



THE DRACHMAN INSTITUTE
COLLEGE OF ARCHITECTURE AND LANDSCAPE ARCHITECTURE
THE UNIVERSITY OF ARIZONA TUCSON, ARIZONA

City of Sedona Affordable Housing Prototypes

June 2009



Project Credits

Disclaimer: The information in this report is intended as guidance for the City of Sedona in informing decisions related to this project. The research, design process, and recommendations were achieved to the best knowledge and judgment of the Drachman Institute staff, students, and employees, and is subject to verification by the City of Sedona or other parties prior to implementation of any action.

Drachman Institute

The Drachman Institute is the research and public service unit of the College of Architecture and Landscape Architecture at The University of Arizona dedicated to the environmentally sensitive and resource-conscious development of neighborhoods and communities.

The Drachman Institute focuses its research and outreach activities on the proposition that housing is the building block of neighborhoods and neighborhoods are the building blocks of communities.

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June 2009

Table of Contents

- INTRODUCTION
 - Project Background 2
 - Scope of Work 3

- CONCEPTS & GUIDELINES RESEARCH
 - Design Standards 6
 - Sustainability 10

- SITE SELECTION
 - Small Site 14
 - Medium Site 16
 - Large Site 18

- ARC 402 STUDENT DESIGNS
 - Small Site
 - “*Sedona Housing: New Opportunities*” 22
 - Medium Site
 - “*The Glenn*” 24
 - “*Sedona: The Node*” 26
 - Large Site
 - “*Sedona Links*” 30
 - “*The Living House*” 34

- FURTHER DESIGNS
 - Small Site 40
 - Large Site 42

- RECOMMENDATIONS
 - Density 48
 - Parking 49

- APPENDIX 52

Introduction

Introduction

Project Background

The City of Sedona is engaged in ongoing discussions with residents about a range of strategies that could create some affordable housing in the community. One recurring question is “what would it look like?” Sedona’s small town character and design conventions make it difficult to use examples of well-designed affordable housing from other cities to answer that question. The most recent community discussions concerned a proposal to increase maximum density in the City from 12 units per acre to 20 units per acre along the commercial corridor, specifically for developments that include affordable housing. That proposal was withdrawn for lack of support, in some measure because it could not be shown what that housing could look like using Sedona’s design guidelines.

The City of Sedona requested that the Drachman Institute – through a technical assistance grant from the Arizona Department of Housing (ADOH) – prepare a series of drawings and models that show how affordable housing could fit into the context of the community at a variety of densities and configurations.

The Drachman Institute worked closely with City of Sedona planning staff and others to develop a series of affordable, sustainable, and site-appropriate housing prototypes. Peter McBride and Corky Poster with the Drachman Institute led five 4th-year professional architecture students in an intensive four-week design studio project at The University of Arizona School of Architecture (ARC 402 class). Drachman Institute staff and Architecture students made a series of site visits and met with City of Sedona staff to understand the context, codes, regulations, and the community’s concerns. Through the class, students developed hypothetical affordable housing designs for three sizes of sites demonstrating different configurations and densities, and presented their drawings and models at a public community meeting in Sedona. Based on feedback from the public and City of Sedona staff, additional designs and updated designs were developed by Drachman Institute staff and presented to the City of Sedona Planning and Zoning Commission.

This document presents the designs developed through that process and provides the City of Sedona with some answers to how affordable housing can fit into the physical and social context of Sedona.

Project Timeline of Events

Fall 2008 - City of Sedona approached Arizona Department of Housing (ADOH) for technical assistance

December 2008 - ADOH contacted The Drachman Institute and a Scope of Work for “ADOH City of Sedona Affordable Housing Prototypes” was developed

03 February 2009 - Planning kick-off meeting held between the Drachman Institute and City of Sedona staff

23 February 2009 - Review of potential site(s), zoning, and code, and design guidelines

06 March 2009 - ARC 402 Student Designs discussed with City of Sedona staff

12 March 2009 - First Sedona Public Community Meeting Presentation - presentation and discussion of project and student designs

May 2009 - Revisions of designs and design development

02 June 2009 - Final presentation to the City of Sedona Planning and Zoning Commission at City Hall in Sedona

June 2009 - Production and completion of *City of Sedona Affordable Housing Prototypes* document



Introduction

Scope of Work

Scope of Work Overview (Developed December 2008)

Inventory and Analysis of Demographics, Maps, Design Guidelines

- The Drachman Institute will collect and analyze demographic information, physical and zoning maps, and Sedona's design guidelines.

Project Scope Meeting & Sedona Site Visit

- Drachman Institute staff will meet with City of Sedona staff to formulate scope of work and identify densities, potential sites, and types of affordable housing prototypes.
- Drachman Institute staff will become familiar with the Sedona area and obtain site/context photos and maps.

Potential Site(s), Zoning, and Code Analysis

- Drachman Institute will perform a preliminary site analysis of the selected parcels. Items may include the location of any physical features (vegetation, existing buildings, etc.), access points for future residents, topography, site context, allowable coverage, height, and density.
- Drachman Institute will analyze existing Zoning, Building, and Land Use codes and ordinances.

Concept Design

- Drachman Institute will develop a series of conceptual designs for three housing types.

Sedona Team and Community Meeting + Presentation One

- Presentation of conceptual designs to City of Sedona staff and the Sedona community for review.

Schematic Design

- Drachman Institute will develop Schematic Designs for three housing types based on the conceptual designs and feedback from the City of Sedona.
- Schematic designs are not intended to be construction documents; schematic designs serve the purpose of communicating to the draftsman and/or architect who will be doing construction documents the full intentions of the project. Schematic designs will include overall site features, circulation, housing plans, material palettes, and intentions for construction.

Sedona Team and Community Meeting + Final Presentation

- Final presentation of schematic designs of three affordable housing types to the City of Sedona staff and the public community.

Deliverables:

- Drachman Institute will deliver a series of final schematic presentation-quality printed drawings and models along with digital copies of presentations as generated through this study.



Concepts & Guidelines Research

Sedona is a community with unique assets, opportunities and challenges. New development should respect and enhance Sedona's cultural, historic and environmental uniqueness, rather than detract from it.

- Sedona Design Review Manual, amended and adapted by the Sedona City Council on Jan. 22, 2002 by Ordinance No. 2002-01

Concepts & Guidelines Research

Design Standards

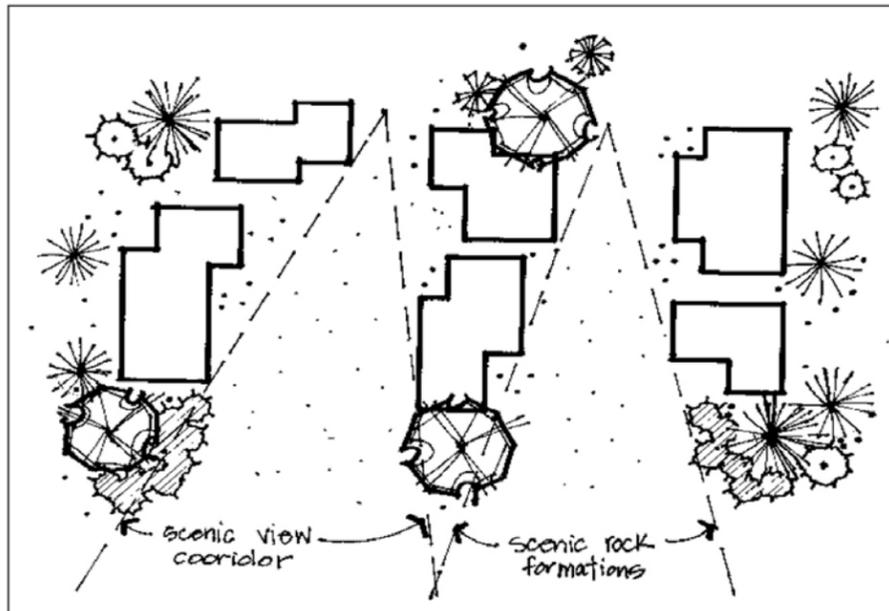
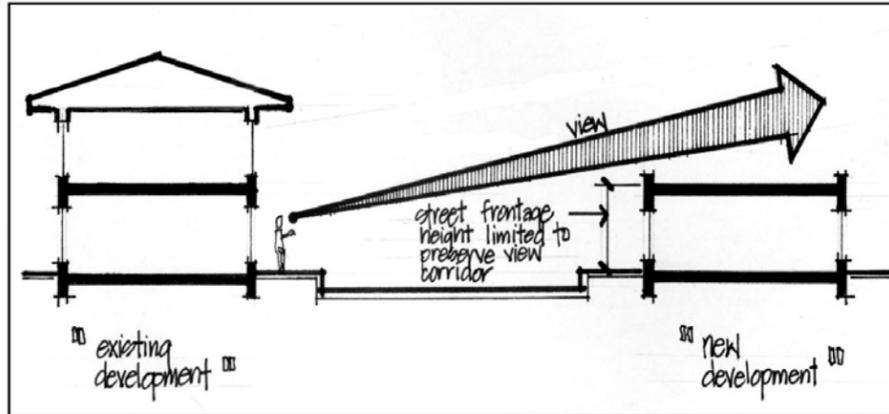
In contrast to many growth patterns in the southwest, the City of Sedona has managed to maintain the natural integrity and beauty of its landscape through a series of distinct building codes and guidelines. The following sections from the City of Sedona Design Review Manual (2002) illustrate some of the standards that were of particular importance in the design of the prototypes. They demonstrate the unique ways in which Sedona has maintained a distinct character.

The source for all images found on pages 6-8 is the City of Sedona Design Review Manual (2002).

Section 2.2.3: Viewshed Analysis

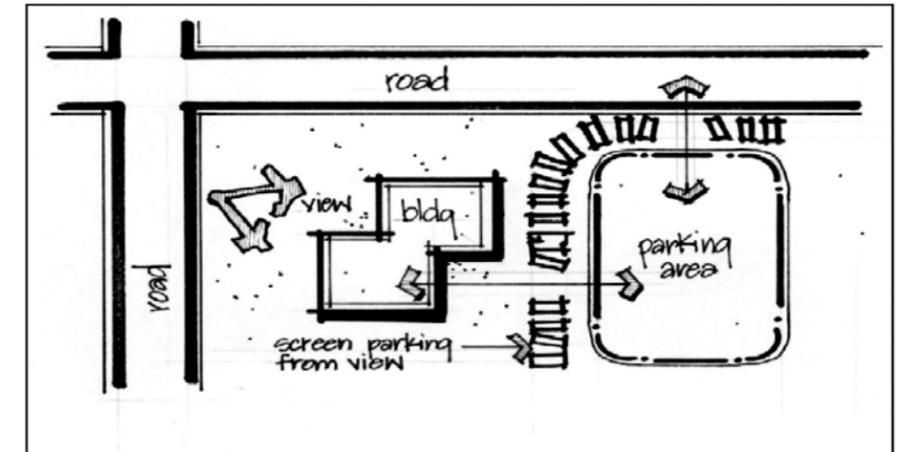
Where feasible, preserve existing views

1. Views from within the site
2. Views into the site

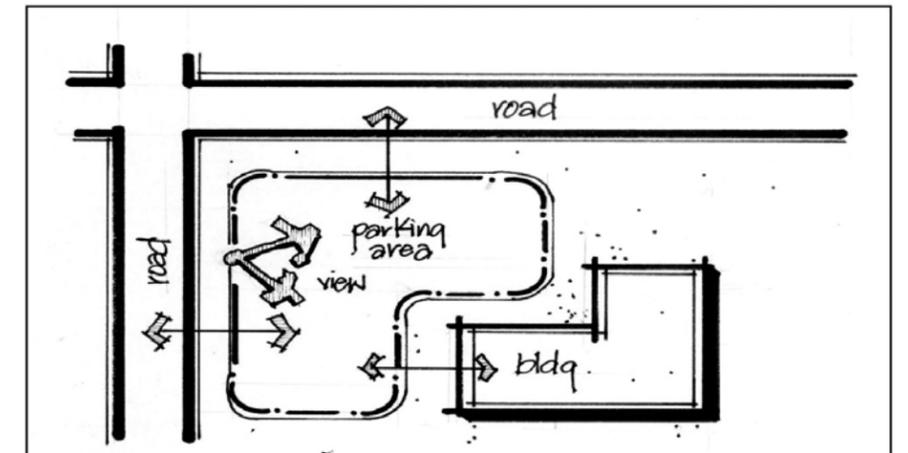


Section 2.4.3: Corner Sites

1. Corner sites should be developed with parking in the rear.



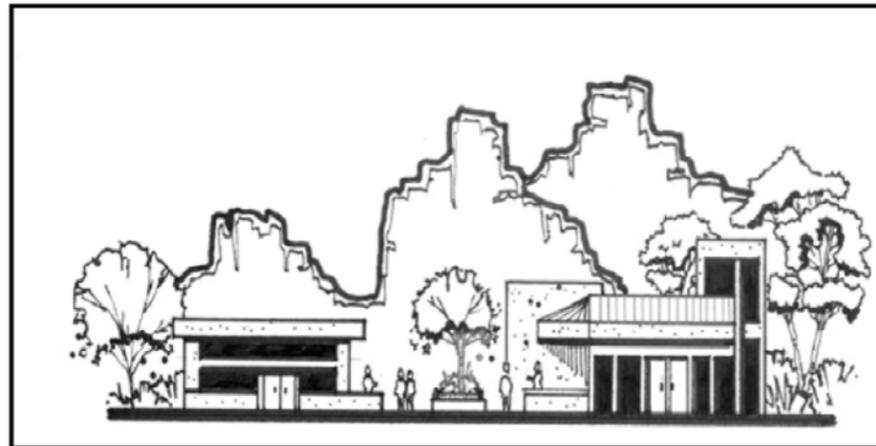
Encouraged



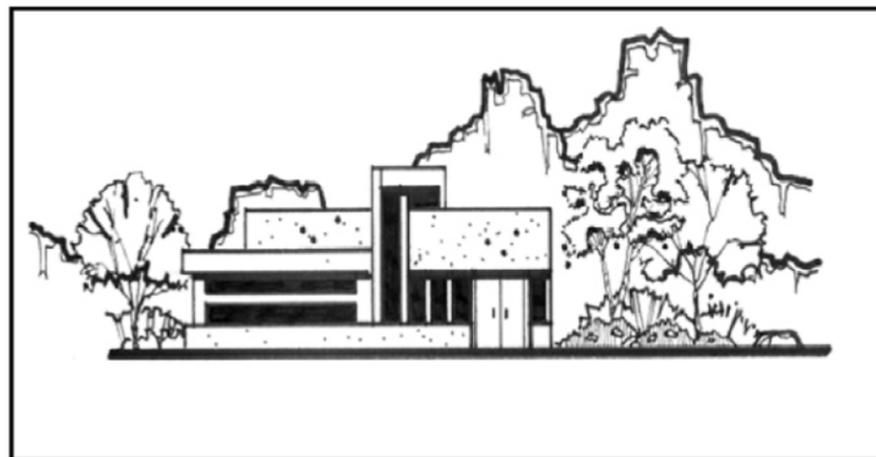
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Section 2.4.4: View Considerations

1. Align open spaces with view corridors



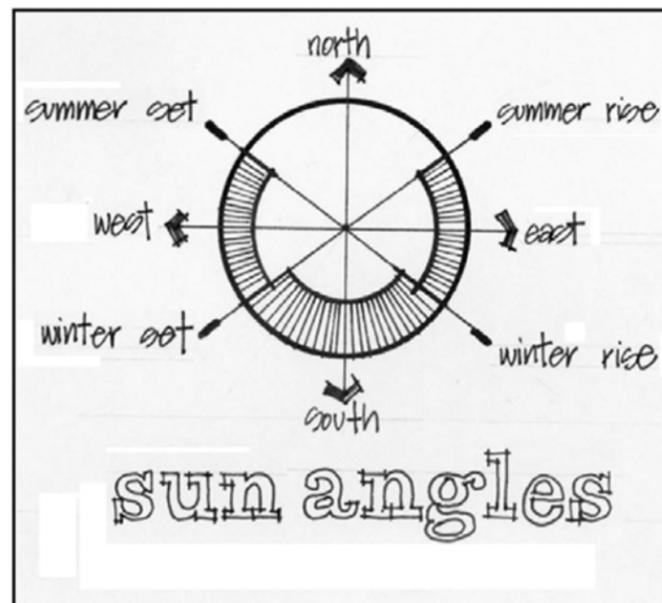
Encouraged



Discouraged

Section 2.4.6 Climate Considerations

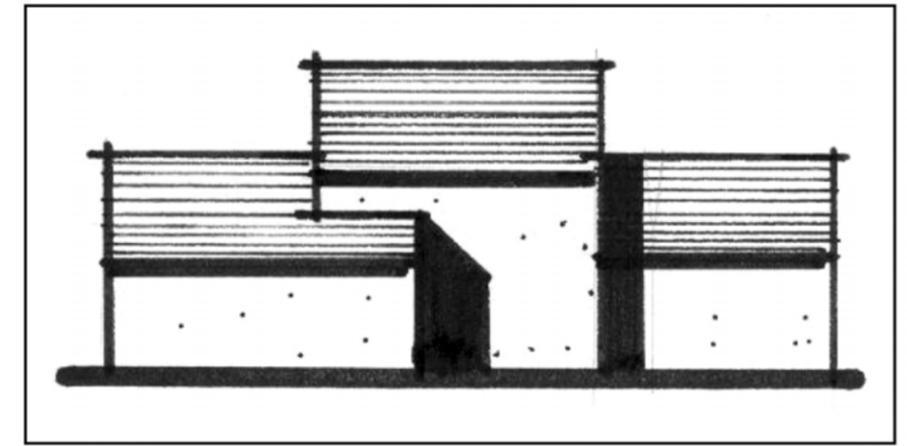
1. 4-season climate requires consideration of sun and wind in design.
2. Covered parking provides relief from the elements.



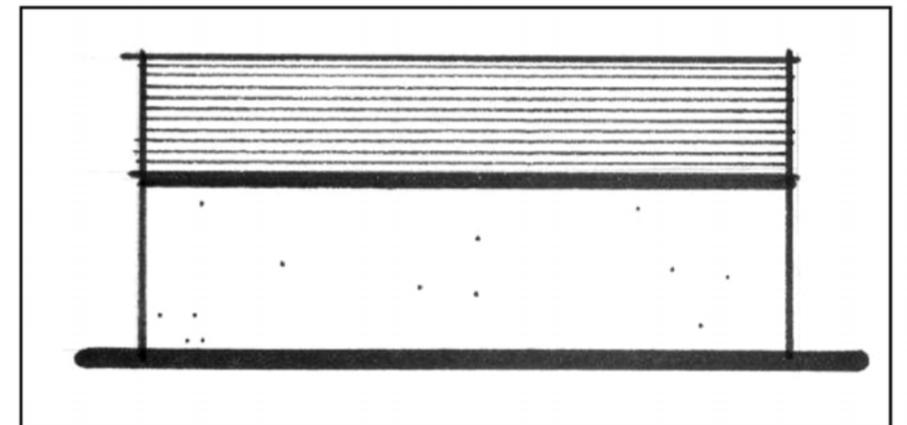
Longitude: 111° 46' 00" W - Latitude: 35° 52' 00" N

Section 3.3.2 Horizontal Composition

1. Large or long continuous wall surfaces should be avoided (>50' in width).
2. Vary roofline silhouettes.



Encouraged



Discouraged

Section 3.3.3 Smaller Scale Components

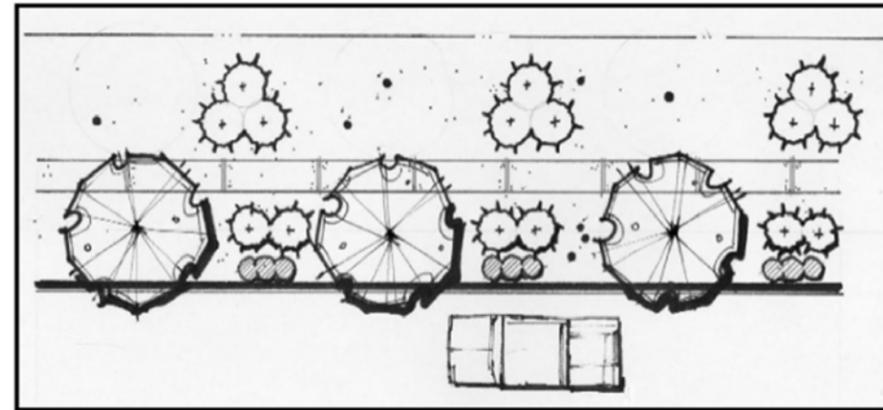
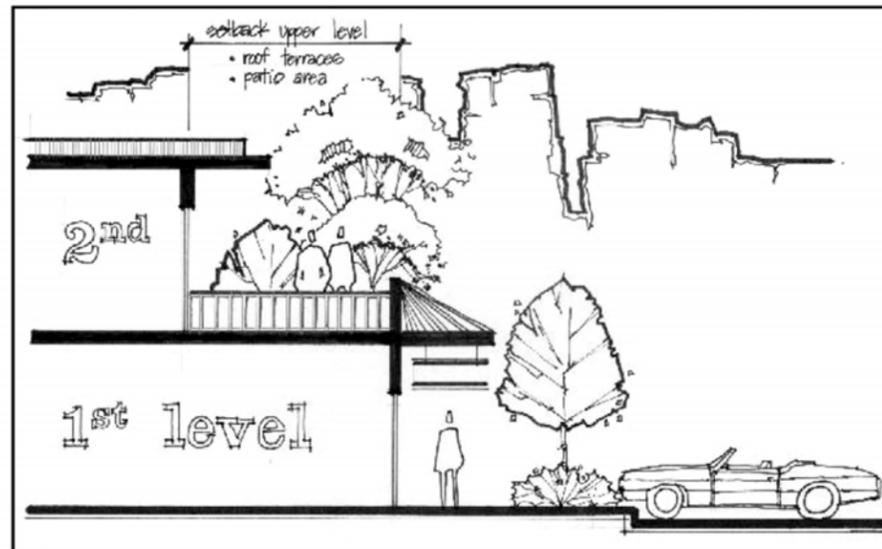
1. The upper level of a building should have a reduced floor area and building mass.
2. Reduce the perceived height by dividing the building mass into smaller elements.

Section 4.2.3 Boundaries & Transitions

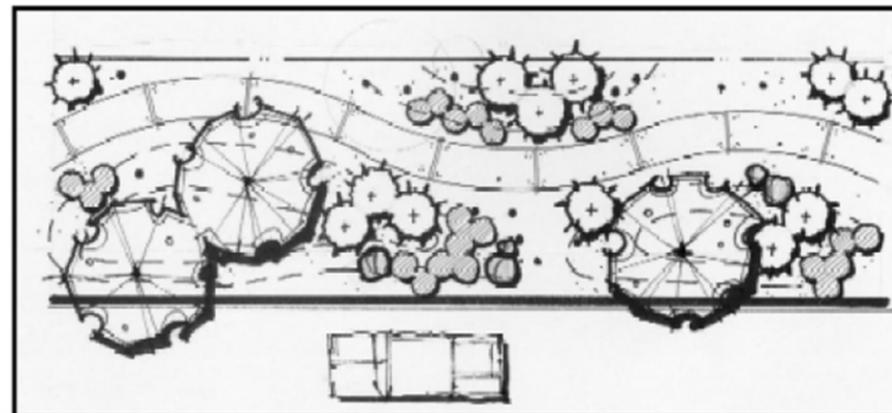
1. Use landscape buffers between dissimilar land uses.
2. These buffers should include a variety of low-maintenance species in an informal, clustered design.

Section 4.5 Other landscape elements & features

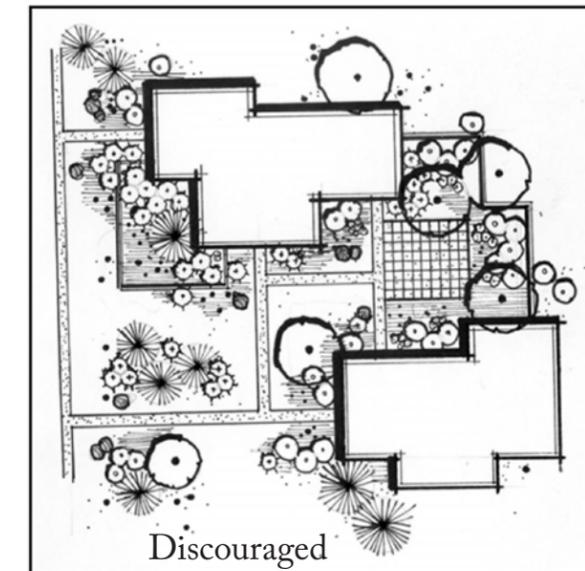
1. Walkways & patios should be included early in design; free form preferred over straight lines.



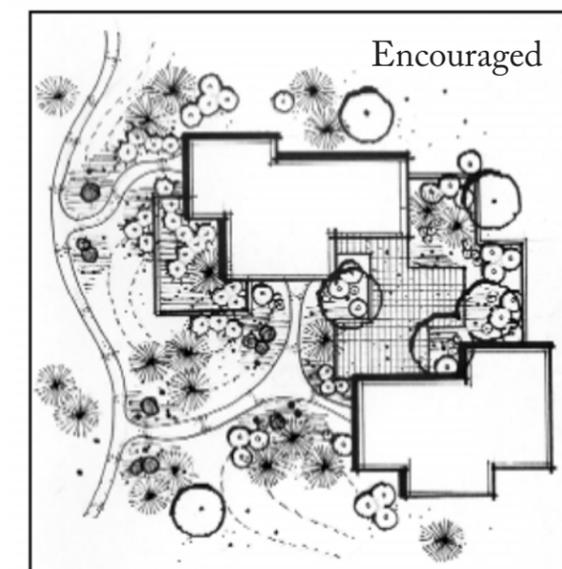
Discouraged



Encouraged



Discouraged



Encouraged

City of Sedona Land Development Code Article 9 Development Standards: 909 Trees

Existing trees on a lot or parcel shall be preserved, with the following exceptions. No existing trees on any lot or parcel shall be removed except in accordance with the following criteria:

1. The tree is located in an area where structures or improvements will be placed and non removal would unreasonably restrict the economically beneficial use of the lot or parcel. To the extent possible, development shall be located so as to avoid mass removal or clearing of trees. In addition, building placements shall take advantage of tree stands as natural visual screens between development areas, and as noise and wind buffers.
2. The tree is dead, diseased, injured, in danger of falling upon existing or proposed structures, abuts or overhangs a building so as to create a potential fire hazard, interferes with the growth of other trees or existing utilities, creates unsafe vision clearance or conflicts with other ordinances or regulations.

City of Sedona - Preferred Vegetation

- Pinyon pine (*Pinus monophylla*)
- Arizona cypress (*Cupressus arizonica*)
- Sycamore (*Platanus wrightii*)
- Yucca (*Yucca sp.*), Agave (*Agave sp.*) and Beargrass (*Nolina sp.*)
- Manzanita (*Arctostaphylos pungens*) and mountain mahogany (*Cercocarpus sp*)
- Live oak (*Quercus virginiana*)
- Cactus (*Opuntia*)
- Wildflowers (*Penstemon sp., etc.*)
- Native Utah juniper (*Juniperus osteosperma*) or Keteleeri juniper (*Juniperus chinensis 'Keteleeri'*)



Arizona Sycamore
(Source: Flickr.com)



Utah Juniper
(Source: picasaweb.google.com)



Arizona Cypress
(Source: www.arborday.org)



Pinyon Pine
(Source: http://en.wikipedia.org/wiki/Single-leaf_Pinyon)

Research & Concept Development

Sustainability

The concept of sustainability has become a driving force in nearly all realms of society. By definition, it allows us to endure - to meet our current needs, but to also maintain the ability of future generations to enjoy the same benefit. There are generally three components to sustainability: social, economic, and environmental, each dependent on the existence of the other two. Sustainable design is not a luxury when it comes to affordable housing. Rather it is a necessity for preserving affordability, providing quality, durable homes for residents, and creating a lasting community. Listed below are just some of the various sustainable practices identified as being applicable to the prototypes designed for this project.

ENVIRONMENTAL

- Integrated photovoltaic panel systems: provides clean energy production and can reduce energy consumption
- Water harvesting elements: impermeable surfaces such as paved areas and roofs direct runoff to landscape areas and water collection cisterns
- Natural shading: reduces heat-island effects and increases energy efficiency
- Native plants and landscape materials: reduces the need for active irrigation systems and provides appropriate natural habitats

ECONOMIC

- Appropriate passive solar orientation: optimizes solar gain in the winter and shade in the summer, reducing energy consumption
- Strategically located operable windows and openings: provides natural ventilation, reducing energy consumption
- Energy efficient materials, fixtures, and systems: saves on utility costs over time

SOCIAL

- Affordable housing: allows for people with a range of incomes to remain in and contribute to their community
- Housing located near public amenities: reduces transportation strain/costs and promotes pedestrian-friendly neighborhoods
- Highly-visible sustainable design methods: educates the community on the benefits of sustainable practices

Sustainability Resources

■ **WHEN PLANNING CONSTRUCTION PROJECTS**, consider the tax implications, rebate offers and soft benefits associated with environmentally friendly construction. Construction companies may not be eligible for these on buildings they construct for others, but building owners and any subcontractors used on the projects are.

■ **IT'S MOST COST-EFFECTIVE TO CONSIDER** green elements before beginning construction, but some elements such as solar panels can be added to existing buildings.

■ **FIRMS AND COMPANIES CAN BE** environmentally friendly and also save or earn money in seven ways: Tax rebates; LEED incentives; recycling the core and shell of existing buildings; using energy-efficient devices; maximizing natural energy sources; building on HAZMAT and Superfund sites; and calculating the intangible benefits of green construction.

■ **WHILE CPAs MAY FIND IT DIFFICULT** to quantify the soft benefits, studies show that environmentally friendly buildings raise employee retention and productivity rates, improve the retail customer experience and generate higher average revenues, and bring apartment building owners higher-wealth clients willing to pay more in rent.

(The Dollars and Cents of Green Construction
by Andrew Meyerson, May 2005)

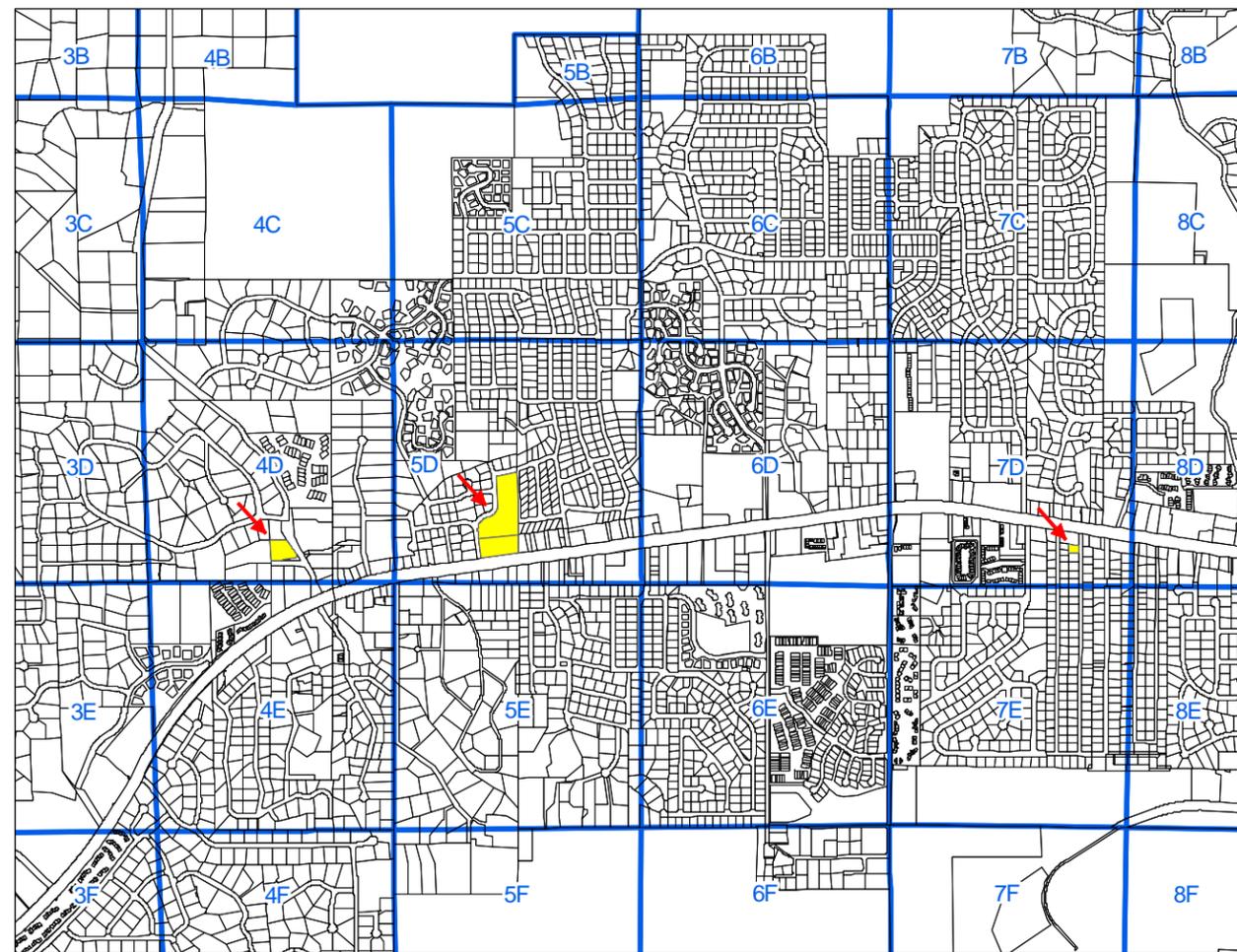
LEED [Leadership in Energy & Environmental Design] is an internationally recognized green building certification system, providing third-party verification that a building or community was designed and built using strategies aimed at improving performance across all the metrics that matter most: energy savings, water efficiency, CO2 emissions reduction, improved indoor environmental quality, and stewardship of resources and sensitivity to their impacts.

Developed by the U.S. Green Building Council (USGBC), LEED provides building owners and operators a concise framework for identifying and implementing practical and measurable green building design, construction, operations and maintenance solutions.

LEED is flexible enough to apply to all building types – commercial as well as residential. It works throughout the building lifecycle – design and construction, operations and maintenance, tenant fitout, and significant retrofit. And LEED for Neighborhood Development extends the benefits of LEED beyond the building footprint into the neighborhood it serves.

(“What LEED Is” from the U.S. Green Building Council website:
<http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1988> (June 2009))

Site Selection



Sites were selected by City of Sedona staff with input from the Drachman Institute. Three demonstration sites were chosen based on their location, size, and adjacencies to explore different housing models and densities.

Site Selection

Small Site

This site was chosen based on its location as a type of transitional zone (located between residential and commercial) to demonstrate how affordable housing could be developed on a small residential lot with increased density. Because of its location, the flexibility of this site could allow for a live/work or retail component. This site might lend itself to duplex or triplex residential and/or live/work units.

SITE DATA

Location: 89A & Inspirational Dr.

Size: 0.22 Acres

Current Zoning: RS-10a (Single Family Residential)

Current Density Allowance: 4 Units per Acre

Current Height Restrictions: 25 feet

Current Setbacks:

- Front Yard: 20 feet
- Side Yard: 10 feet
- Rear Yard: 25 feet

Adjacent Land Use(s):

- Residential (Single Family)
- Commercial

Landscape Elements:

- None





Looking West

Site Selection

Medium Site

This site was chosen based on its location near residential neighborhoods and public amenities such as libraries, schools, government buildings, and commercial developments. The site lends itself well to multi-family housing at a higher density based on its current classification as a transitional zone, and its location near public amenities and the commercial core.

SITE DATA

Location: White Bear Rd. & Dry Creek Rd.

Size: 1.17 Acres

Current Zoning: T2 (Transitional) (explored as RM-2 - High Density Multi Family Residential)

Current Density Allowance: 12 units per acre

Current Height Restrictions: 25 feet

Current Setbacks:

- Front Yard: 20 feet
- Side Yard: 10 feet
- Rear Yard: 25 feet

Adjacent Land Use(s):

- Residential (Single Family)
- Civic

Landscape Elements

- Many established native trees





Looking Southwest

Looking North



Looking East



Looking South



Site Selection

Large Site

The largest site was chosen for its location along a main commercial corridor and its proximity to some relatively higher density residential neighborhoods to demonstrate how affordable housing could be developed appropriately at a higher density than Sedona currently allows (20 units per acre). This site was also chosen to demonstrate how a mixed-use development (residential and commercial/retail) can fit into the neighborhood context.

SITE DATA

Location: 89A & Southwest Dr.

Size: 6.2 Acres

Current Zoning: C2 (General Commercial)

Lot Coverage: 35% if affordable mixed-use

Current Height Restrictions: 25 feet

Current Setbacks:

- Front Yard: 15 feet
- Side Yard: 10 feet
- Rear Yard: None (20 feet adjacent to Res. zone)

Adjacent Land Use(s):

- Residential (Single Family)
- Commercial

Landscape Elements:

- Large rock outcropping at center of site
- Many established native trees





Looking South Southeast

Looking Northeast



Looking North (rock outcropping)



Looking Northwest



ARC 402 Student Designs

The Drachman Institute worked closely with City of Sedona staff to develop a series of affordable, sustainable, and site-appropriate housing prototypes. Peter McBride and Corky Poster with the Drachman Institute led five 4th-year professional architecture students in an intensive four-week design studio project at The University of Arizona School of Architecture (ARC 402 class). Through the class, students developed hypothetical affordable housing designs for three sizes of sites demonstrating different configurations and densities, and presented their drawings and models at a public community meeting in Sedona.

ARC 402 Student Designs

Small Site

PROJECT DATA

Title: *Sedona Housing: New Opportunities*

Designer: Jenn Rios

Function: Live/Work and Multi-Family Residential

Density: 13.63 Units per Acre

Number of Units: 3

- 1 One-bedroom live/work
- 2 Two-bedroom townhouses

Size of Units: Approximately 850 square feet

Height: 25 feet

Number of Stories: 2

Design Features:

- Balconies face the street to make connections with the neighborhood and enliven the pedestrian experience
- Live/Work unit provides an appropriate transition between commercial and residential zones

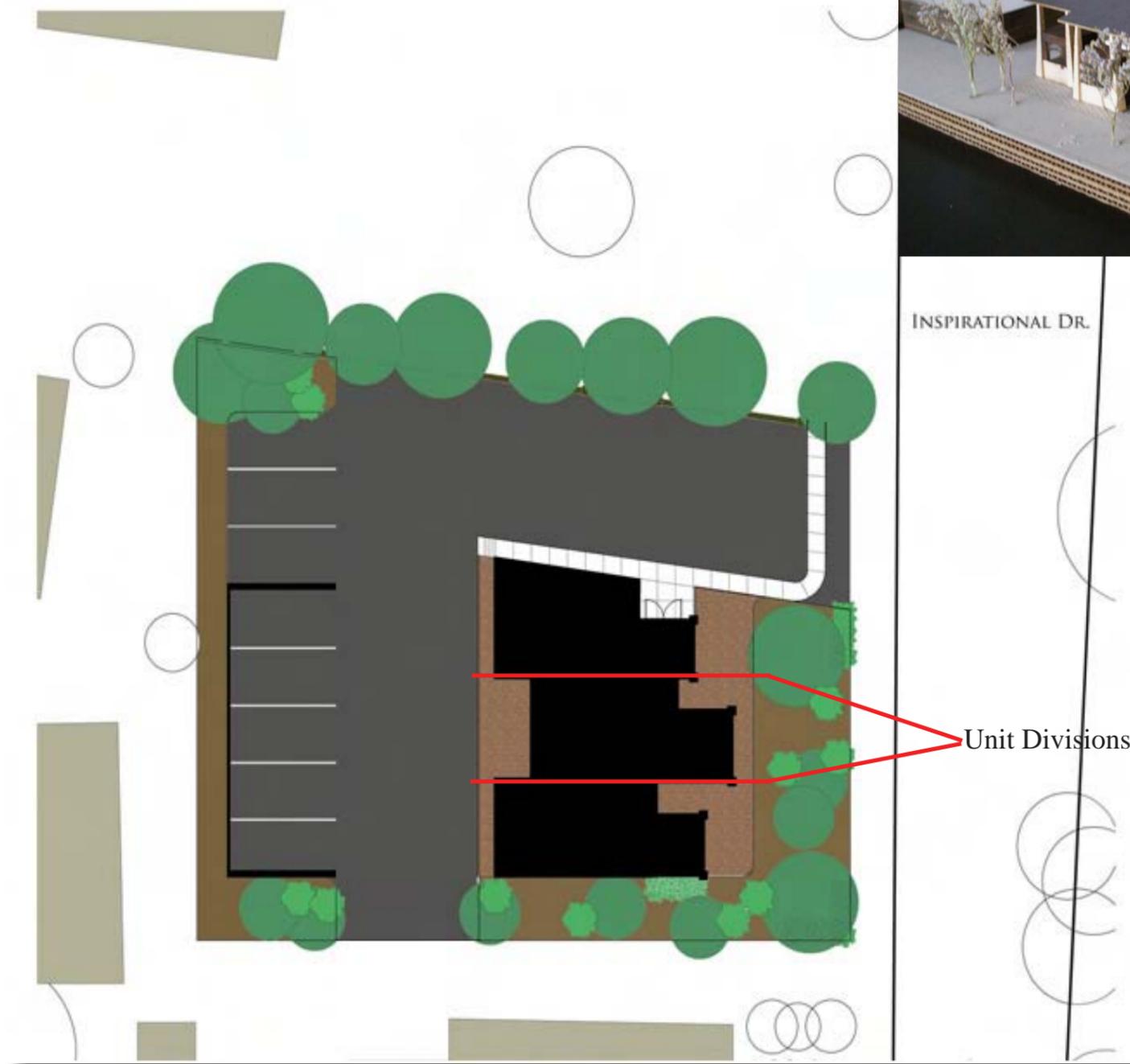
Sustainability Features:

- Passive solar orientation
- Self-shading courtyards

Materials: Local sandstone, stucco, local timber

Site Features/Landscape Elements:

- 8 Parking Units (5 covered)

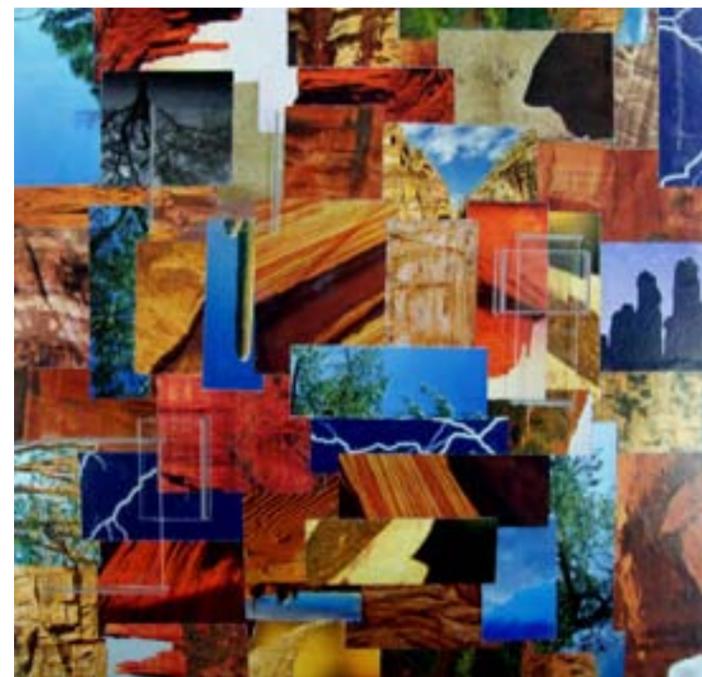




Second Floor Plan



First Floor Plan



Conceptual Illustration

My initial concept for this project sprang from the idea of delineating the line between architecture and nature. The complex amount of natural and beautiful elements were not to be obstructed. With this in mind, I decided to allow the nature to be seen through the buildings and for them to blend into their surroundings.

- Jenn Rios

ARC 402 Student Designs

Medium Site

PROJECT DATA

Title: The Glenn

Designer: Glenn Buack

Function: Residential (Multi-family)

Density: 12.00 Units per acre

Number of Units: 14

Size of Units: Varies

Height: 25 feet

Number of Stories: 1-2

Design Features:

- Taller buildings located toward the center of the site
- Lower one-story units at the street
- Large porch/balconies for private open space and maximized views for occupants

Sustainability Features:

- Passive (north/south) solar orientation

Materials:

- Local sandstone
- Stucco
- Local timber

Site Features/Landscape Elements:

- Established native trees
- New street trees
- Vegetated parking buffer





ARC 402 Student Designs

Medium Site

PROJECT DATA

Title: *Sedona: The Node*

Designer: Davina Sanmuganathan

Function: Residential (Multi-family)

Density: 12.28 Units per acre

Number of Units: 14

- 3 Efficiency units (Studio)
- 2 Two-bedroom w/loft
- 6 Two-bedroom/two level
- 3 Three-bedroom

Size of Units: 472-1,250 square feet

- Efficiency unit (Studio) = 472 square feet
- Two-bedroom w/loft = 940 square feet
- Two-bedroom/two level = 875 square feet
- Three-bedroom = 1,250 square feet

Height: Up to 22 feet

Number of Stories: 1-2

Design Features:

- Buildings oriented toward southeast and northwest to maximize views (both for residents and adjacent neighbors)
- Each unit is designed to maximize its private open space by use of balconies, courtyards, and porches
- Taller building heights located toward center to minimize visual impact
- Lower building heights located along street

Sustainability Features:

- Passive and active rainwater harvesting
- Natural ventilation and lighting

Materials:

- Local sandstone
- Stucco
- Local timber

Site Features/Landscape Elements:

- Parking separated from housing
- Additional street trees
- Connecting courtyard and foot paths
- Vegetated parking buffer





The concept for The Node residential complex was to entangle the rigid structure of architecture and the fluidity of nature. This was achieved by focusing the buildings to the views, and by having interior courtyards within the residence as well as between residences.

-Davina Sanmuganathan

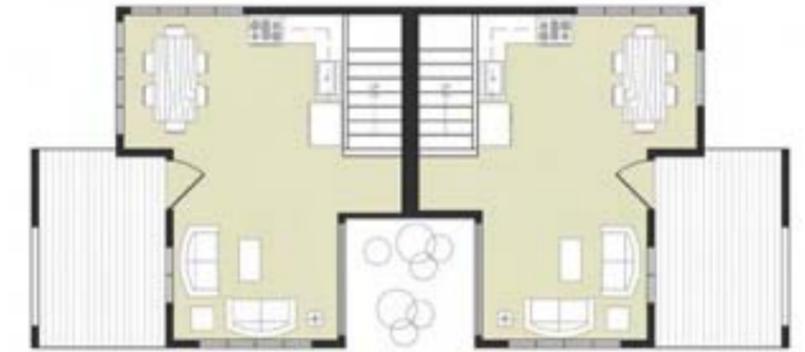
ARC 402 Student Designs Medium Site (Continued)



EFFICIENCY UNIT-472 S.F.
SCALE: 1/8"=1'-0"



2 BEDROOM W/LOFT UNIT-940 S.F.
SCALE: 1/8"=1'-0"



2 BEDROOM-2 LEVEL UNIT- 875 S.F.
SCALE: 1/8"=1'-0"



SOUTH WEST VIEW



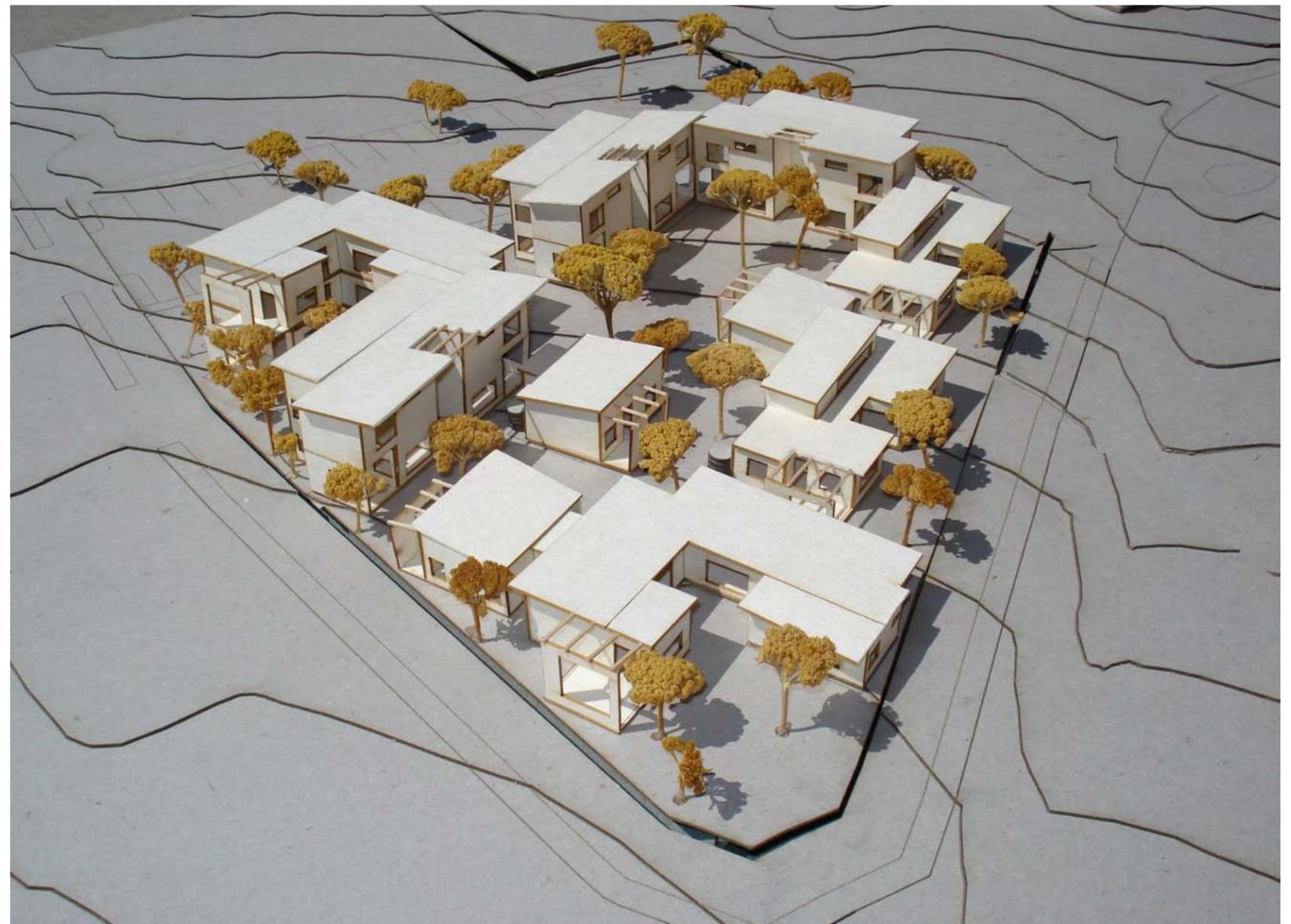
SOUTH EAST VIEW
SEDONA LAND USE CODE- EX-
POSED MASS HEIGHTS



SOUTH WEST VIEW
SEDONA LAND USE CODE- MAX
HEIGHT 22 ft



3 BEDROOM UNIT-1250 S.F.
SCALE: 1/8"=1-0"



EAST VIEW
SEDONA LAND USE CODE- EXTRU-
SION OF MASSES

402 Designs

Large Site South End

PROJECT DATA

Title: *Sedona Links*

Designer: Charles S. Mueller

Function: Mixed-Use (retail at level 1, residential above)

Density: 20 Units per acre

Number of Units: 72

- 38 Efficiency units (Studio)
- 29 One-bedroom
- 5 Two-bedroom

Size of Units: 416-851 square feet

- Efficiency unit (Studio) = 416 square feet
- One-bedroom = 474 square feet
- Two-bedroom = 851 square feet

Size of Commercial Space: 15,000 square feet

Height: 22-35 feet

Number of Stories: 2-3

Design Features:

- Commercial space at street level with residential above
- 3rd story strategically located at interior of site to preserve viewsheds from adjacent properties
- Provides public open space

Sustainability Features:

- Passive and active rainwater harvesting
- Minimized footprint
- Energy-efficient massing of units

Parking Provided: 166 Spaces

Materials:

- Local sandstone
- Stucco
- Local timber

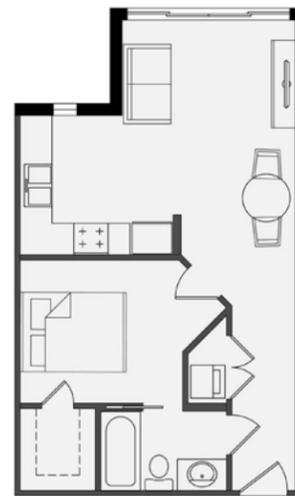
Site Features/Landscape Elements:

- Additional street trees
- Vegetated parking buffer
- Public plaza/gathering area





EFFICIENCY UNIT - 416 sf



ONE BEDROOM - 474 sf



TWO BEDROOM - 851 sf

ARC 402 Student Designs
Large Site South End (Continued)



NORTH ELEVATION



SOUTH ELEVATION



EAST ELEVATION



WEST ELEVATION

ARC 402 Student Designs

Large Site North End

PROJECT DATA

Title: *The Living House*

Designer: Paige Greene

Function: Residential (Multi-family)

Density: 20 Units per Acre

Number of Units: 40

Size of Units: 600-1,064 square feet

- One-bedroom = 600 square feet
- Two-bedroom = 900 square feet
- Three-bedroom = 1,064 square feet

Height: 22-35 feet

Number of Stories: 1-3

Design Features:

- Individual parking underneath 2nd story
- Taller building heights centralized to maximize viewsheds for adjacent neighbors
- Setbacks and open space provided for existing adjacent neighborhoods

Sustainability Features:

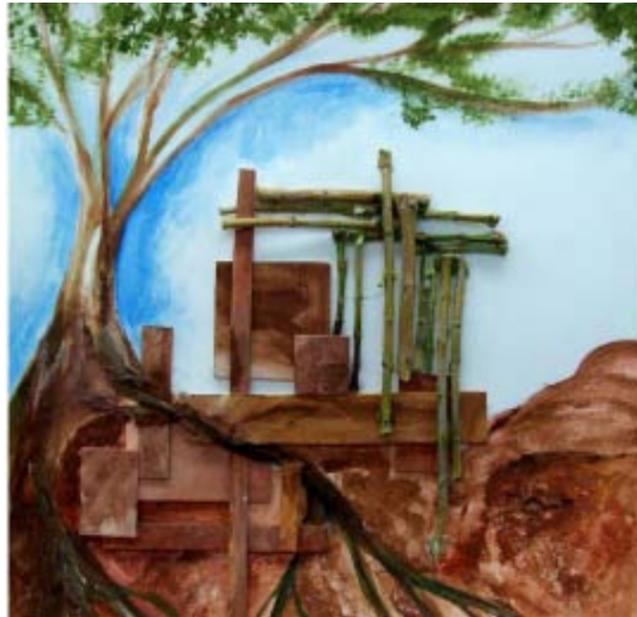
- Passive rainwater harvesting
- North/South passive solar orientation, photovoltaic integration
- Minimized heat island effect via covered parking

Materials:

- Local sandstone
- Stucco
- Local timber

Site Features/Landscape Elements:

- Existing trees left in place - development in response to their locations
- Large rock outcropping (third story screen)
- New vegetated open space

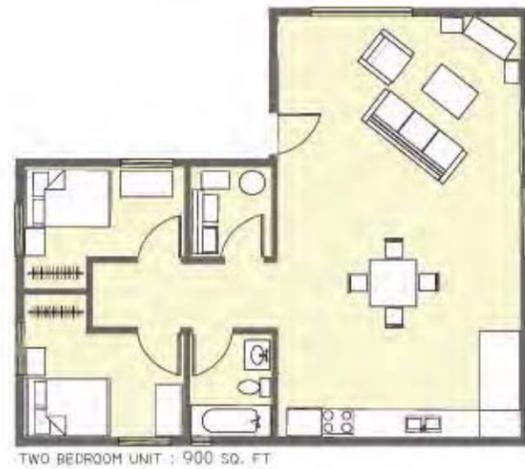
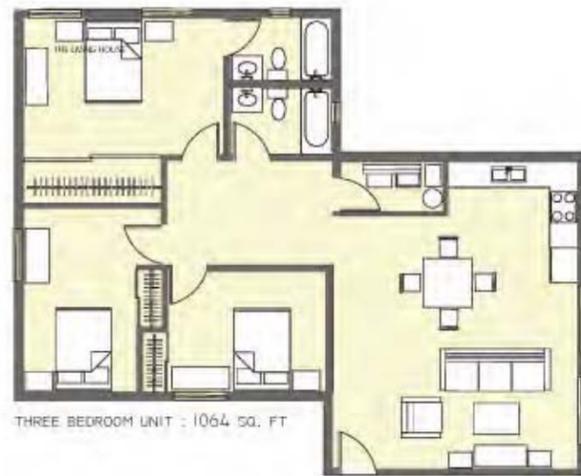


Conceptual Illustration





Site Elevation looking West



ARC 402 Student Designs

Large Site North End (Continued)





Further Designs

Based on feedback from the public and discussions with City of Sedona staff, Drachman Institute staff made updates to the student designs and developed additional concepts and presented these to the City of Sedona Planning and Zoning Commission.

Further Designs Small Site

PROJECT DATA

Parcel Size: 0.22 Acres

Proposed Density: 18 Units per acre

Proposed Number of Units: 4

- 2 Efficiency units (Studio)
- 2 One-bedroom

Size of Units: 500 -700 square feet

- Studio unit = 500 square feet
- One-bedroom unit = 700 square feet

Parking Spaces Provided: 7 (4 Covered)

Function: Residential (Multi-family)

Number of Stories: 2

Height: 25 feet

Sustainability Features:

- Photovoltaic panel integration
- North-facing clerestory on 2nd story for natural lighting
- Designed for passive heating/cooling via appropriate solar orientation
- Native trees (drought tolerant and minimal water use)
- Rainwater harvesting systems

Materials:

- Local sandstone
- Local timber
- Stucco
- Metal roof

Site Features/Landscape Elements:

- Passive rainwater harvesting via swale/basin landscaping





Looking West



Looking Northwest

Further Designs

Large Site North End

PROJECT DATA

Parcel Size: Approx. 2.1 Acres

Proposed Density: 20 Units per Acre

Proposed Number of Units: 40

Size of Units: (see student project, "The Living House")

Parking Spaces Provided: 85

Function: Residential (Multi-family)

Number of Stories: 2-3

Height:

Two Story - 25 feet

Three Story - 35 feet

Design Features:

- Designed in response to existing vegetation and focuses on the integration of homes into the natural landscape
- Parking is strategically designed to tuck into homes which allows parking to be spread out through each unit rather than centrally clustered
- Taller buildings have been concentrated towards the center of the site to maximize existing viewshed for neighbors
- Three story designs are strategically located near landforms (such as rock outcroppings) which lessen the impact of a taller building

Sustainability Features:

- Passive rainwater harvesting
- North/South passive solar orientation for each unit
- Includes architecturally design-based photovoltaic integration

Materials:

- Local sandstone
- Local timber
- Stucco

Site Features/Landscape Elements:

- Large rock outcropping (third story screen)
- Established native trees
- Setback and open space are provided for existing adjacent neighborhoods





Looking Northwest



Looking Southeast



Looking North



Section looking West

Further Designs

Large Site South End

PROJECT DATA

Parcel Size: 4.1 Acres

Proposed Density: 20 Units per Acre

Proposed Number of Units: 72

Size of Units: 416-851 square feet

Parking Spaces Provided: 166

Function: Mixed-use (Commercial and Residential)

Size of Commercial Space: 15,000 square feet

Number of Stories: 2-3

Height:

Two Story - 25'

Three Story - 35'

Design Features:

- Based on a mixed-use model which combines commercial use at the street/pedestrian level with one to two stories of residential use above
- Any third story section is strategically located at the interior of the site so that desired views from adjacent properties are not impacted.

Sustainability Features:

- Passive rainwater harvesting
- Consolidated footprint means that heating and cooling costs are minimized by build-in insulation value (created by shared wall) while also decreasing disturbances to the natural environment
- Mixed-use model provides incentives for developers: they can charge more for the commercial sections in order to offer lower rates to residential tenants. (Creating affordable living space increases social and economic sustainability.)

Material:

- Stucco
- Local sandstone
- Local timber

Site Features/Landscape Elements:

- Includes areas dedicated to public open space
- New street trees
- Vegetated parking buffers





Looking Northeast

Looking Northwest

Section looking West



Recommendations

Recommendations

Density

To help facilitate quality affordable housing that fits into the community context of Sedona, a policy change to allow for increased density should be considered. There are many benefits of increased density not only for housing affordability, but for the entire community as a whole. These include:

- Allowing higher density for infill locations (especially in applying a mixed-use model) can revitalize slowing commercial areas and increase sales-tax revenues.
- Allowing higher density for infill locations where infrastructure and service capacity is already in place and paid for saves money for taxpayers and future residents.
- Allowing higher density (especially in applying a mixed-use or live-work model) minimizes the demand for transportation infrastructure and expenses and helps promote a more pedestrian-friendly and environmentally-friendly community.
- Allowing higher density using a mixed-use model provides an incentive for developers to create affordable housing by having the ability to charge higher retail rents to offset lower rents for residential units.
- Allowing higher density promotes energy efficiency through inherent insulation values via shared walls, floors, and ceilings.

To provide an avenue to incentivize affordable housing and provide control devices for the community, it is recommended that the City of Sedona adopt zoning policy that allows a higher density for affordable housing in exchange for an extensive design review process by the City (with assurances for a timely review).

This would allow developers to build affordable housing at a higher density, while allowing the city and community to ensure appropriate and contextual design on an individual project basis. This design review process and density bonus may apply only to those projects receiving a certain amount of subsidy in order to produce affordable units.

Recommendations

Parking

To encourage sustainable and equitable community design that enhances the beauty and uniqueness of the City of Sedona, a policy change to either decrease the parking requirements or provide more flexible requirements should be considered. In the City of Sedona, most renting households own either zero vehicles or one vehicle (see adjacent figures); this percentage is even higher in Cottonwood. However, current zoning codes in Sedona mandate more than one parking space per residential unit:

- Single Family Residence or Duplex: 2 Spaces
- Efficiency Units (Studios): 1.25 Spaces
- One-bedroom Units: 2 Spaces
- Two or More Bedroom Units: 2.5 Spaces

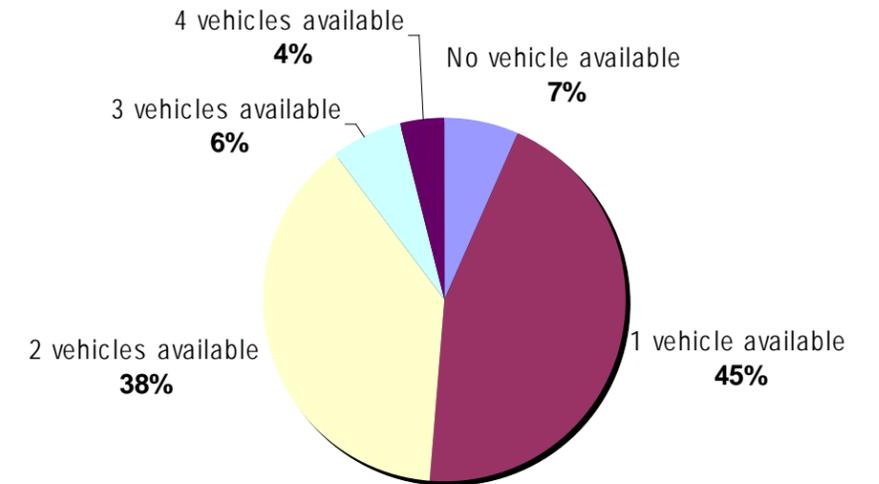
This discrepancy between actual parking needs and mandated parking requirements has many adverse effects including:

- Increased costs per residential unit (increasing infrastructure costs and decreasing valuable land use for additional housing units or open space)
- Decreased affordable housing (forcing residents to pay the costs of parking infrastructure they do not use)
- Increased environmental costs (increasing impermeable surfaces causing erosion and increased storm water mitigation infrastructure costs, increasing the heat island effect with large amounts of paving, and decreasing natural habitat and open space).

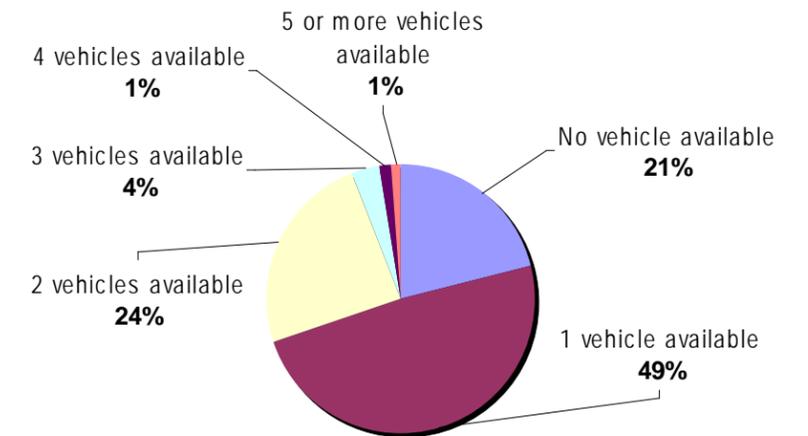
To mitigate both the negative environmental and economic impacts of oversized parking lots and outdated parking requirements, it is recommended that the City of Sedona adopts zoning policy that either decreases or provides flexibility of the parking requirements for affordable housing projects.

If parking requirements are not decreased across the board, then a decrease for affordable housing projects could be provided in exchange for an extensive design review process by the City. This would allow developers to build affordable housing at a lower cost while allowing the city and community to ensure appropriate and contextual design on an individual project basis. This design review process and parking requirement decrease may apply only to those projects receiving a certain amount of subsidy in order to produce affordable units (if not city wide).

City of Sedona
Tenure by Vehicles Available: Renter Occupied
 US Census Bureau 2000 Census



City of Cottonwood
Tenure by Vehicles Available: Renter Occupied
 US Census Bureau 2000 Census



Appendix

Appendix

Scope of Work proposal developed between the Drachman Institute and the City of Sedona with the Arizona Department of Housing in 2008.

THE UNIVERSITY OF
ARIZONA
TUCSON ARIZONA

819 East First Street
Tucson, AZ 85721
(520) 626-5293
Fax: (520) 626-1792

Roy P. Drachman Institute for Land and Regional Development Studies

**ADOH
Sedona Affordable Housing Prototypes** **December 2, 2008**

The following constitutes the Scope of Work and general Project Schedule for completion of tasks for the City of Sedona Affordable Housing Prototypes project to be conducted by the Drachman Institute under contract with the Arizona Department of Housing for 2008-2009.

Based on the proposal request prepared by the City of Sedona, the Drachman Institute has agreed to prepare a series of schematic design drawings and models that show how affordable housing, both ownership and rental, could fit into the physical context of the community of Sedona at a variety of densities and configurations. The Drachman Institute will provide drawings and models for three housing types/locations. The Drachman Institute will work with Sedona's Planning staff to determine what densities and site conditions should be illustrated. The Drachman Institute staff will become familiar with Sedona's Design Guidelines and will develop affordable and sustainable housing designs that meet/conform to those guidelines. The Drachman Institute will also participate in public presentations and educational opportunities in support of Sedona's affordable housing initiatives. The City of Sedona is responsible for advertising and arranging public meetings and assisting in coordination of appropriate dates and times for presentations and public meetings.

The City of Sedona shall assist in obtaining all information requested by the Drachman Institute (especially with regard to demonstration sites) in a timely and efficient manner. If any information requested is not available, the City of Sedona shall notify the Drachman Institute in a timely manner. The execution and success of the Affordable Housing Prototype Design project is partially dependent upon obtaining such information through the City of Sedona.

The official contact person for this project at the City of Sedona is:
Jessica Williamson
City of Sedona
102 Roadrunner Drive
Sedona, AZ 86336
928.203.5045 (phone)
928.282.5348 (fax)
jwilliamson@sedonaaz.gov

Project Schedule Overview

<u>Item</u>	<u>Projected Completion Date</u>
Inventory and Analysis of Demographics, Maps, Design Guidelines	December 2008
<i>Project Scope Meeting & Sedona Site Visit</i>	<i>TBD (January 2009)</i>
Potential Site(s), Zoning, and Code Analysis	February 2009
Concept Design	February 2009
<i>Sedona Community Meeting + Presentation One</i>	<i>TBD (March 2009)</i>
Schematic Design	March-May 2009
<i>Sedona Community Meeting + Final Presentation</i>	<i>TBD (June 2009)</i>

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Roy P. Drachman Institute for Land and Regional Development Studies

Scope of Work Overview

Inventory and Analysis of Demographics, Maps, Design Guidelines

- The Drachman Institute will collect and analyze demographic information, physical and zoning maps, and Sedona's Design Guidelines

Project Scope Meeting & Sedona Site Visit

- Drachman Institute staff will meet with City of Sedona Housing and Planning staff to formulate scope of work and identify densities, potential sites, and types of affordable housing prototypes.
- Drachman Institute staff will become familiar with the Sedona area and obtain site/context photos and maps.

Potential Site(s), Zoning, and Code Analysis

- Drachman Institute will perform a preliminary site analysis of the selected parcels. Items may include the location of any physical features (vegetation, existing buildings, etc.), access points for future residents, topography, site context, allowable coverage, height, and density.
- Drachman Institute will analyze existing Zoning, Building, and Land Use codes and ordinances.

Concept Design

- Drachman Institute will develop a series of conceptual designs for three housing types.

Sedona Staff and Community Meeting + Presentation One

- Presentation of conceptual designs to City of Sedona Housing and Planning staff and the Sedona community for review.

Schematic Design

- Drachman Institute will develop Schematic Designs for three housing types based on the conceptual designs and feedback from the City of Sedona.
- Schematic designs are not intended to be construction documents; schematic designs serve the purpose of communicating to the draftsman and/or architect who will be doing construction documents the full intentions of the project.* Schematic designs will include overall site features, circulation, housing plans, material pallets, and intentions for construction.

Sedona Staff and Community Meeting + Final Presentation

- Final presentation of schematic designs of three affordable housing types to the City of Sedona Housing and Planning staff and the public community.

Deliverables:

- Drachman Institute will deliver a series of final schematic presentation-quality printed drawings and models along with digital copies of presentations as generated through this study.

PRESS RELEASE

City of Sedona · 102 Roadrunner Drive · Sedona, AZ 86336

For Release on February 23, 2009

Date: February 23, 2009
Contact: Jessica Williamson, Community Development Department
Phone: 928-203-5045
Fax: 928-282-5348

SHOWCASING QUALITY AFFORDABLE HOUSING DESIGN

The City of Sedona and the Housing Commission invite you to participate in a public presentation and discussion of some prototype design concepts for affordable housing prepared by architectural students enrolled at the University of Arizona's Drachman Institute for Land and Regional Development Studies.

The Drachman Institute is preparing a series of schematic design drawings and models that show how affordable housing could fit into Sedona's unique architectural and aesthetic context at a variety of densities. The design concepts are being prepared in accordance with Sedona's Land Development Code and Design Review Manual. The students, who are preparing the concepts as part of a fourth-year professional architectural class, are coming to Sedona to present their concepts to the community and obtain feedback.

The students will present the design concepts for discussion at a public meeting on **March 12, 2009 at St. Andrew's Episcopal Church, 100 Arroyo Pinon Drive in Sedona, from 6:00 pm to 8:00 pm.**

Everyone is invited to participate. Your comments and suggestions are important to the design process, and will be considered in preparing the final designs and models that will be presented at a second public meeting at a later date.

The Drachman Institute is preparing the design concepts at no cost to the City under a contract that the Drachman Institute has with the Arizona Department of Housing.

For more information contact Jessica Williamson, Associate Planner, at 928-303-5045 (jwilliamson@SedonaAz.gov) or Audree Juhlin, Assistant Community Development Director, at 928-204-7107 (Ajuhlin@SedonaAz.gov)

Press release by the City of Sedona Community Development Department announcing the first public meeting in which preliminary student prototype designs were presented and discussed.

Appendix

A similar press release by the City of Sedona Community Development Department announcing the first public meeting in which preliminary student prototype designs were presented and discussed.

PRESS RELEASE

City of Sedona · 102 Roadrunner Drive · Sedona, AZ 86336

For Release on February 24, 2009

Date: February 24, 2009
Contact: Jessica Williamson, Community Development Department
Phone: 928-203-5045
Fax: 928-282-5348

UNIVERSITY OF ARIZONA ARCHITECTURAL STUDENTS COME TO SEDONA

In the course of the many public meetings that have been held to discuss affordable housing, Sedona residents have asked the Housing Commission and City staff “What would affordable housing look like? Will it fit into our community?” While there are many examples of well-designed affordable housing in other communities, it was understandably difficult for people to visualize how affordable housing might be designed to be compatible with Sedona’s unique natural beauty and rigorous architectural standards.

In order to respond to the community’s request for a visual representation of what well-designed affordable housing could look like in Sedona, the City is taking advantage of a unique program that taps into the talents of 4th year architectural students from the University of Arizona’s Drachman Institute for Land and Regional Development Studies. As part of their formal academic curriculum, five students are studying Sedona’s Land Development Code and Design Review Manual. They’ve met with City staff and visited Sedona to see first-hand how the community looks. Under the direction of their professors, they are using that information to develop hypothetical design concepts for affordable housing in Sedona for prototypical small sites, medium density residential sites, and mixed-use sites. **The designs are entirely conceptual and do not represent any project or any proposal.**

As part of their class requirements, the students will be presenting those hypothetical design concepts at a public meeting scheduled for Thursday, March 12, 2009 from 6:00 pm to 8:00 pm at St. Andrew’s Episcopal Church, 100 Arroyo Pinon Drive in Sedona. The purpose of the meeting is to allow the community the opportunity to review and comment on the hypothetical design concepts. After the students make their presentation and the community has had the opportunity to review and comment on the concepts, the designs will be refined and schematic drawings and models will be prepared. Those schematic drawings and models are intended to be used in the context of future community discussions about affordable housing. The schematic drawings and models will be entirely conceptual and will not represent any project or any proposal.

PRESS RELEASE

City of Sedona · 102 Roadrunner Drive · Sedona, AZ 86336

For Release on May 22, 2009

Date: May 12, 2009
Contact: Jessica Williamson, Community Development Department
Phone: 928-203-5045
Fax: 928-282-5348

PLANNING & ZONING COMMISSION TO VIEW HYPOTHETICAL DESIGN CONCEPTS FOR AFFORDABLE HOUSING

On March 12, 2009, architectural students at the University of Arizona's Drachman Institute for Land and Regional Development Studies presented hypothetical design concepts for affordable housing in Sedona at a public meeting held at St. Andrew's Episcopal Church. The purpose of the meeting was to allow the community the opportunity to review and comment on the hypothetical design concepts. Based on the community comments received at that meeting, the designs have been refined and schematic drawings and models prepared. Staff from the Drachman Institute will be presenting those drawings and models for discussion at the Planning & Zoning Commission meeting to be held on June 2, 2009 in the City Council Chambers starting at 5:30 pm.

The schematic drawings and models are intended to be used in the context of future community discussions about affordable housing. **The designs, which are for small sites, medium density residential sites, and mixed-use sites, are entirely conceptual and do not represent any project or any proposal.**

In the course of the many public meetings that have been held to discuss affordable housing, Sedona residents have asked Sedona's Housing Commission and City staff "What would affordable housing look like? Will it fit into our community?" While there are many examples of well-designed affordable housing in other communities, the Sedona community asked for examples of how it might be designed to be compatible with Sedona's unique natural beauty and rigorous architectural standards.

In order to respond to the community's request for a visual representation of what well-designed affordable housing could look like in Sedona, the City took advantage of a unique program that taps into the talents of 4th year architectural students from the University of Arizona's Drachman Institute. As part of their formal academic curriculum, five students studied Sedona's Land Development Code and Design Review Manual, met with City staff, and visited Sedona to see first-hand how the community looks. That information was used in developing the hypothetical design concepts for affordable housing in Sedona.

Press release by the City of Sedona Community Development Department announcing the final community meeting where the Drachman Institute staff discussed the project with the City of Sedona Planning and Zoning Commission.