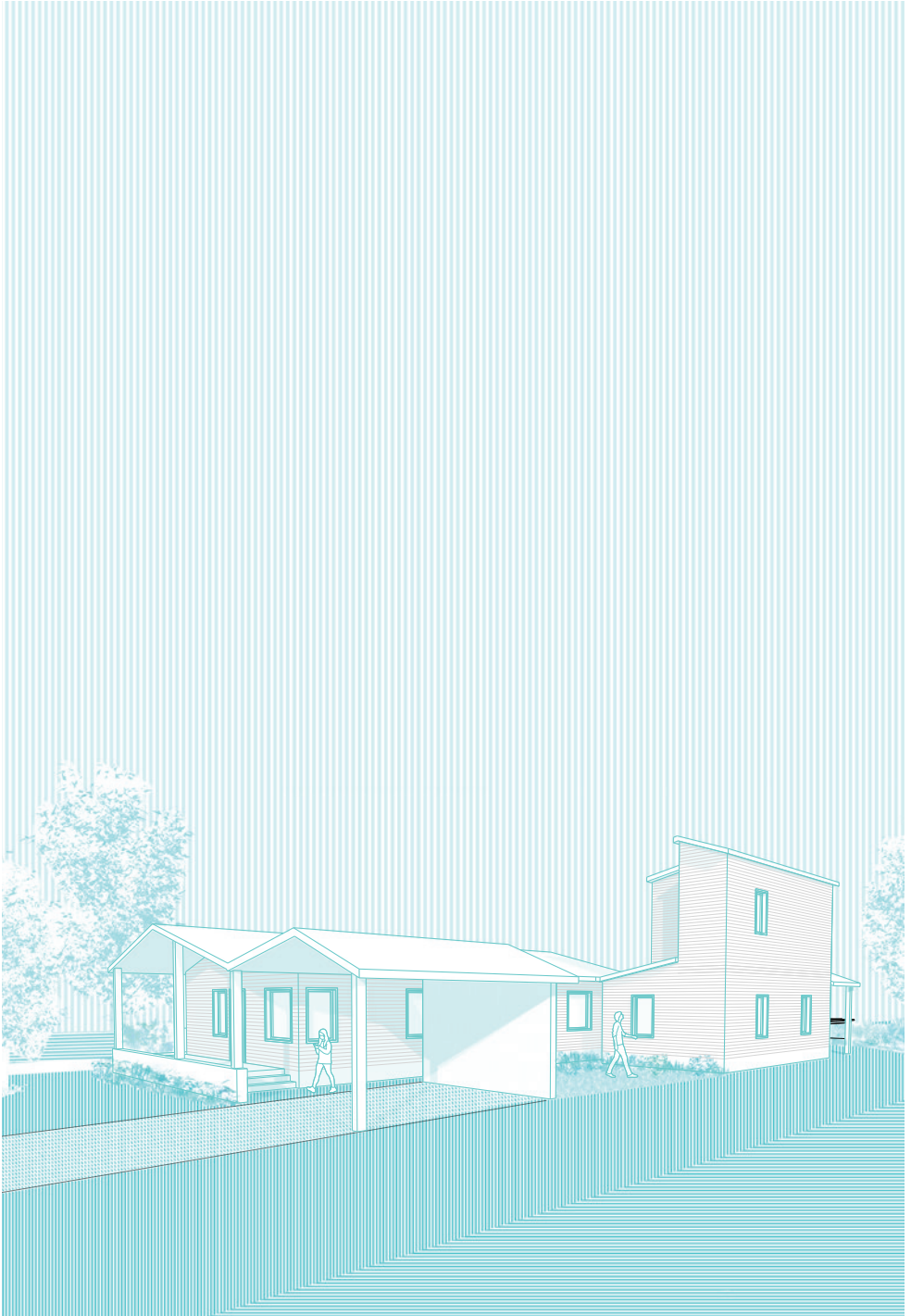


Site Plan Diagram



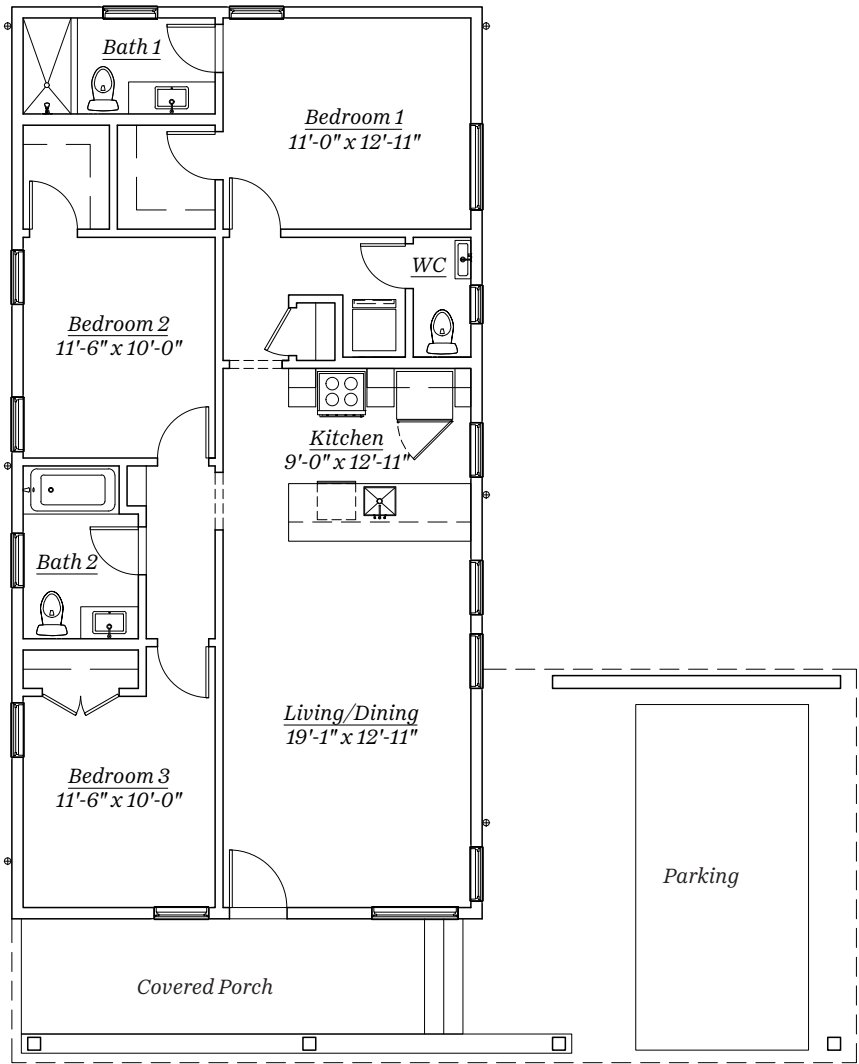
Site 2: Single-Family House + ADU



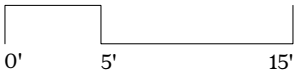


Site 2: Single-Family House + ADU

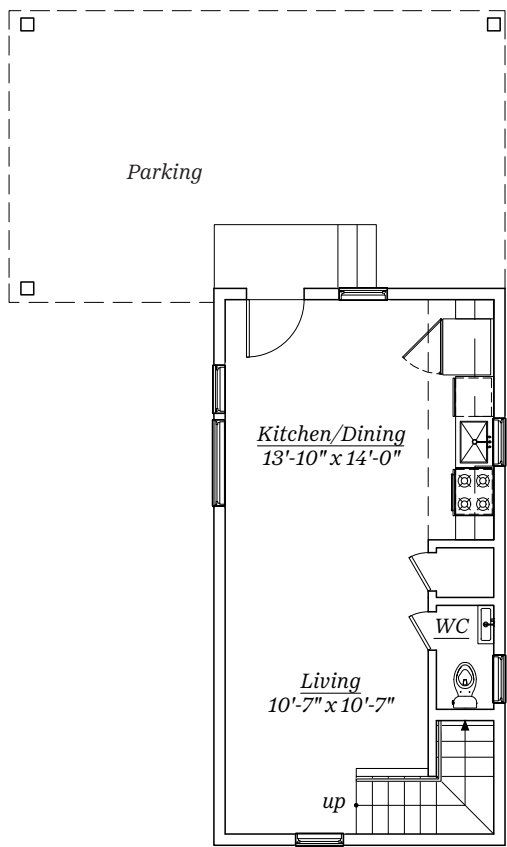
Single-Family House: 1,100 sf
Three Bedrooms, Two Bathrooms



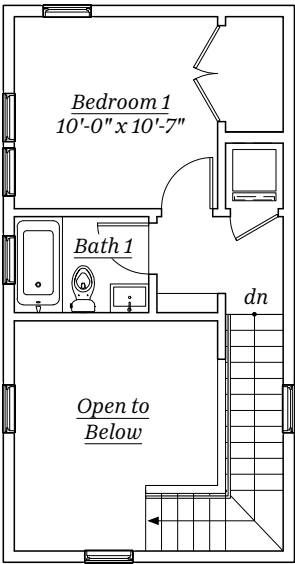
Single-Family House Plan



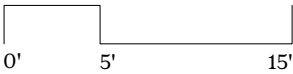
ADU: 700 sf
One Bedroom, One Bathroom



First Floor Plan



Second Floor Plan



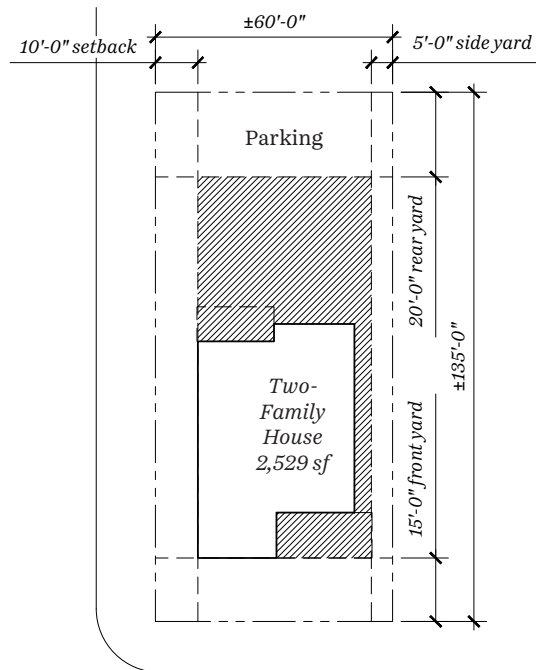
Site 3: Two-Family House

RU-3 Zoning
8,100 sf lot

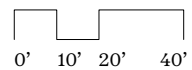


Two-Family House Site.

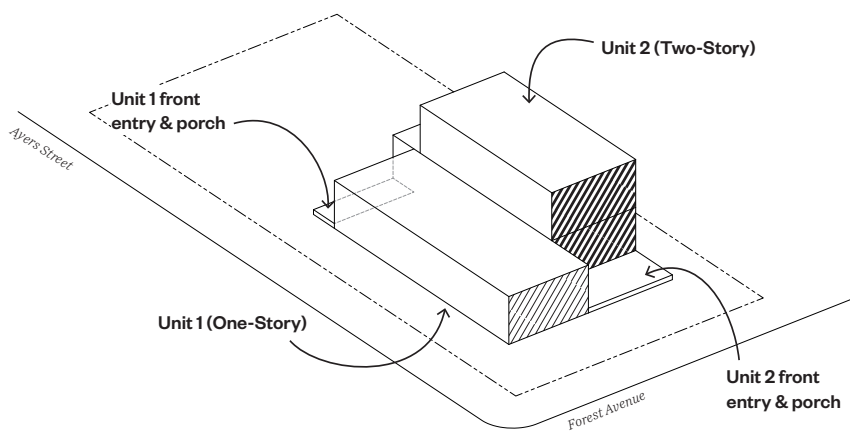
At 8,100 sf, this site meets the minimum requirement for a two-family house. For this iteration, one side of the double is a single-story unit, and the other half is a two-story unit. On a corner lot, both units have access to the street, giving each an opportunity for a front entrance.

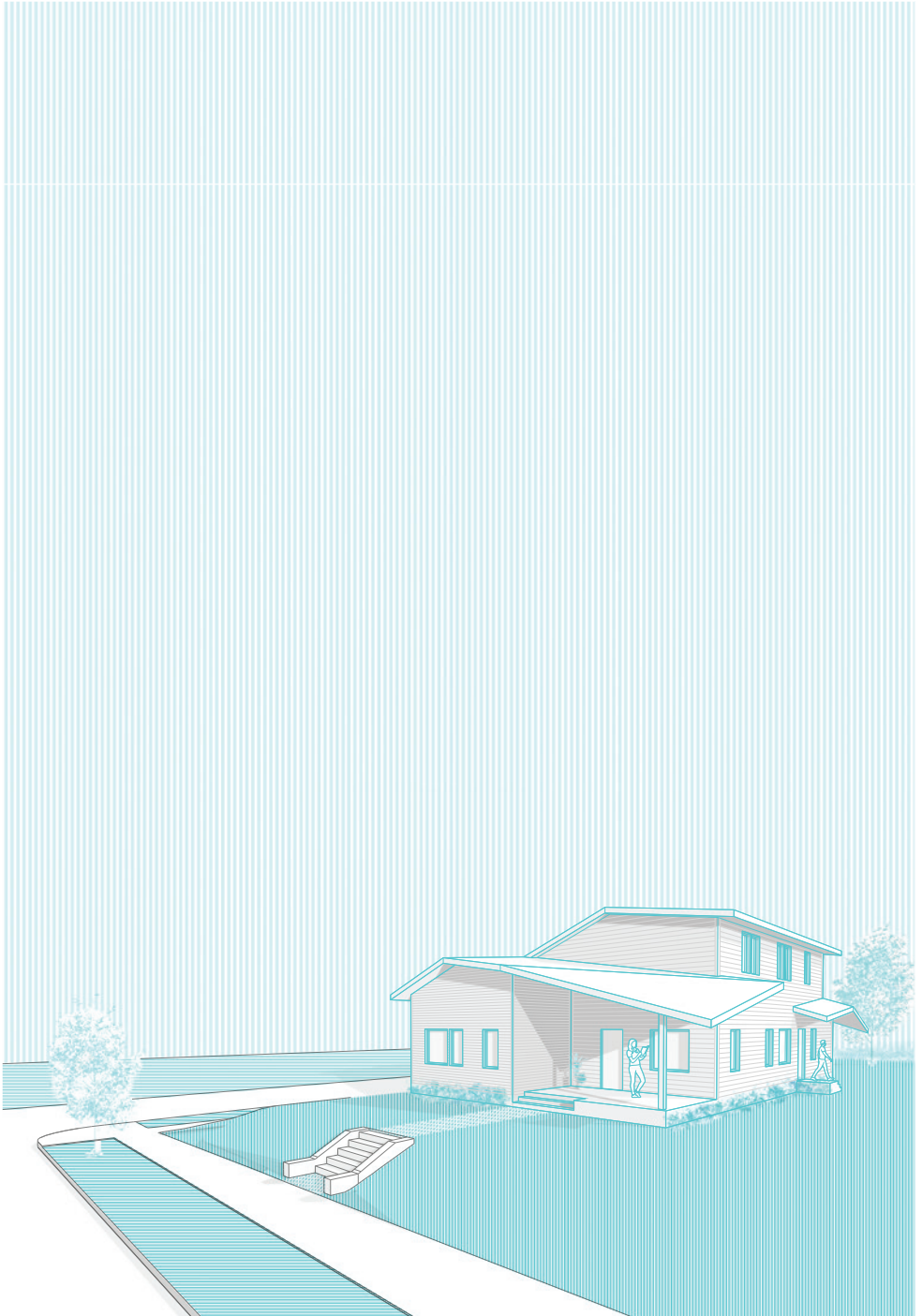


Site Plan Diagram



Site 3: Two-Family House

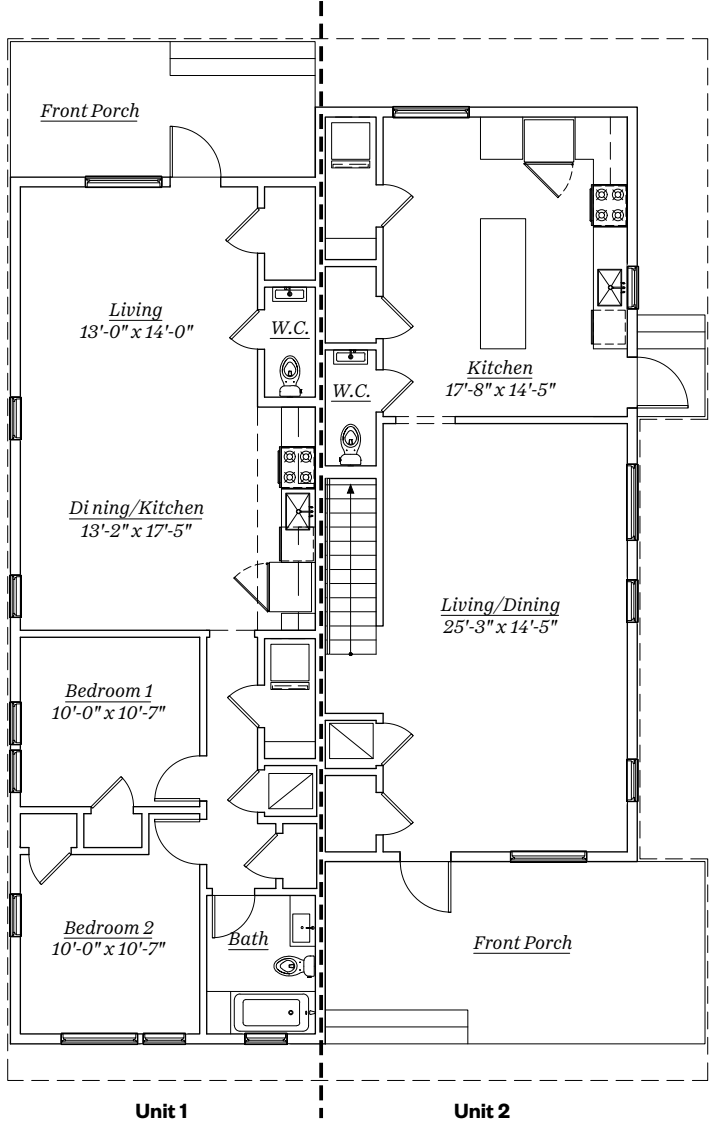




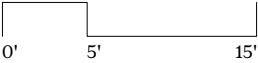
Site 3: Two-Family House

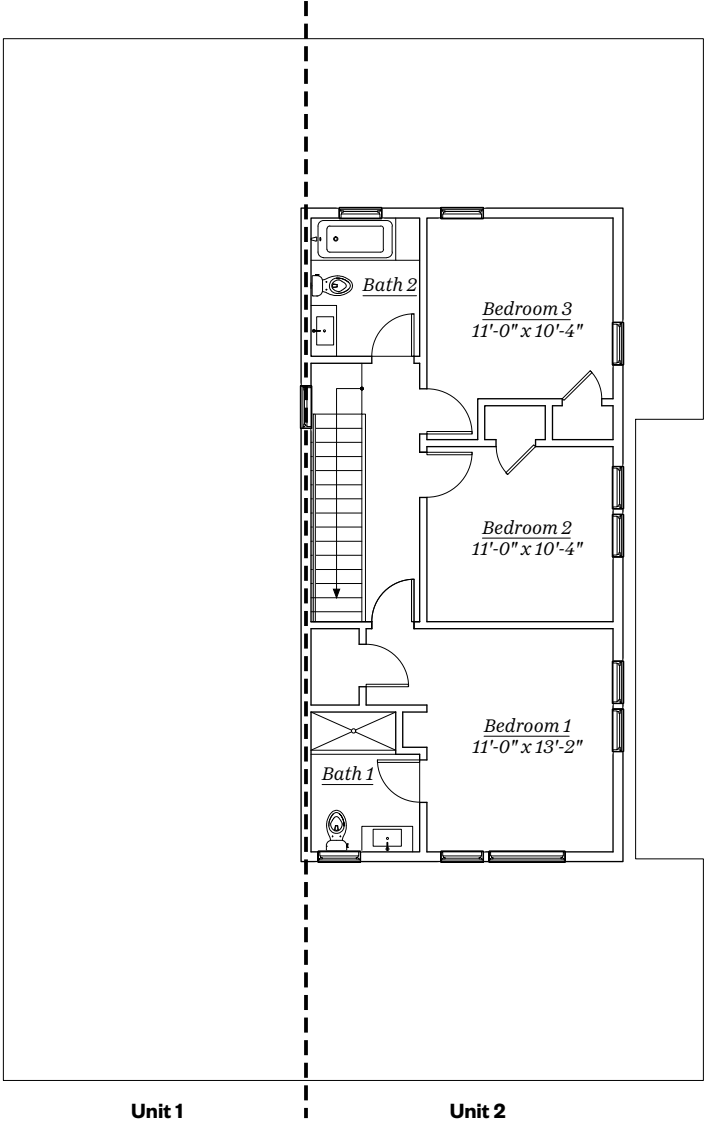
Unit 1: 930 sf / Two Bedroom, One Bathroom

Unit 2: 1,300 sf / Three Bedroom, Two Bathroom



First Floor Plan





Second Floor Plan

Site 4: Split Four-Plex

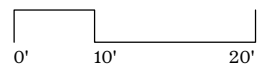
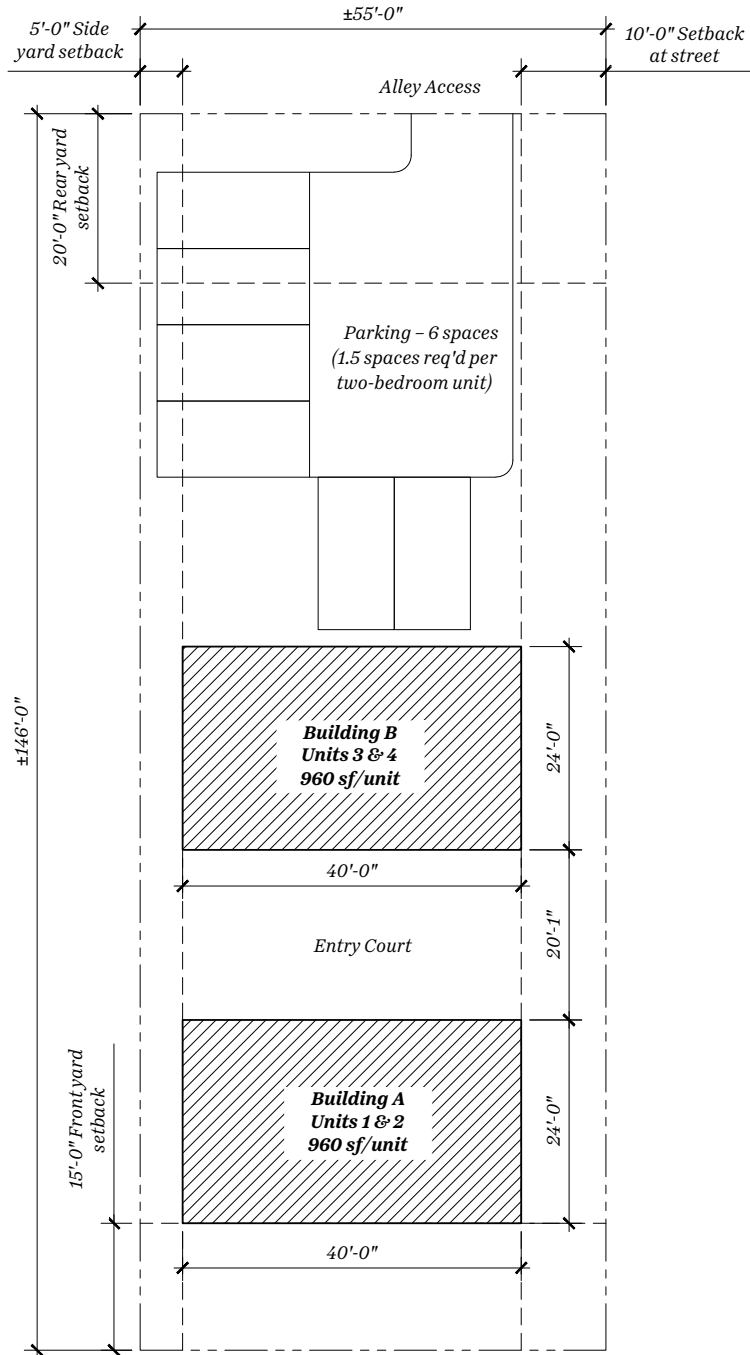
RU-3 Zoning
8,000 sf lot



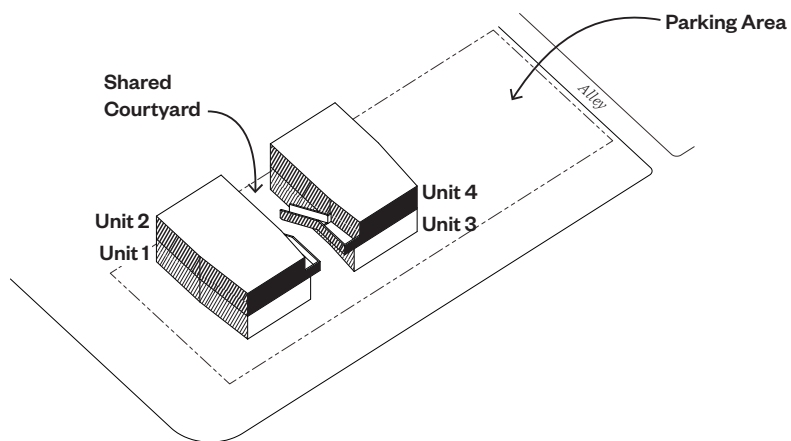
Split Four-Plex Site.

At 8,000 sf, this site meets the criteria for a single-family or two-family home by-right. It’s smaller than the allowable minimum lot size for a full multifamily apartment building or “large home.”

However, with some additional planning, and clearing the regulatory hurdle of successfully applying for a variance – the possibility of adding more density opens up.



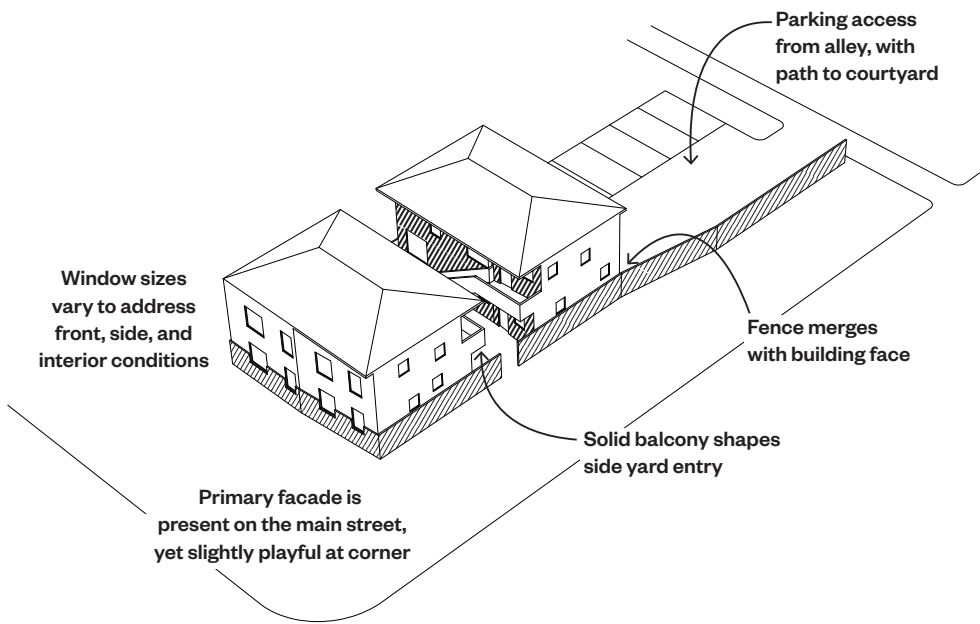
Site 4: Split Four-Plex

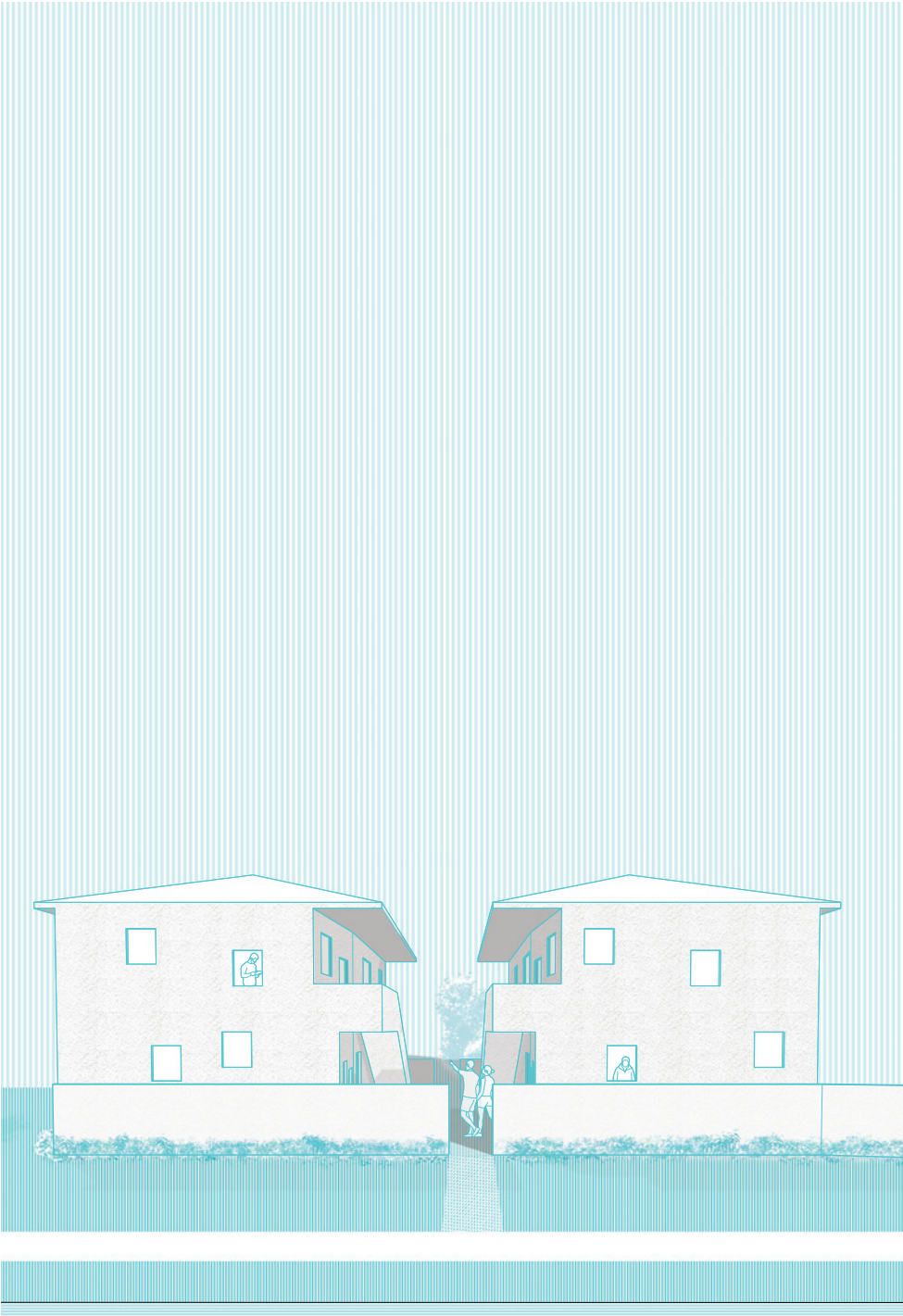


In order to make the development more affordable, the approach uses multiple primary structures designed to meet IRC requirements as two two-family houses on the same lot. In other parts of the city this is called a “bungalow court.”



Site 4: Split Four-Plex





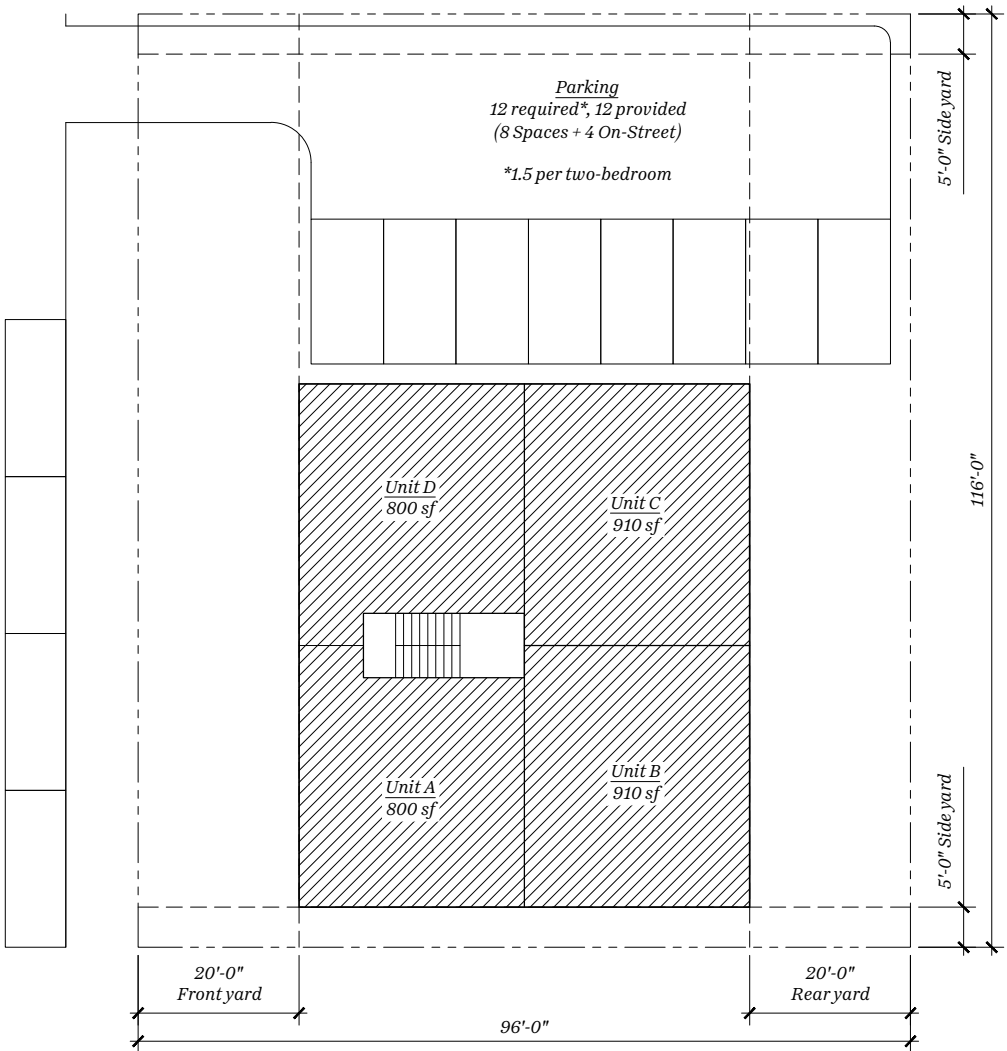
Site 5: Apartments

RU-3 Zoning
Two 5,500 sf lots / 11,000 sf total
8-Unit Building



Apartment building site.

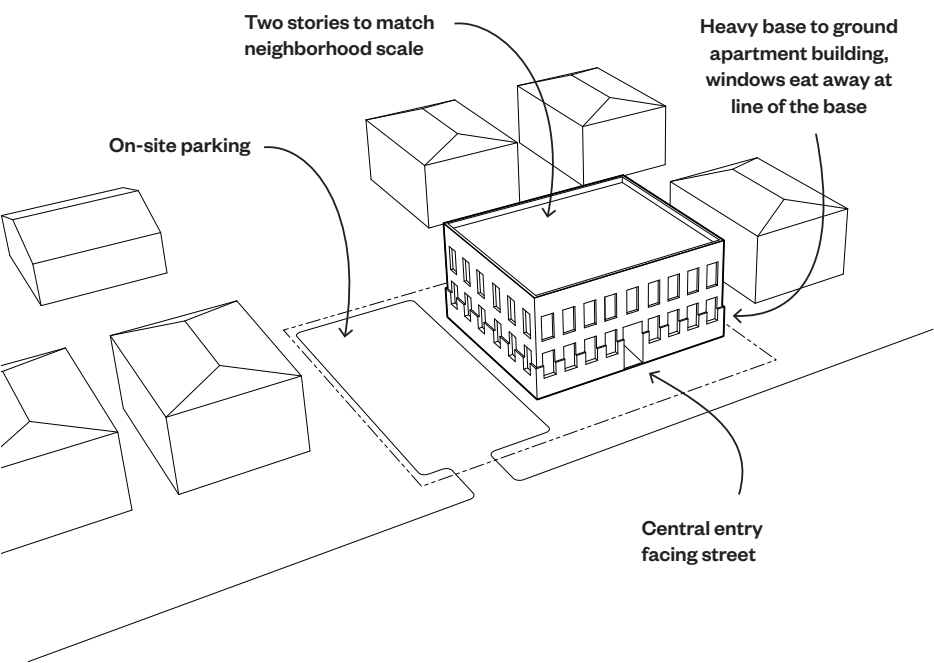
Combining two 5,500 sf lots creates a single lot of record on which a full apartment building can be built. This site meets the minimum 10,000 sf requirement for multifamily development in RU-3 zoning. As a single building, a developer could build 4 units per floor around a single stair core under IBC, provided that ground floor units are accessible and that sprinkler systems are provided throughout the building. Under the Memphis UDC, depending on number of bedrooms per unit, each unit requires between 1.25 and 1.5 parking spaces, which can be built on-site and by street parking as applicable.

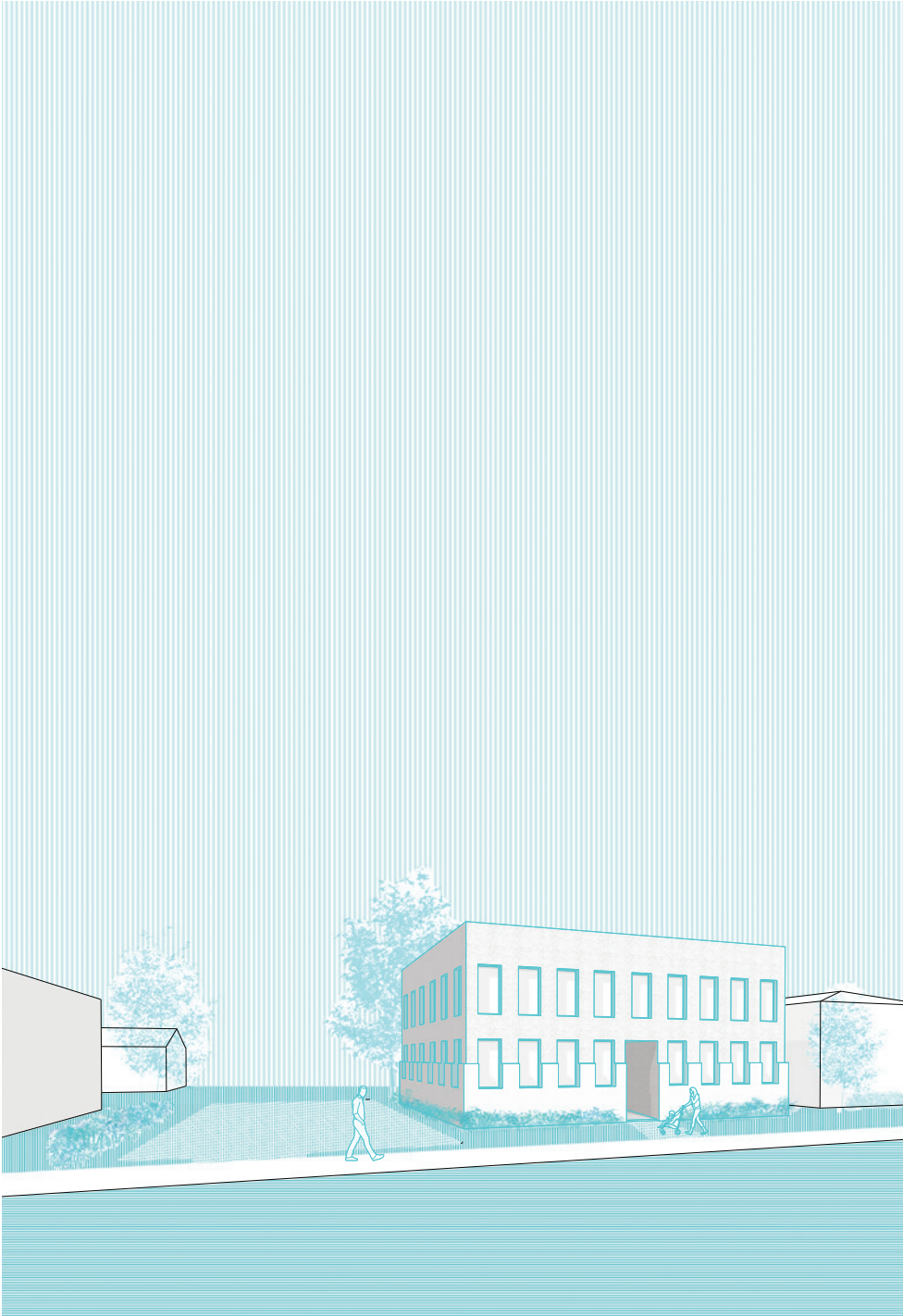


2 Stories, 4 Units per Floor
8 Units Total
Sprinkler System Required
Single Stair per IBC 1006.3.4
45'-0" Maximum Height

Site 5: Apartments

8-Unit Building









Let's Talk.

With your lot and ideas from this book in hand, you are closer than ever to building that building.

Ready to move ground? Contact the Memphis Medical District Collaborative to learn more about additional technical, design, and financing resources that may support your project. Give us a holler at **info@mdcollaborative.org**.

