Tucson Casita

MODEL PLAN ADU
576 SF, One-bedroom Casita
Fulfills requirements for
Universal Design / Accessible Casitas
Small-footprint Casitas
and Green or Net Zero Casitas
3-D views showing covered entry and patio. Patio has a pergola (open rafters & purlins) on left, roof on right. North-facing patio orientation is recommended. Primary exterior materials are stucco, fiberglass doors and windows, metal roof / roof frame / pergola, and concrete paving.
Tucson Casita

FLOOR PLAN
1/4" = 1'-0"
PROJECT DESCRIPTION
This model plan for a Tucson Casita is accessible, adaptable and energy-efficient. The Casita has 576 SF of conditioned area plus an optional unconditioned 69 SF utilities / storage space. The design blends harmoniously with many of Tucson’s architectural styles, is adaptable to a variety of sites, and is energy-efficient. The light-filled interior is wrapped with porches and a pergola to encourage indoor-outdoor living. The Casita features:

- Universal design / accessibility
- Suitable for a broad range of potential residents
- Adaptable to a variety of sites
- Simple to construct
- Energy efficiency (optional Net Zero)
- Thoughtful, contextual design

PROJECT NARRATIVE
Goal One: Universal Design / accessibility
- Zero-step covered entry
- Easy wheelchair maneuvering inside
- 36” Wide interior pocket doors
- Bi-passing bedroom closet doors
- Operable casement windows
- Accessible bathroom with ADA-recommended clear floor space
- Tub with integral seat (or optional walk-in shower)
- Side by side front-load washer and dryer
- Adaptable one-wall kitchen

Goal Two: Suitable for a broad range of potential residents
- Living space for a single person or a couple
- Bedroom large enough for a king size bed
- Accessible for those with a mobility impairment
- Good for many stages of life: young adult to old age

Goal Three: Adaptable to a variety of sites
- 576 SF footprint is allowable on all single family lots in Tucson
- 12’ Height complies with ADU height limit
- The simple square form maximizes possible locations on single family lot
- Windows could be eliminated on south wall for one-hour (zero setback) conditions

Goal Four: Simple to construct
- Efficient square 24’ x 24’ floor plan
- 2’ Module to minimize material waste
- Conventional footings and slab or post-tensioned slab
- Simple stick-framing
- One-coat stucco exterior

Goal Five: Energy efficient, optional Net Zero
- Energy efficient envelope and mechanical systems
- Net Zero possible with optional photovoltaic array
- Window and doors oriented with respect to sun
- High-SEER, ducted mini-split heat pump
- Ducts within conditioned envelope
- Heat pump water heater
- High R-value rigid foam ceiling / roof insulation
- “Cool” roof
- Roof runoff diverted to cistern
- Cistern overflow diverted to rainwater basins

Goal Six: Thoughtful, contextual design
- Strong sense of place
- Open living / dining / kitchen area
- Light from all directions for light-filled interior
- Strong indoor / outdoor connection
- Varied ceiling heights
- Stucco exterior echoes predominate material in Tucson
- Metal roofs, roof frames, and pergola for durability
- Simple massing compatible with a variety of architectural styles

Tucson Casita
Optional Rainwater Basin fed by overflow from cistern
Line of decorative concrete paving
Rainwater cistern
36" pocket door
Induction range
Front load energy-saver washer & dryer
Heat pump water heater
Elec. meter & service panel
Trash & recycle bins
Space for optional photovoltaic components
Tiled tub/shower with seat; optional walk-in shower
Mini-split heat pump compressor
5' wheelchair turning circle
DUCTED MINI-SPLIT HEAT PUMP WITH AIR HANDLER IN CEILING CAVITY

R-41 CLOSED CELL FOAM ROOF INSULATION

2X6 EXTERIOR WALLS WITH R-23 CLOSED CELL FOAM + R-4 EPS ONE-COAT STUCCO FOR R-27 TOTAL

FIBERGLASS ENERGY SAVER CASEMENT WINDOW

FRONT-LOAD ENERGY SAVER WASHER & DRYER

TILED TUB/SHOWER WITH SEAT; OPTIONAL WALK-IN SHOWER

CONVENTIONAL CONC. SPREAD FOOTING + SLAB OR POST-TENSIONED FOUNDATION / SLAB

OPTIONAL PHOTOVOLTAIC ARRAY FOR NET ZERO PERFORMANCE

12'-0" HEIGHT LIMIT

CORRUGATED STEEL ROOF

STEEL ROOF FRAME AND POSTS

INDUCTION RANGE

FIBERGLASS ENERGY SAVER SLIDING DOORS

ACCESSIBLE THRESHOLD
CORRUGATED METAL ROOF ON METAL FRAMING

ONE-COAT STUCCO

FIBERGLASS ENERGY SAVER CASEMENT WINDOW

FIBERGLASS ENERGY SAVER DOOR WITH ACCESSIBLE THRESHOLD

PERGOLA OF METAL RAFTERS & PURLINS

FIBERGLASS ENERGY SAVER SLIDING DOORS WITH ACCESSIBLE THRESHOLD

RAINWATER CISTERN MATERIAL & DIA. TBD

CMU

Tucson Casita

FRONT
$1/4" = 1'-0"$

RIGHT SIDE
$1/4" = 1'-0"$