



## BIKE RANCH CYCLING RESORT DESIGN CRITERIA 6

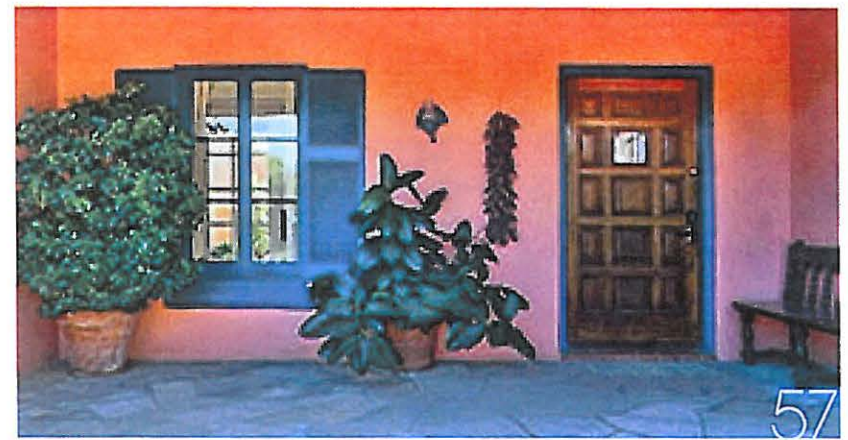
### POSITIVE

The wall mass; simple wall details; and the appearance of being handcrafted and “real”.



### NEGATIVE

The pink color; non-native landscaping; nor the Mediterranean mix with Pueblo style.





## BIKE RANCH CYCLING RESORT DESIGN CRITERIA 7

### BUDGET

construction budget for the Bike Ranch is to be determined.

### REGULATIONS

This forty-five acre parcel (parcel 205-62-159G) is not incorporated into any subdivision and therefor has no design restrictions other than those imposed by the owner and Pima County Zoning Regulations. The property is not restricted by any flood hazard, however, there is a mapped riparian habitat on the south edge of the parcel.

### PIMA COUNTY ZONING REGULATIONS:

The property is zoned SR which requires residences to be designed within these parameters:

Minimum site area:	144,000 square feet per dwelling unit
Front yard setback:	50 feet (from the east property line)
Side yard setbacks:	10 feet (from the north and south property lines)
Rear yard setback:	50 feet (from the west property line)
Maximum building height:	34 feet (from average grade at perimeter of residence)
Accessory Structures:	Setbacks, f-100, s-10 and r-10 height, 24 feet.

### SCHEDULE

Substantial effort will be made to complete each of the following phases on or before their respective dates:

Architectural Program:	completion by 05/01/2014
Conceptual Design:	completion by 08/01/2014
Conceptual Cost Estimate:	completion by 09/15/2014
Construction Documents:	completion by 01/01/2015
Bidding and Negotiation:	completion by 02/01/2015
Permitting:	completion by 03/01/2015
Construction:	earliest completion by 07/01/2016 latest completion by 12/01/2016



## BIKE RANCH CYCLING RESORT SUSTAINABILITY |

### PIMA COUNTY AND LEED

Pima County is committed to sustainability. As part of this commitment, building safety and sustainability uses its plan review and inspection services to provide LEED for Homes review and verification. LEED for Homes is a voluntary third party certification system of the U.S. Green Building Council (USGBC) that promotes the design and construction of high-performance green homes.

LEED for Homes awards points to projects in seven categories of environmental performance: Location & Linkages, Sustainable Sites, Water Efficiency, Indoor Environmental Quality, Energy & Atmosphere, Homeowner Awareness, and Innovation and Design. There are four levels of LEED for Homes certification available: Certified: 45-59 points; Silver: 60-74 points; Gold: 75-89 points; Platinum: 90-136 points.

The residences will be designed to achieve the most points possible. All buildings at Bike Ranch will be designed by incorporating these standards to achieve LEED certification in construction and operation.

### PASSIVE SOLAR

There are a few components of sustainable design that can be accomplished without additional cost. The major one is orientation and a second is size and placement of openings. Our goal will be, where possible, to orient the buildings in an east - west direction giving more exterior exposure to the north and the south. At the same time we will place openings on the south exposure that will allow winter sun to warm the interior of the buildings while shading those openings during the summer to keep the sun's heat out. Our goal will include the placement of limited openings on west exposures.

### SOLAR AND/OR WIND ENERGY

The buildings will be designed in a way that either solar panels or wind turbines, or both, may be added at any desired time to supply a portion of the electrical power needs of the buildings.



## BIKE RANCH CYCLING RESORT SUSTAINABILITY 2

### SOLAR WATER HEATING

A solar water heating system will be designed into the buildings which will reduce energy costs by approximately 15%. Although this system will work for domestic hot water and may also be used for heating a swimming pool it is not possible to achieve the heat required for the Jacuzzis. To increase the temperature from 80/85 deg (possible with solar) up to 100/102 degrees needed for a hot tub will require a electric or gas powered heater.

### WATER CONSERVATION

Three sources of conserving water are the use of low-flow plumbing fixtures and hardware; the use of gray water from showers and the washing machine for irrigation; and the use of native landscaping. All three of these will be taken into consideration during the design process.

### RAINWATER HARVESTING

The typical residence in tucson uses 50% to 60% of total water use for exterior landscaping. We will reduce the amount of domestic water used for landscaping by increasing the use of native landscaping and watering with collected rainwater. Two means of using collected rainwater are collecting and storing rainwater primarily from roofs for use later; and retaining rainwater by forming the topography to hold rainwater runoff and letting in percolate the ground in desired landscape areas.

### ENVIRONMENT

Design of these buildings will incorporate fresh air ventilation and daylight. If the budget allows we will also incorporate mechanical ventilation and humidity control. Air filters will be used to control dust, pollen and pollution. Selection of filter type will be based on budget and review of mechanical, electronic and hybrid filters.

Daylighting will be incorporated to reduce the amount of lighting fixtures needed during the day and fresh air ventilation will be incorporated by the placement of openings resulting in cross ventilation of most of the spaces in the buildings.



## BIKE RANCH CYCLING RESORT SUSTAINABILITY 3

### INSULATION

Heavy insulation will reduce the initial cost of cooling equipment and the long term cost of operating that equipment. At a minimum the roof insulation will have an “r” rating of 36. Our goal will be 48. At a minimum the exterior wall insulation will have an “r” rating of 24 and our goal will be 36.

### MATERIALS

When possible and reasonable, construction materials will be used that don’t deplete resources; have low voc emission; and produce little waste and pollution during manufacturing. Materials will be selected that are low maintenance and are easy to repair and clean.

### LANDSCAPING

To reduce water consumption, drought resistant, native plants will be used for the majority of exterior landscaping. Larger vegetation will be located to the west of the buildings to reduce late afternoon heat load.