

CASE STUDY 2.0
REBUILDING LOS ANGELES

*A Visionary
Catalog for
Resilient and
Sustainable
Homes*



nz\|a

nonzero\architecture

nonzero\architecture provides full architectural, planning and design services to local, national and international clients from its offices in Los Angeles. Evolved into its current form from its accomplished predecessor firm studio bau:ton, it builds on an experienced team and seamlessly continues the work it started in 1990. Founded by Swiss American architect Peter Grueneisen, FAIA, the firm attempts to combine European thoroughness with California's innovative spirit in all its projects.

nonzero\architecture explores the potential of architecture to enrich and enhance people's lives. Our designs address the human desire for both the beauty and functionality of their surroundings, whether at home or at work, at leisure or in the public realm. Based on an awareness of historical evolution and broader culture, we search for contemporary architectural solutions to the challenges of today's built environment.

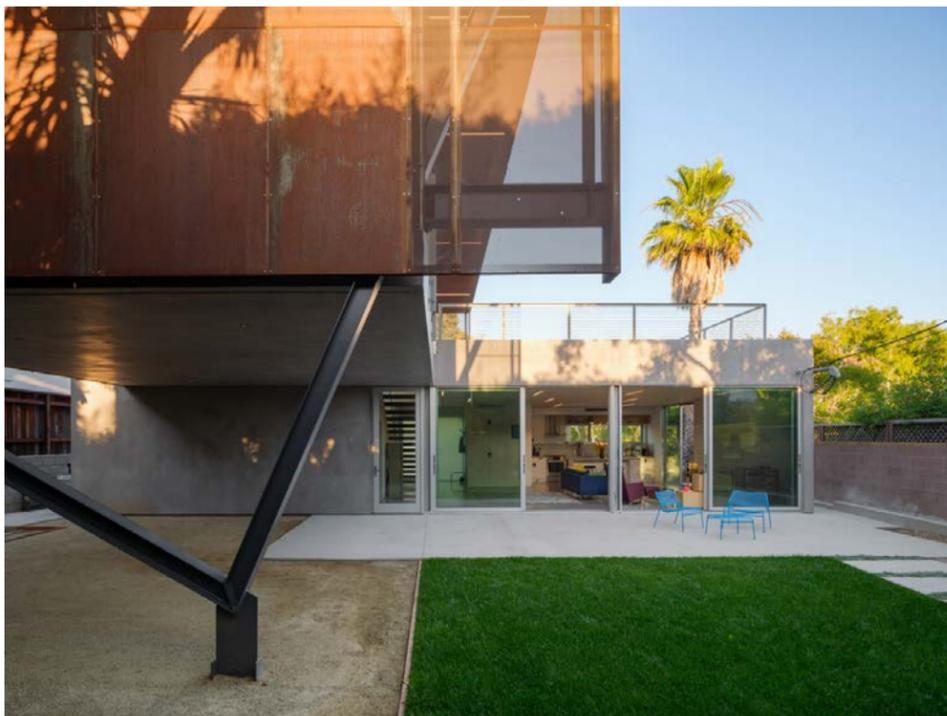
The creation of stimulating spaces and structures is a primary aspiration of the firm. Concurrently, we carefully consider the economic realities, social dynamics and limited natural resources that all demand a thoughtful and conscious approach to design and construction.

nz\a's innovative strategies aim to make the most of any given budget, and to conserve materials and energy at every practical level. Sustainability and the preservation of building substance, of financial and material resources, are always integral parts of the firm's designs.

Our team understands that in a truly successful project the interests of owners, users and the public at large need to converge. Based on this awareness of architecture as a non-zero-sum game we try to balance each part of the project to the fullest extent possible.

But a constant infusion of fresh ideas and a passion for good design must be inherent to the process to transcend buildings into architecture. Balancing divergent needs is only the foundation on which we build our own strong point of view, aiming to fulfill our client's needs to the fullest and to offer a unique modern design sensibility for a contemporary world.

nonzero\architecture offers complete integrated architect-led design/build services through its closely affiliated general contractor partner Greeniron Constructs, Inc.



PROJECT NARRATIVE



Following the example set by the original Case Study Program, the design reacts to the contemporary issues facing residential construction during this challenging time. It addresses affordability, adaptability, fire resistance, sustainability and resilience, healthy indoor-outdoor living, the creation of private shelter and its integration into a vibrant neighborhood.

The sensible size and the varied massing of the design and its openness to the street help integrate the residence into the surrounding neighborhood, presenting an appropriate scale and rejecting the mansionization of the area. An articulated plan and section create varied living spaces, including a double-height dining area, all connected seamlessly to the exterior. An upper floor deck acts as an outdoor porch and connects the house to the sidewalk, while patios and a balcony in the back offer more secluded privacy.

The use of off-the-shelf materials, assembled in standard ways, the multi-purpose application of elements for both structure and finishes, and the streamlined layout and organization of the plans all help keeping costs under control.

Highly fire-resistant materials used throughout the exterior address the issue foremost on everyone's mind with this fire rebuild, the hardening and defense of the structure for any possible future events.

Solar panels, all-electric building systems and appliances, natural daylight and ventilation, drought-resistant landscaping all contribute to a sustainable building, set lightly into the Southern California landscape.

While the plan is clearly and cleanly laid out, the chosen materials offer a variety of options and combinations, allowing the house to be customized to its owner's preferences. A thoughtful spatial arrangement, complemented by individualized elements and a strong indoor-outdoor connection throughout the residence, contribute to a strong sense of place.

PARCEL INFO & DIAGRAMS

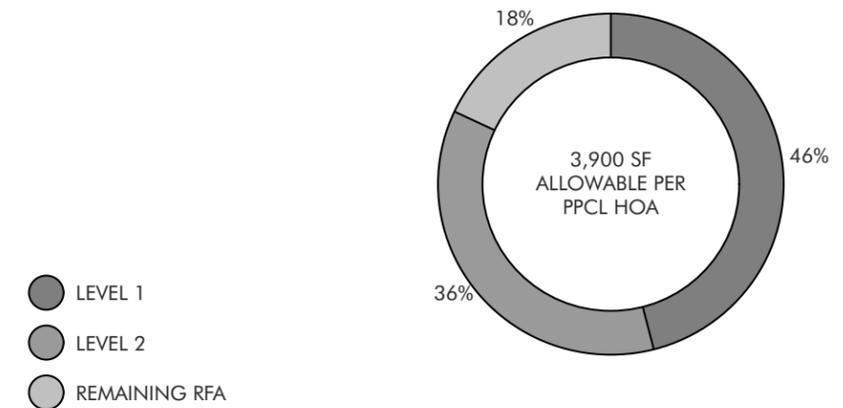
ADDRESS: 1037 N ILIFF STREET



BUILDING AREAS

GROSS RESIDENTIAL FLOOR AREA CALCULATION (SQ. FT.)	
LEVEL 1	1806
LEVEL 1 OVERHANG	194
LEVEL 2	1412
LEVEL 2 OVERHANG	0
GARAGE EXEMPT	200
TOTAL RESIDENTIAL FLOOR AREA	3212
FLOOR AREA RATIO	49.5%
LOT COVERAGE	31%

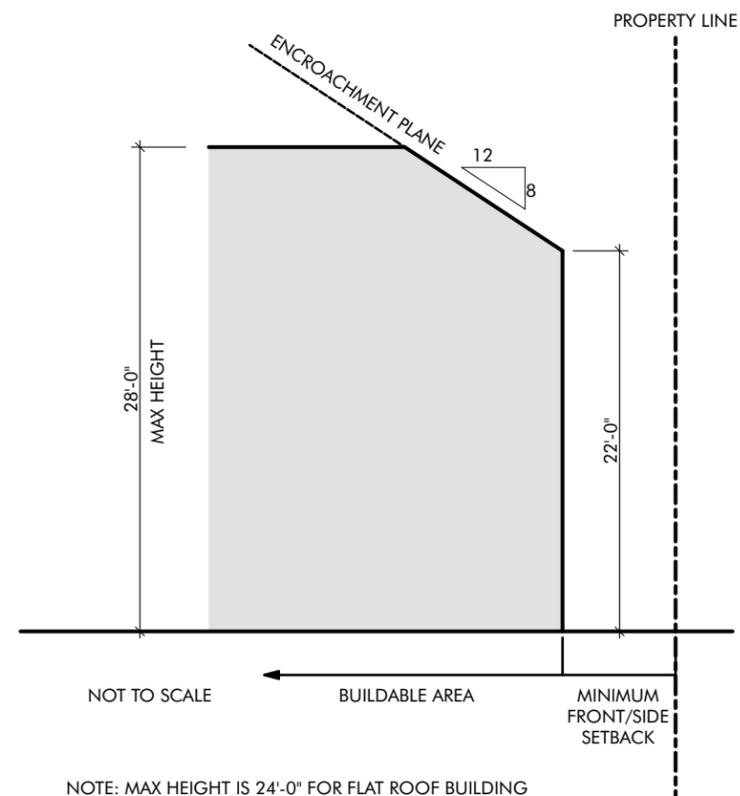
FLOOR AREA SUMMARY



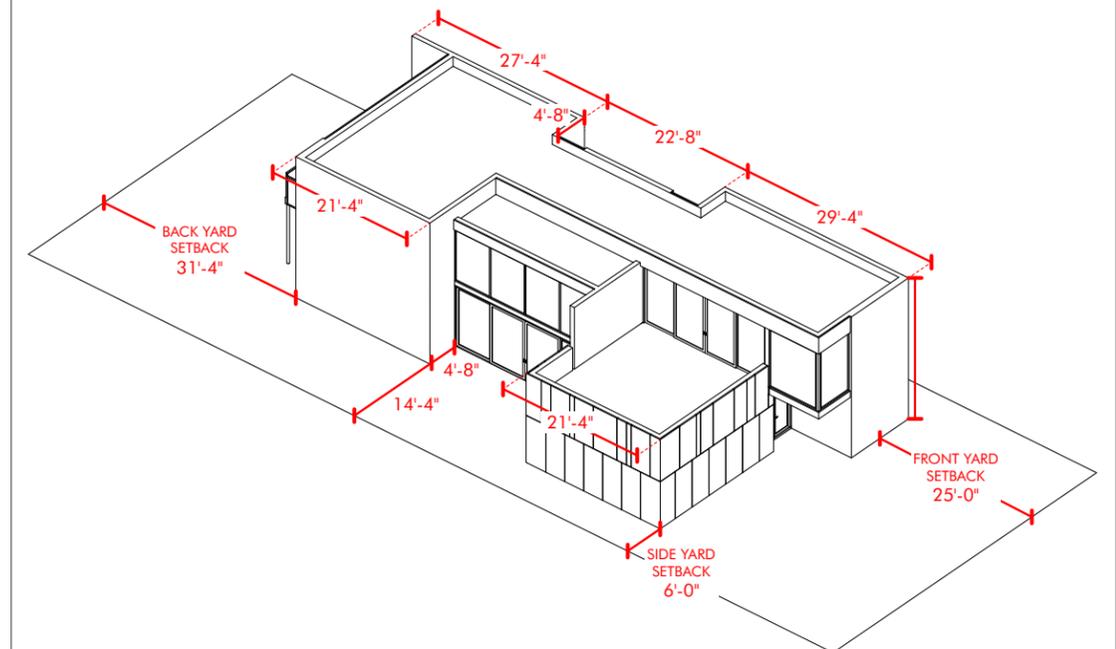
CODES & REGULATIONS

SITE ADDRESS	1037 N ILIFF STREET	REFERENCE
LOT AREA	6,500 SF (50' x 130')	
ZONED	R1-V1	
MAXIMUM ENVELOPE HEIGHT	28'-0"	PPCL GUIDELINES
	30'-0"	LAMC 12.08 C.5(B)
SETBACK REQUIREMENTS	FRONT YARD: 25'-0"	PPCL GUIDELINES
	SIDE YARD: 5'-0" (+1'-0" FOR EVERY 10' OVER 18')	LAMC 12.08.C
	BACK YARD: 15'-0"	LAMC 12.08.C
	SECOND FLOOR BACKYARD: 26'-0"	PPCL GUIDELINES
LOT COVERAGE	48% (3,120 SF)	LAMC 12.08 C.5(B)
	50% (3,250 SF)	PPCL GUIDELINES
PARKING REQUIREMENTS	2 COVERED SPACES	LAMC 12.21
FLOOR AREA RATIO	63% (4,095 SF)	LAMC 12.08 C.5(B)
	60% (3,900 SF) 2ND FLOOR: MAXIMUM 43% OF TOTAL RFA	PPCL GUIDELINES

BUILDING HEIGHT DIAGRAM



BUILDING ENVELOPE AND SETBACK DIAGRAM



DESIGN FEATURES



FIRE RESISTANCE

To minimize the risk posed by wildfires, all the main structural elements are made of non-combustible material and complemented by fire resistant finishes where the structure is not exposed. The main building elements of concrete, concrete blocks, cement panels and steel cladding were chosen to provide a maximum level of resistance to fires and embers throughout the structure.



ROFFING

A non-combustible structural concrete slab is covered by a fire-resistant rated roof. Further protection is offered by a gravel layer and photovoltaic panels, shielding the roof from exposure to embers as well as UV rays for added longevity.



BUILDING SIDING

Most of the exterior walls are constructed with concrete masonry units, which provide both the structure and a customizable finish. In addition, some elements are clad with a layer of fire-resistant siding, to break up the massing and to provide a varied look from the street and from within the property. Multiple available options of cement panels or metal cladding offer a wide variety of shapes, colors and textures, to complement the CMU walls.



WINDOWS & DOORS

Large windows and doors contribute to the strong connection between inside and outside, offer access to the outdoors and allow daylight to flood the house. Dual-glazed tempered glass and high-quality aluminum profiles provide fire resistance and thermal performance.



DEFENSIBLE SPACE INTEGRATION

Continuous hardscape adjoining the house provides a fire safe perimeter, with irrigated drought-resistant landscaping softening up the environment.



VENTS

The elimination of crawlspaces and attics minimizes the potential for the intrusion of embers into the structure. The remaining vents from exhausts and fresh air inlets are equipped with grilles that are specifically designed to resist embers.



EMBER-RESITANT FEATURES

The elimination of eaves and the largely smooth facades reduce the potential for the intrusion of embers and the development of fires.



SUSTAINABILITY

The building design emphasizes natural daylight and ventilation, limiting heating, cooling and artificial lighting for the home. A fully electrical system is complemented by photovoltaic solar panels and battery storage for self-sufficient energy use.



DESIGN QUALITIES

Clean lines and consistent materials emphasize the benefits of the concrete block construction, while softer and warmer elements and abundant glazing contribute to a highly livable and enjoyable environment. The spatial quality of each area is carefully considered to offer maximum comfort and privacy while connecting seamlessly to the exterior.



CONSTRUCTION METHODOLOGY

Using modular elements such as CMU blocks and pre-fabricated concrete slabs speeds up construction and the simultaneous use of the parts for structure and finish results in an efficient assembly.



EFFICENCY

Based on standard construction methods and modules, the use of structural materials as finishes creates a highly efficient building with little waste and clear purpose.



STYLE FEATURES

Borrowed from a more industrial-type structure, the house nonetheless creates a warm and inviting environment. The efficiency of the construction methods is expressed by a straightforward design, counterbalanced by large openings and varied massing and materials. Broken up into pieces, the building volumes and spaces are calibrated to take advantage of the outdoor space and to create instances of surprise and delight.



ADDITIONAL SPECIAL FEATURES

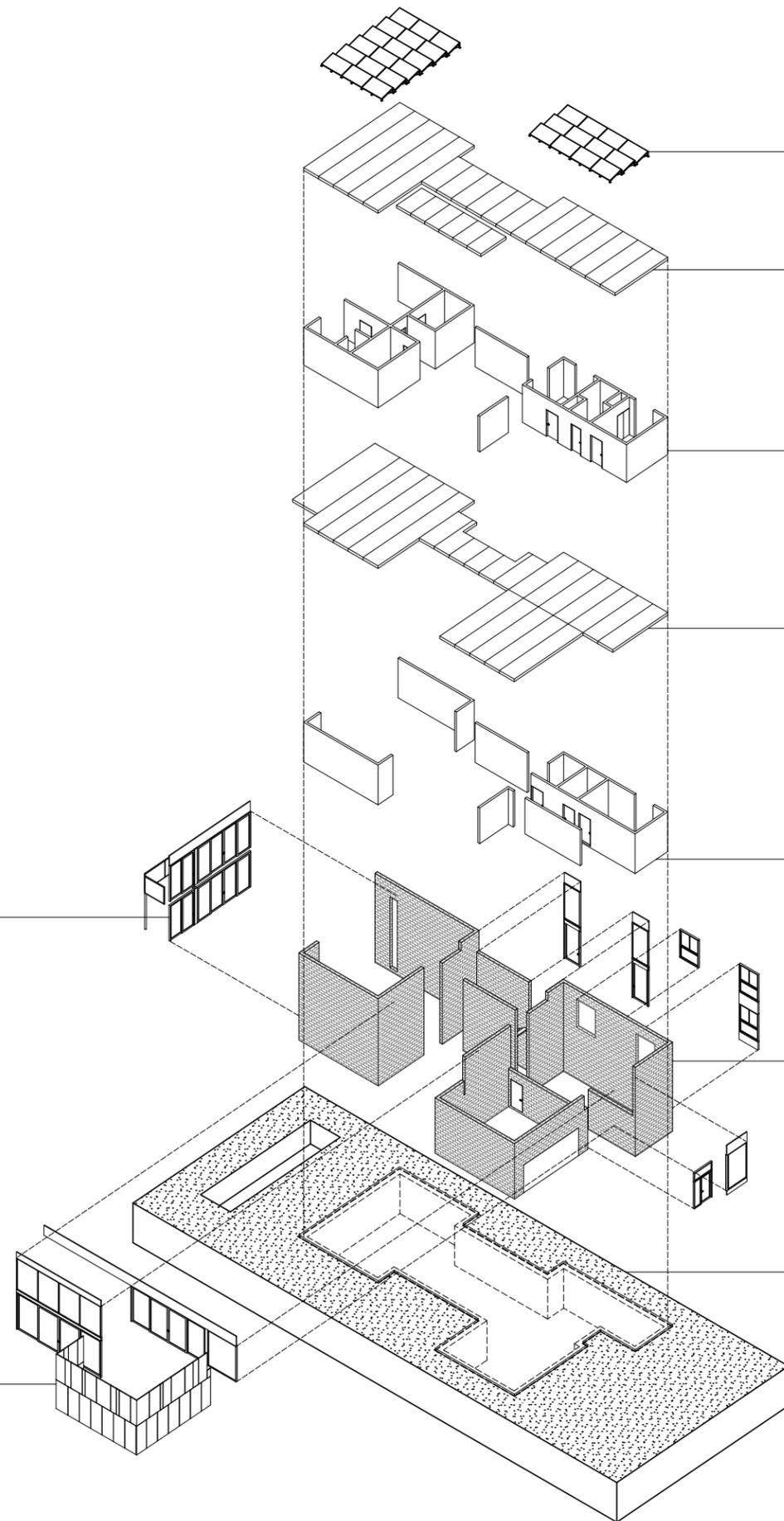
A double-height space connects the two floors for an open feeling and easy communication between levels, with a side patio bringing light deep into the floor plate. Generous glazing throughout contribute to a light-filled and well-ventilated interior.



CUSTOMIZATION POTENTIAL

The design is optimized to offer a maximum of customizable parts. Program-wise a basement of variable size can easily be added to the scheme. A pool in the back yard is another option that can be relocated to the side yard to accommodate an ADU if desired or eliminated if not needed. Material options include different types of CMU blocks, exterior cladding and interior finishes. Painted gypsum board on the interior for a clean modern look can be warmed up visually by the addition of plywood paneling.

EXPLODED AXO



PHOTOVOLTAIC PANELS

CAN BE COMBINED WITH BATTERY STORAGE FOR ADDED INDEPENDENCE FROM POWER GRID

ROOF

PRE-FABRICATED CONCRETE SLABS WITH CLASS A RESISTANT ROOFING COVERED BY GRAVEL BALLAST

SECOND LEVEL INTERIOR WALLS AND INSULATION OF EXTERIOR WALLS

WOOD FRAMING WITH GYPSUM BOARD OR PLYWOOD PANELING
CUSTOMIZABLE PLYWOOD SPECIES AND QUALITY GRADES, OR PAINTED GYPSUM BOARD

FLOOR

PRE-FABRICATED CONCRETE SLABS WITH RADIANT HEATING
CUSTOMIZABLE FLOOR FINISHES

GROUND LEVEL INTERIOR WALLS AND INSULATION OF EXTERIOR WALLS

WOOD FRAMING WITH GYPSUM BOARD OR PLYWOOD PANELING
CUSTOMIZABLE PLYWOOD SPECIES AND QUALITY GRADES, OR PAINTED GYPSUM BOARD

CONCRETE MASONRY UNIT EXTERIOR WALLS

MODULAR CONSTRUCTION, LESS CARBON IMPACT THAN CONCRETE, FIRE RESISTANT
HIGHLY CUSTOMIZABLE BLOCK COLORS, TEXTURES, MASONRY PATTERNS

FOUNDATION AND BASEMENT, GROUND FLOOR SLAB

CONCRETE AND CMU, SLAB WITH RADIANT HEATING
INTERIOR INSULATION WITH GYPSUM BOARD OR PLYWOOD PANELING
OPTIONAL BASEMENT ADJUSTABLE SIZE FOR MISCELLANEOUS USES

WINDOWS

DUAL GLAZED, TEMPERED GLASS FOR FIRE RESISTANCE

EXTERIOR CLADDING

METAL OR CEMENT BOARD
HIGHLY CUSTOMIZABLE MATERIALS, SHAPE, SIZE, COLOR

MATERIALS

CMU COLORS & TEXTURES



PRECISION - GLACIER WHITE



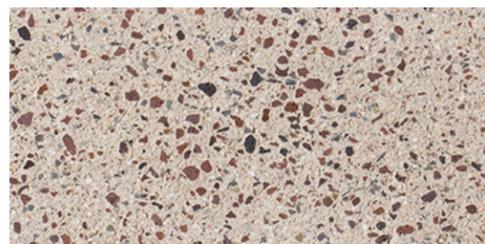
BURNISHED - GLACIER WHITE



SPLIT FACE - GLACIER WHITE



PRECISION - NATURAL GRAY



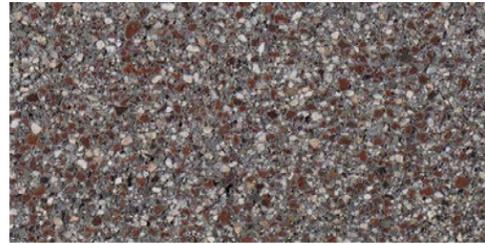
BURNISHED - NATURAL GRAY



SPLIT FACE - NATURAL GRAY



PRECISION - ONYX



BURNISHED - ONYX



SPLIT FACE - ONYX

CMU PATTERNS



RUNNING BOND

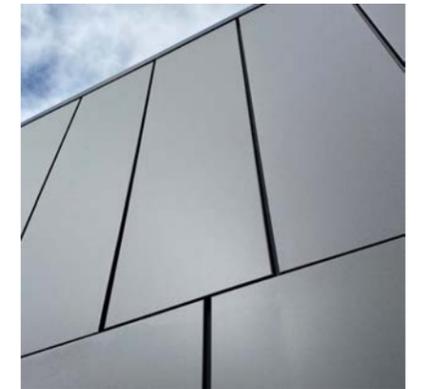


STACK BOND

CLADDING



CEMENT BOARD



METAL

PLYWOOD



BIRCH



ASH

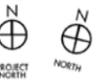
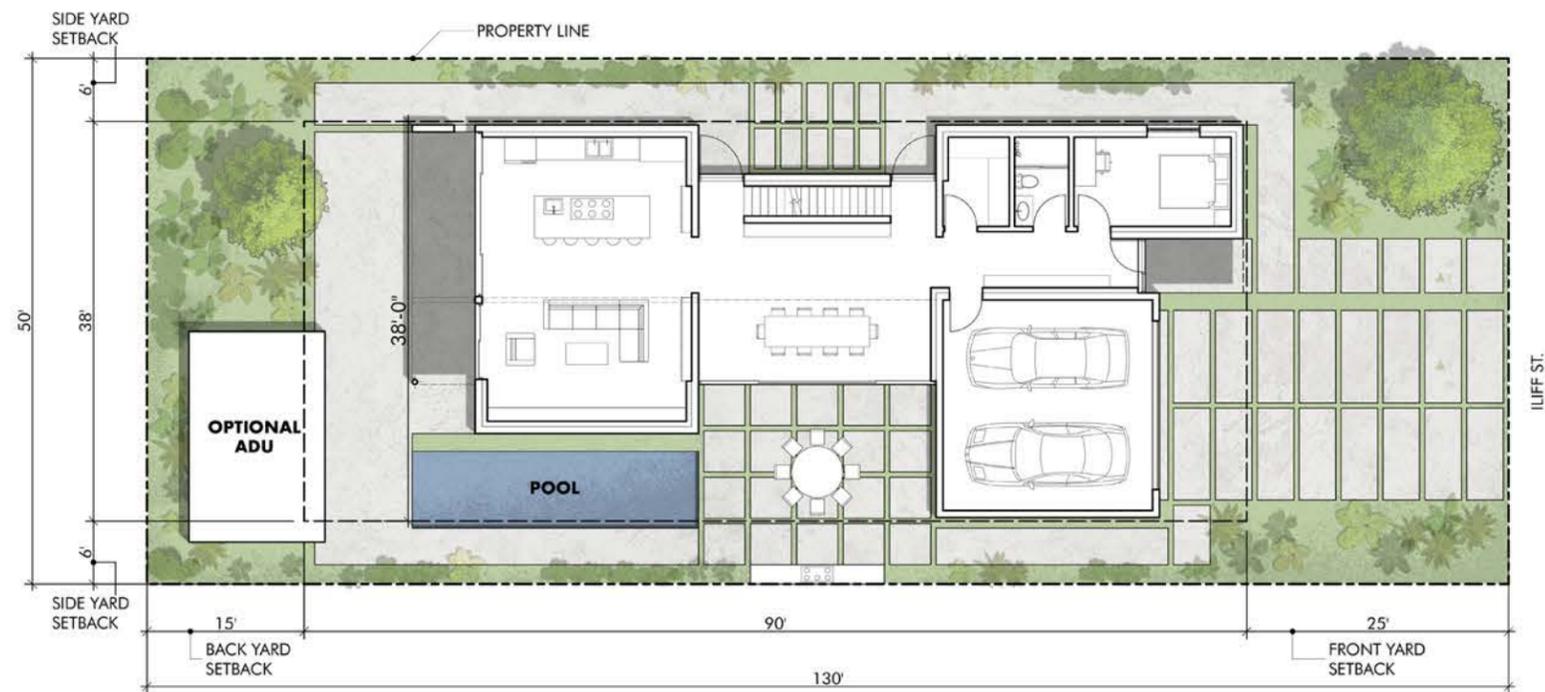


DOUG FIR

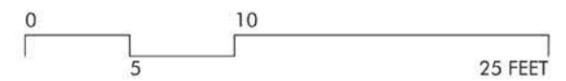
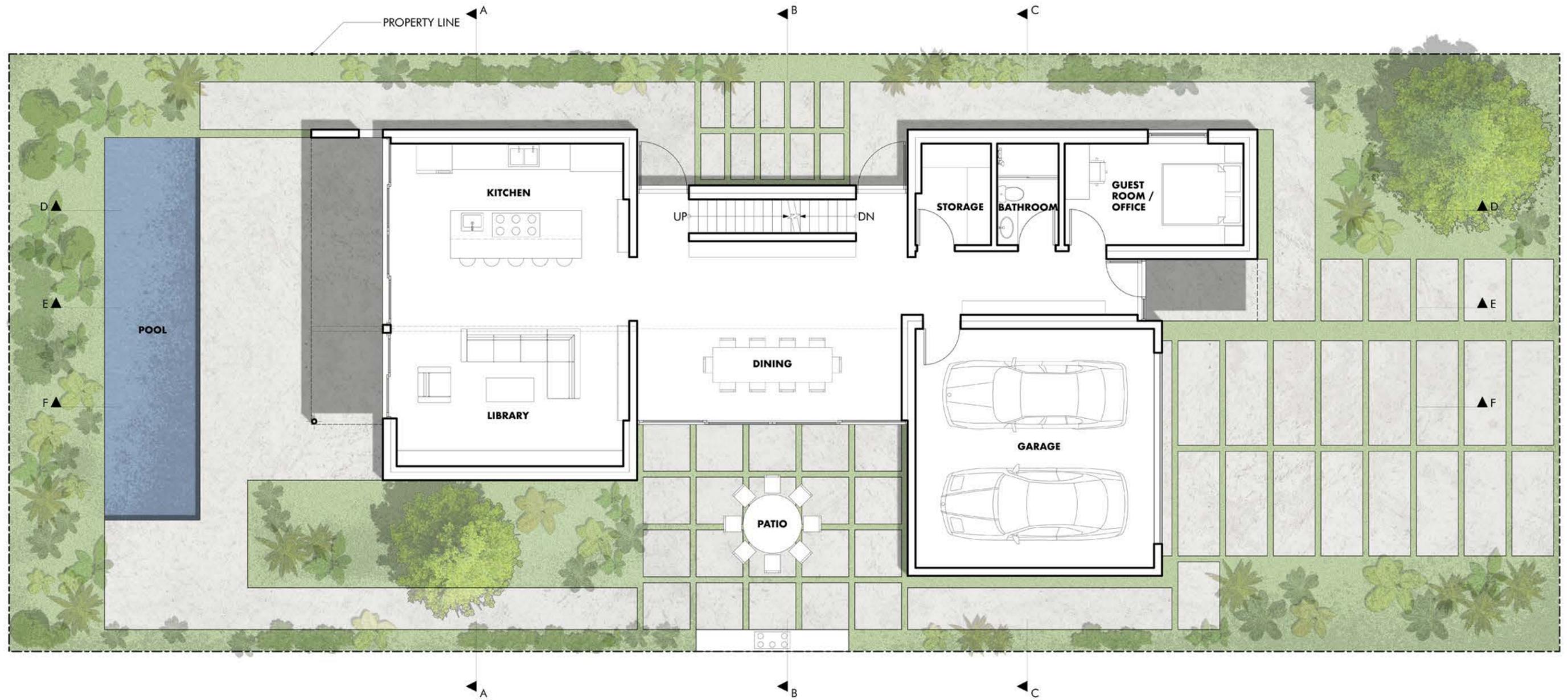


CHERRY

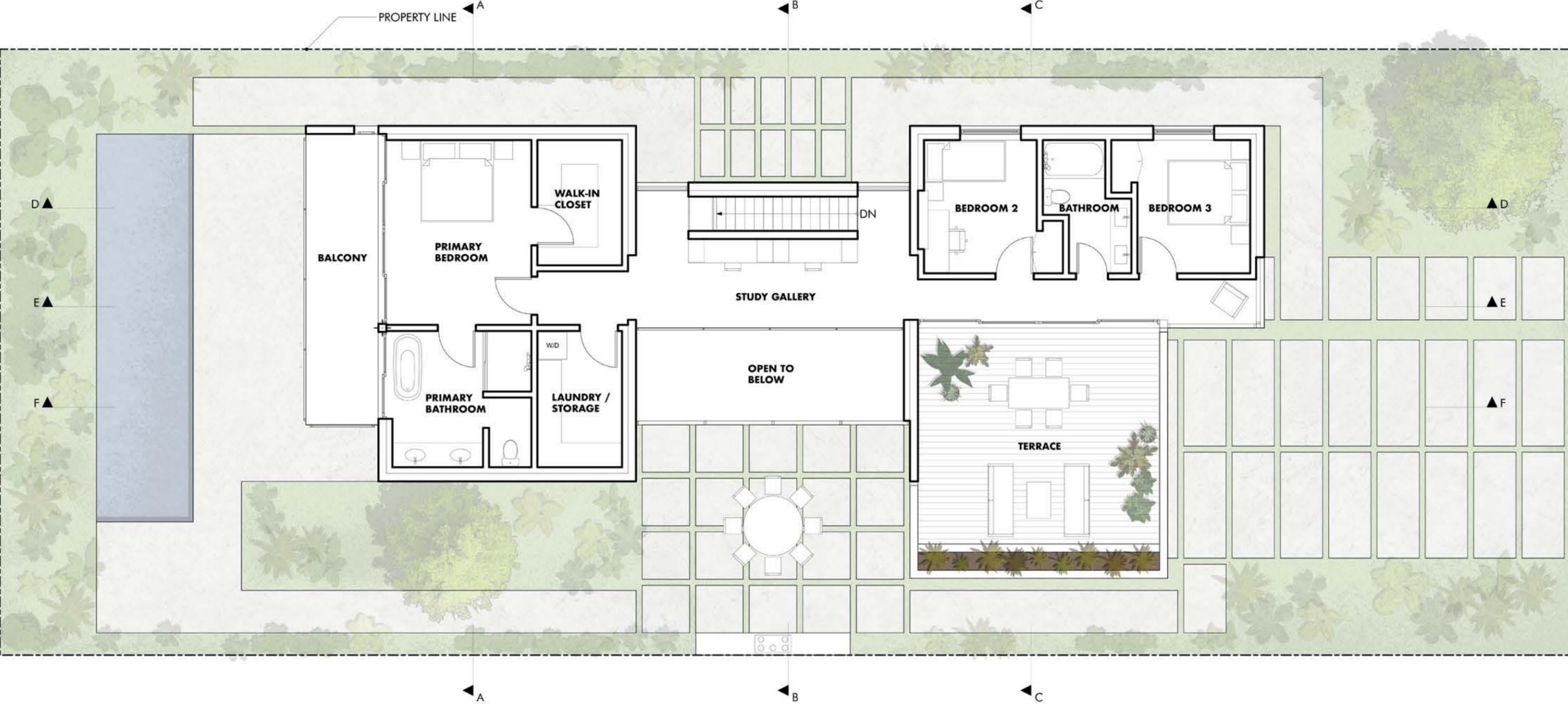
SITE PLAN



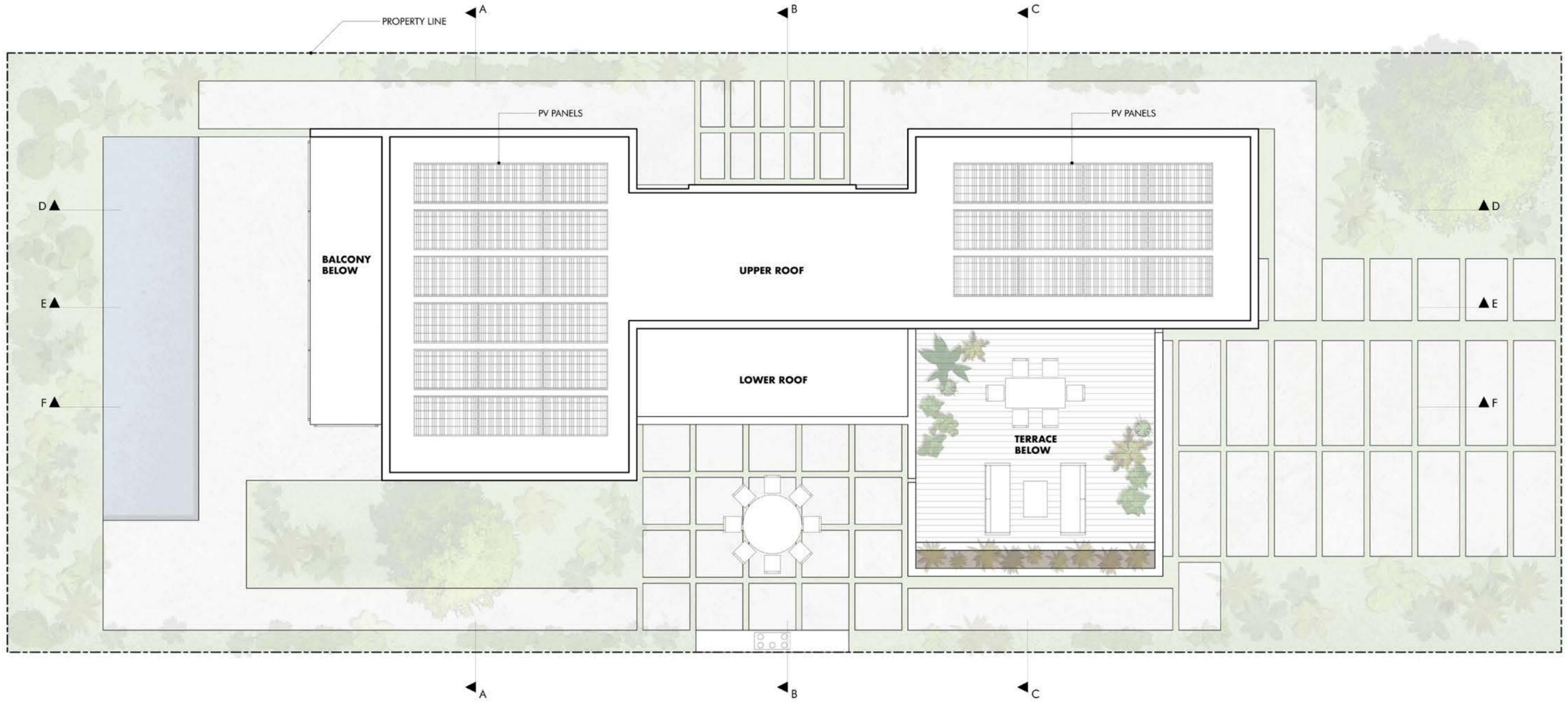
GROUND LEVEL



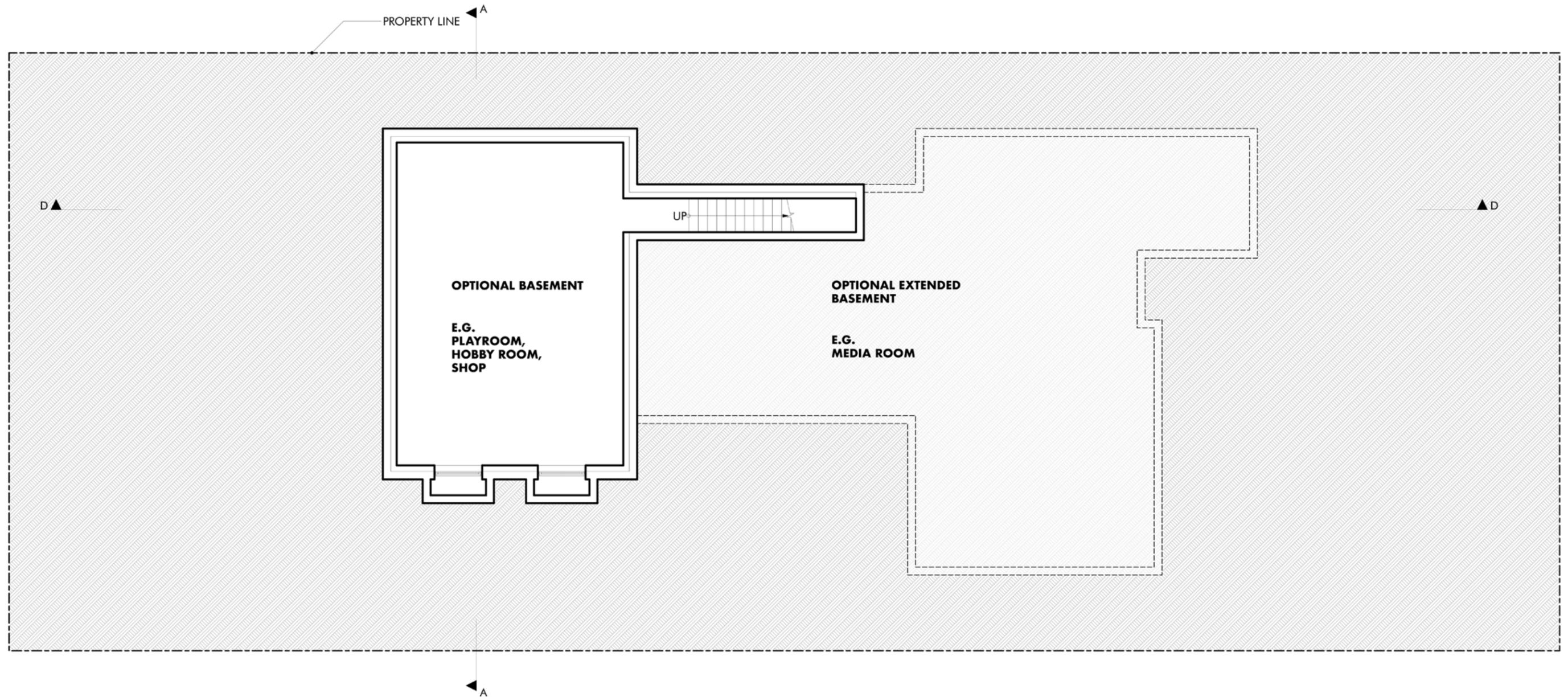
SECOND LEVEL



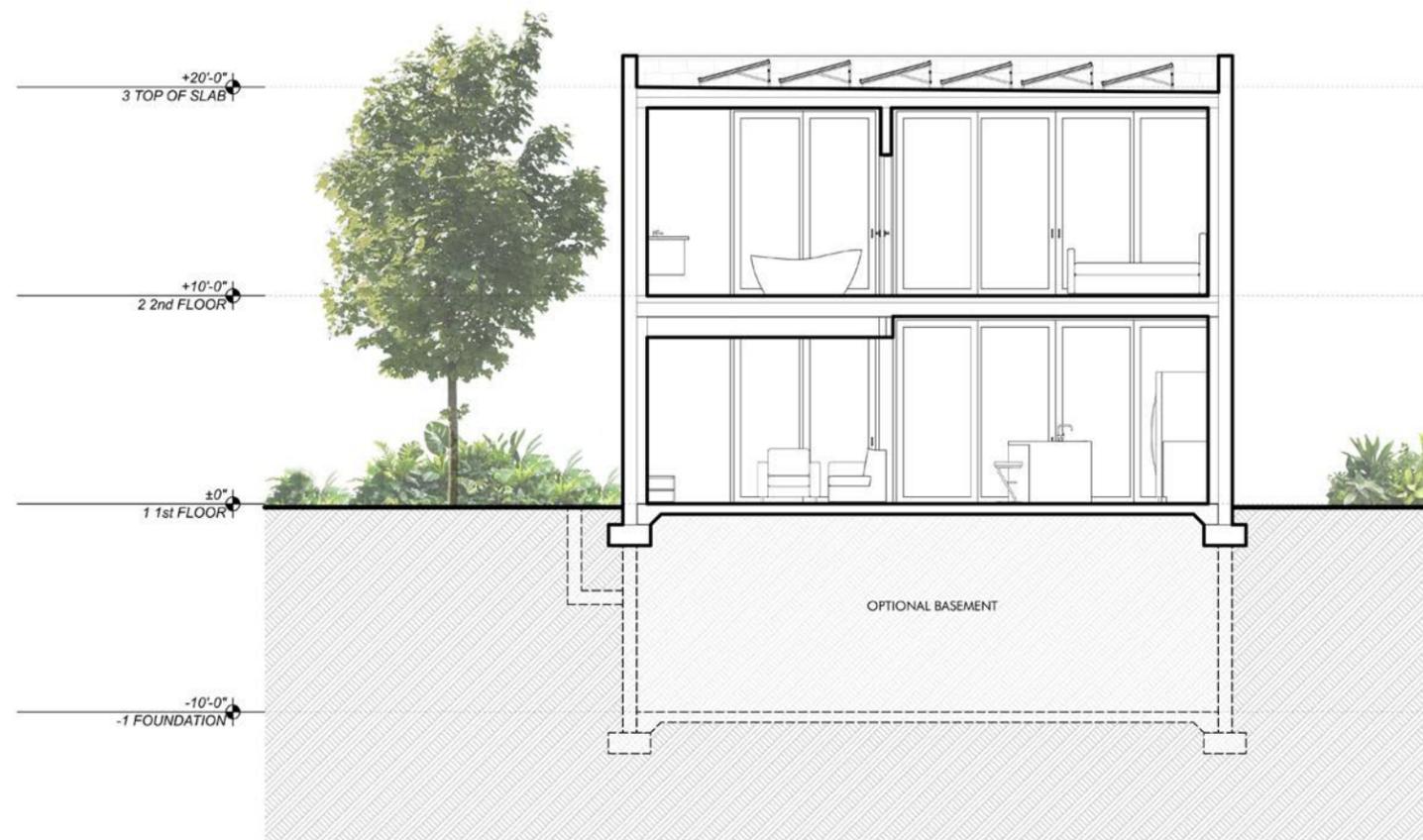
ROOF



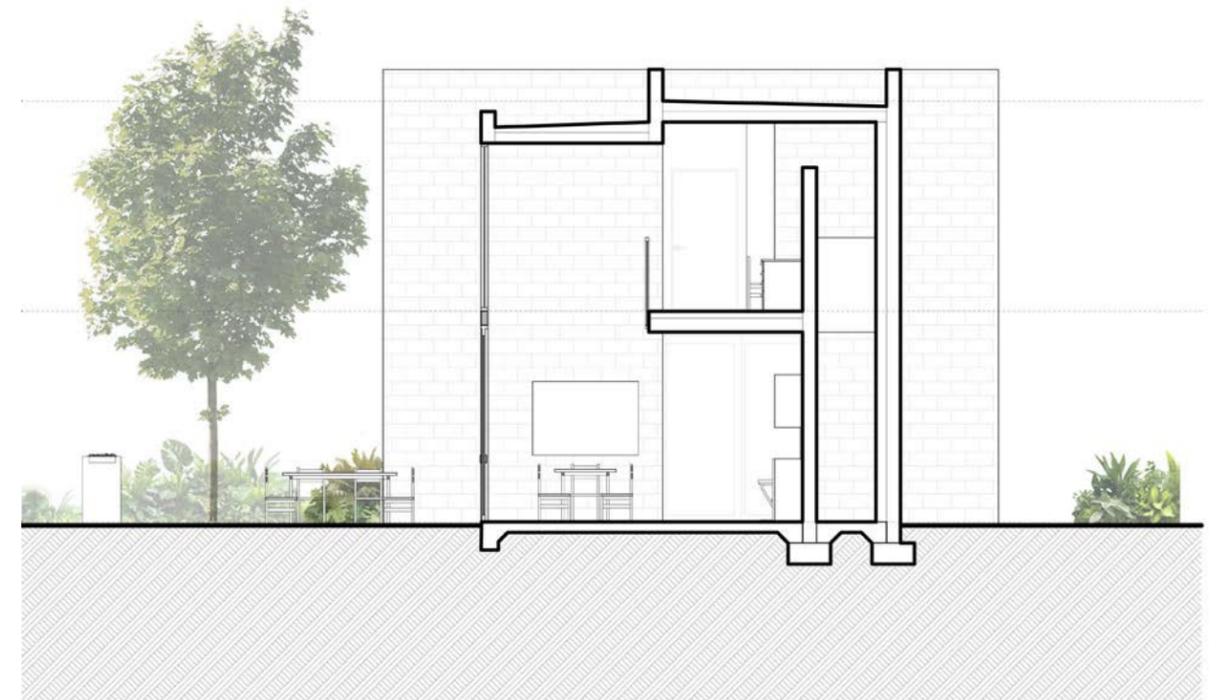
BASEMENT PLAN



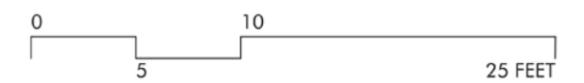
SECTION A AND B



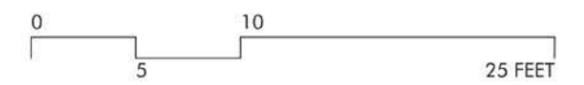
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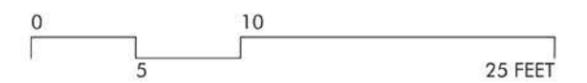
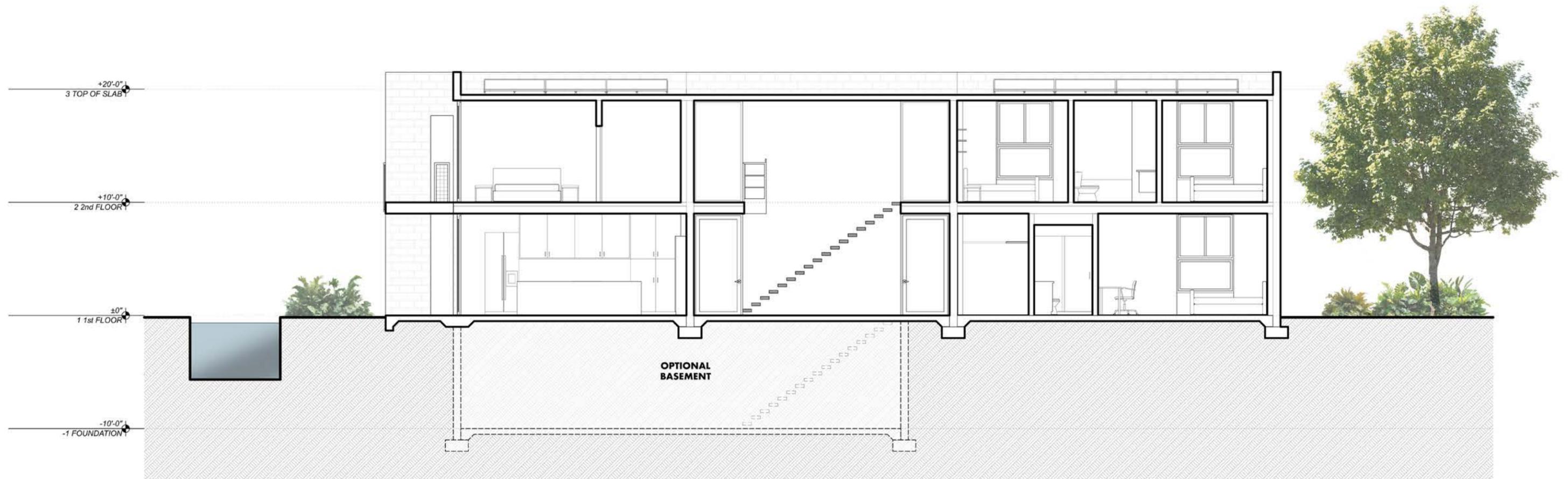
SECTION B



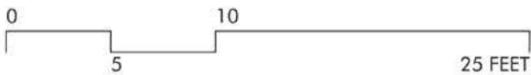
SECTION C



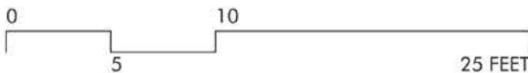
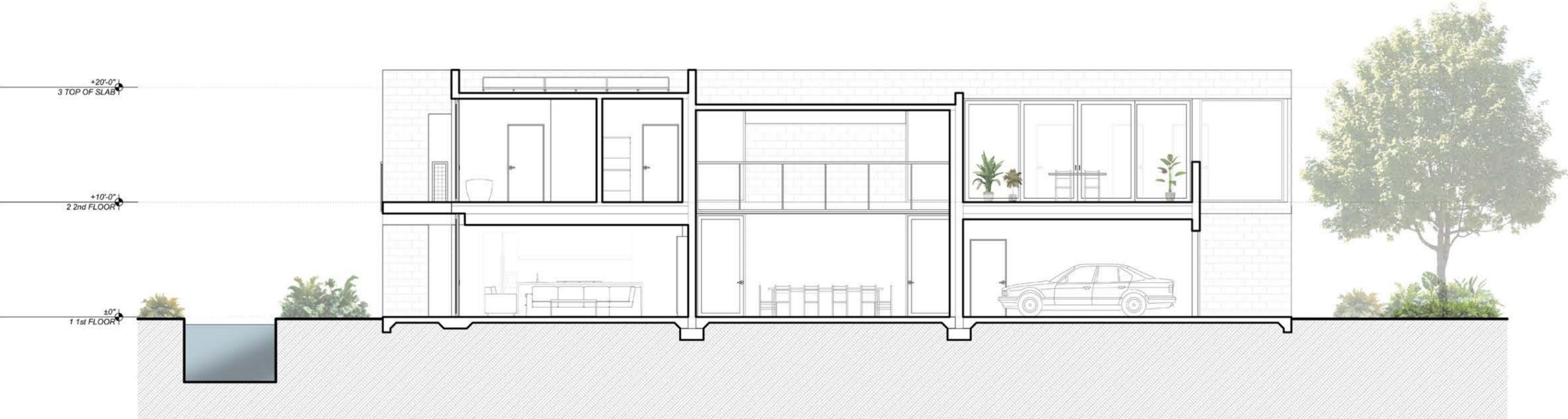
SECTION D



SECTION E



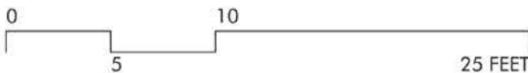
SECTION F



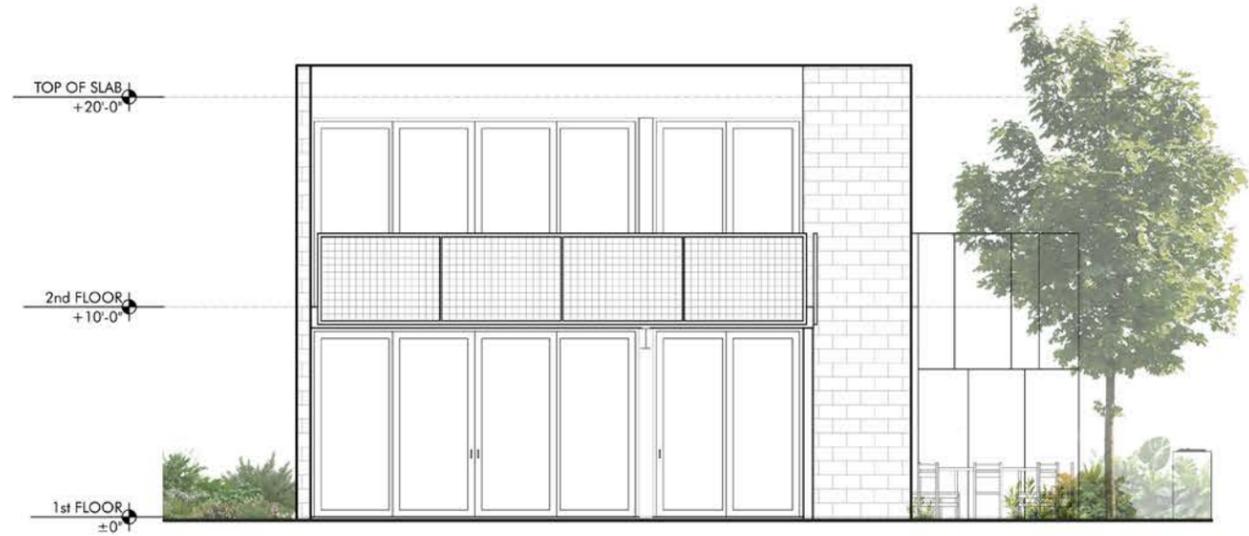
EAST



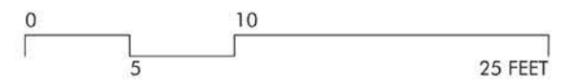
SOUTH



WEST



NORTH



STREET VIEW



BACK YARD



TERRACE





STUDY GALLERY



AERIAL VIEW

