ANCIENT TREE

A Condominium for Indianapolis

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"In condominium housing, each occupant owns his own dwelling unit. The occupants share only costs of the parts of the building that every occupant uses. If one occupant fails to meet his financial obligations toward his unit, the other occupants are not affected." - World Book encyclopedia.
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Credits

The following people gave their time and talents for me to use in the planning and design of Ancient Tree.

G. C. Templeton Jr.
Builders-Designers-Developer, Indianapolis

John Wyman
Professor-College of Architecture and Planning-Thesis 404, 405, 406, Ball State University

Uwe Koehler
Professor-College of Architecture and Planning-Thesis Critic, Ball State University

David Klauba
Landscape Architect, Indianapolis

Herbert Karsh
General planning and energy conservation-consulting, Indianapolis
general summary
In order to fully detail a complete study of an architectural project, the important points of each phase of the design must be brought forward.

The important goals for preliminary design are:
- solar heat
- cluster concept in the master plan
- development of a basic unit with plug-on options
- proposal of 120 to 125 units in the master plan

The important points of the site
- over 27 acres of flood plain out of the total project of 58.8 acres
- ravine surrounding a major area of the site
- two ponds in the north-central part of the site
- a feeder creek running west to east into Williams Creek along the east border of the site
- powerline easement with two support towers that are 100 feet wide and run west to east across
the site
-pipeline easement that is 60 feet wide and
runs across the northwest corner of the site

These points of course, only summarize the
highlights of the total project. The preliminary
design goals will be fully detailed with numerous
sub-goals and ideas in the general program section.
Site highlights will be broken down into a detailed
study in the site analysis section.

All of these goals, ideas, and details will be
molded together to form a final design for Ancient
Tree which will make up the final chapter of this
total study. It will include a look at different
alternatives of the basic plan and master plan as
well as the final design itself.
introduction
This study of Ancient Tree, a proposed condominium project located at 1200 west ninety-first street on the north edge of Indianapolis, Indiana, was prepared for G. C. Templeton, Jr., Builder-Developer whose office is located at 8511 Overlook Parkway in Indianapolis.

I am currently employed by Mr. Templeton in the design and planning phases of his organization. My duties include working closely with Architects, Engineers, and associated energy consultants in the design of "high-end" residences, office-warehouse type structures, and large-scale housing projects such as The Overlook at Williams Creek and Ancient Tree.

Ancient Tree became a reality during the summer of 1977. After touring west coast housing in 1976, we discussed the possibilities for 1200 west ninety-first street. The proposals included zero-lotline, traditional single-family, apartments, and condominiums.
I will be concerned with the pure condominium approach although studies of the other proposals are in the works by other office personnel.

The scope of this study will cover all phases of a condominium project in general terms. Besides the general program, other sections will cover Design Development, Site Analysis, and Building Type Study.

Steven B. Zintel
general program

ancient tree
Indianapolis is a rapidly growing city as far as business and industry is concerned. Because of this, hundreds of people and their families will be relocating here. Most of these people seem to be locating on Indianapolis far northside.

Condominium living has been the choice of many people with the middle and upper end projects averaging 4-10 unit sales per month.

Some common considerations in buy are:

- No matinence worries such as mowing the grass, and snow removal

- Better security control

- Recreational facilities within most projects

- Quicker sales turnover, especially if the project has a good reputation

Similar projects which would compete with Ancient Tree in the "high-end" condominium market in the north half of the Indianapolis area are: The ancient tree

Goals/uses/activities

-3-
Overlook at Williams Creek, Lake Forest, Windridge, The Bluffs, and Mystic Bay. It is general knowledge that it would cost in the neighborhood of 55-60,000 dollars to buy the smallest unit available in any of the above mentioned projects.

Because of the area's competitive market, Ancient Tree should not only meet the standards of the other projects, but surpass them in unique ways that the buying public is not accustomed to, but is willing to try.

Some of these unique goals include:

-A central solar system that serves the entire project

-A central computer that will control everything from security to energy conservation with the units' owner able to have input programming

-A cluster concept with common green areas that create a more "open" plan without
giving up the needed density of 4 to 5 units per acre

- The development of a basic plan with different plug-on options available to the buyer that will help to alleviate expensive custom changes.

The buyer, or user of Ancient Tree, could be visualized as a family of four with an annual income of around $30,000. The most accommodating space would be a three bedroom-den unit. There shall be small and larger unit variations to fit all types of buyers and their needs.

The main activities that occur on Ancient Tree besides those that occur in the day to day private lives of the buyers, will be mostly recreational and supportive such as garbage collection and maintinence.

These two main activities basically break down into pedestrian and automotive, and will be kept separate as much as possible.
Ancient Tree's sole purpose is to provide a living environment that will best serve the individual user in an alternative to conventional single-family housing.

To accomplish this, a basic plan with plug-on options or parts of these options will be available to the buyer without the sometimes long and costly procedures of custom design that usually occur in similar projects.

The basic unit plan will include:

- A two car attached garage

- A kitchen that will be large enough to accommodate all modern appliances

- Family eating space adjacent to the kitchen

- A Formal dining space

- A spacious entry with generous closet space
- A large family-living space

- A Master suite with private bath facilities and adjacent walk-in closet

- A second bedroom-den area with a full bath that will serve this space and all public areas

- An enclosed laundry center

The plug-on options will include all or part of:

- A second level with two separate bedrooms and adjacent full bathroom

- A second level loft that can be totally enclosed or open to the family-living space

These two separate, second level options can be combined with the loft to become another bedroom. The basic unit and these two options will allow 2, 3, 4 and five bedroom living units without a lower level being taken into consideration. The lower level
option can be used in conjunction with the ravine on the site and will include:

- A bedroom suite that will duplicate the Master suite

- A recreation space that duplicates the family-living space

- A utility space that will house the laundry center, and HVAC-solar storage system

With all options considered, a prospective buyer could have as many as six bedrooms with a total unit (not including garage) approaching 3000 square feet. General square footage requirements will be investigated later in this program.

General space requirements must meet more than the minimum square footages that are sometimes found in similar projects. Generous space is an excellent selling point in convincing a prospective buyer to
give up a large home that no longer serves his needs and that is expensive to maintain. The few extra square feet may allow for a treasured piece of furniture to be introduced into the new unit that the competing project may not be able to provide.

Other general space standards to be considered are:

- Kingsize beds with double nightstands in the Master suites

- Generous closet and storage space

- Formal dining for six to eight

- Parties of twelve to eighteen in the public spaces

- Family eating for four to six in the kitchen area

- A two car garage that is larger than the 400 square feet that is commonly provided for in other projects of this
- Vaulted ceiling treatments to create a greater feel of space

General environmental requirements for the interior spaces other than vaulted ceilings are:

- Exposing the structural elements in the public interior spaces
- The use of skylights to introduce natural light into the spaces that do not receive direct window light
- Built-in bookcases and cabinets
- Permanent recessed and track lighting except for exterior and dining fixtures
- Built-in planter boxes in loft balconies
- Electric heat pumps that are located in the central part of the unit along with
the hot water heater

- Plaster finish on all interior walls

- Six inch exterior walls (a common wall between units is considered an exterior wall, therefore a common wall shall be twelve inches thick to meet acoustical and firewall requirements to be detailed later under codes

In noting acoustics, it should be pointed out that this subject is considered to be an important topic when dealing with high density living. We have all stayed in hotels or been in some apartment unit that seemed to have walls of paper. The basic unit design will limit this problem to a maximum of two common walls. With the firewall codings for those walls dictating their thickness, the unit to unit acoustical problem should be well taken care of. Exterior spaces are included in the total unit module, therefore the unit will tend to wrap around
and protect the front entry and the back deck areas.

Sound transmissions in the unit itself are a problem. Bathrooms should be clustered and tucked away from public spaces. Heat pumps, hot water heaters and laundry centers should be isolated or have insulated walls.

In inclusion of Space and Environmental Studies, the following chart will list each space, its' recommended square footage, the character of the room, how the space should function, and its' relationship to the other spaces. Also, a plan diagram (page 14a) will help to show the space relationships.
Space and Environmental Study

BASIC

<table>
<thead>
<tr>
<th>Room</th>
<th>Characteristics</th>
<th>Size</th>
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<tbody>
<tr>
<td>Garage</td>
<td>(vast; fixed; accessibility)</td>
<td>480</td>
</tr>
<tr>
<td>Kitchen-breakfast</td>
<td>(calm; sociopetal; accessibility)</td>
<td>180</td>
</tr>
<tr>
<td>Dining</td>
<td>(formal; fixed; permeable)</td>
<td>170</td>
</tr>
<tr>
<td>Entry-Closets</td>
<td>(vast; sociopetal; community)</td>
<td>160</td>
</tr>
<tr>
<td>Family-Living</td>
<td>(active; sociopetal; community)</td>
<td>420</td>
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<tr>
<td>Master bedroom</td>
<td>(remote; sociofugal; privacy)</td>
<td>192</td>
</tr>
<tr>
<td>Master bath</td>
<td>(remote; fixed; privacy)</td>
<td>60</td>
</tr>
<tr>
<td>Master closet</td>
<td>(remote; fixed; accessibility)</td>
<td>50</td>
</tr>
<tr>
<td>Laundry center</td>
<td>(remote; fixed; accessibility)</td>
<td>18</td>
</tr>
<tr>
<td>Guest bath</td>
<td>(remote; fixed; accessibility)</td>
<td>40</td>
</tr>
<tr>
<td>Bedroom #2</td>
<td>(informal; adaptable; accessibility)</td>
<td>132</td>
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2nd LEVEL

<table>
<thead>
<tr>
<th>Room</th>
<th>Characteristics</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bedroom #3</td>
<td>(remote; sociofugal; accessibility)</td>
<td>136</td>
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<tr>
<td>Bedroom #4</td>
<td>(remote; sociofugal; accessibility)</td>
<td>121</td>
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<tr>
<td>Bathroom-hall</td>
<td>(remote; fixed; privacy)</td>
<td>147</td>
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<tr>
<td>Loft</td>
<td>(calm; adaptable; community)</td>
<td>160</td>
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**LOWER LEVEL**

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<tr>
<th>Room</th>
<th>Description</th>
<th>Area</th>
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<tr>
<td>Guest Bedroom</td>
<td>(remote; sociofugal; privacy)</td>
<td>192</td>
</tr>
<tr>
<td>Guest Bath</td>
<td>(remote; fixed; privacy)</td>
<td>40</td>
</tr>
<tr>
<td>Guest Closet</td>
<td>(remote; fixed; accessibility)</td>
<td>72</td>
</tr>
<tr>
<td>Recreation Room</td>
<td>(active; sociopetal; community)</td>
<td>420</td>
</tr>
<tr>
<td>Entry-Stairs</td>
<td>(informal; fixed; accessibility)</td>
<td>132</td>
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<tr>
<td>Utility-Solar</td>
<td>(informal; fixed; accessibility)</td>
<td>192</td>
</tr>
</tbody>
</table>
Space Relation Diagram: Basic Unit

Patio

Master Bed

CL: Bath

Entry

Family Living

Dining

Kitchen-Breakfast

Den-Bed #2

Bath

Laundry

Semi-Public

Public

Private

Circulation

Garage

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Space
Each unit must relate to the function of everyday life. That is, public must be kept separate from private. Circulation zones will act as the buffer between these two, so the logical unit form shall be long and narrow with the main circulation zone running the length with public on one side and private on the other. This should be the form to follow for the second level and lower level so plumbing cores can be kept in a general relation to one and another.

Economic efficiency, along with the design concept itself, will be with the use of computerized energy management. The efficiency of the design, as stated before, will be the use of plug-on options instead of expensive and time consuming custom designing. The energy management will be handled by a general site computer that will control individual room temperature and lighting, meter the solar demand for each unit, and handle fire and security systems. The owner will be able to program his own unit to
suit his own individual needs including doing
tax forms and business inventories.

Security is a major problem and concern in
today's society. Because of this, each unit shall
have its own system as mentioned above. Points
of entry for each unit is recessed into the unit
module, thereby creating a protected semi-enclosed
space that is public but could give a criminal a
"cornered" feeling once he has entered this area.
Other points about security are the two limited
access areas to the site, a fence along the west and
the ravine and creek acting as natural protection
to the east.

Other general criteria to consider is the exterior
design of the buildings. Because Ancient Tree was
inspired by the west coast projects, a contemporary
design philosophy combined with the use of natural
materials shall be used as a basis of the design.
This style will compliment the semi-rural, wooded,
hilly site and the vaulted, interior spaces. The
exterior materials shall consist of mostly cedar siding, cedar shake shingles and stucco. The units shall be grouped into buildings of not less than three and no more than six. A five foot stagger should occur between units to help break up the wall effect that might happen with the use of repetitive units.

General landscaping for the project should include mounding, vegetation, and trees to limit sound and views into the semi-private areas of the individual units. This can be carried a step farther according to each owner within his exterior boundaries. Landscaping should also be used to protect metering systems for water, electric, solar, and telephone systems that will be located, along with guest parking, in the common green areas. The use of landscaping to help protect the pedestrian walks that occur in the vicinity of streets and thorofares should also be taken into consideration.
The proposed site of Ancient Tree, as mentioned before, is located at 1200 west ninety-first street, Indianapolis, Indiana.

The site covers 58.8 acres of rolling farmland and wooded areas and is bordered on the north by west ninety-sixth street, east by Williams Creek and adjacent steep ravine, south by west ninety-first street and west by single family housing and Pickwick Commons Apartments. Approximately 25 acres are within the flood plain, therefore they will be designated as recreational areas.

Other elements on the site are:

- A pipeline easement, 60 feet wide
- Two ponds and "feeder" creek that run east into Williams Creek
- A powerline easement, 100 feet wide, running west to east with associated steel support towers (2),

Other elements adjacent to the site will be
detached in the formal site analysis to follow.
In order to put together a preliminary sales package, it is necessary to summarize the possible living unit combinations and their approximate square footage totals. These totals are the living spaces within the basic 40 x 80 planning module for each unit. Spaces, such as the garage, exterior entry, and rear patio/deck, are within the module but not included in the square footage totals.

<table>
<thead>
<tr>
<th>Basic unit</th>
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<tbody>
<tr>
<td>Basic with loft</td>
<td>1729</td>
</tr>
<tr>
<td>Basic with two upper bedrooms</td>
<td>1826</td>
</tr>
<tr>
<td>Basic with loft and two upper bedrooms</td>
<td>1986</td>
</tr>
<tr>
<td>Basic with lower level</td>
<td>2470</td>
</tr>
<tr>
<td>Basic with all options</td>
<td>3034</td>
</tr>
</tbody>
</table>
The following is a cost estimate analysis for Ancient Tree. These are the items that are to be dealt with:

A. Building cost: Includes all costs of construction within five feet of the building line as required by all applied codes.

B. Fixed equipment: Includes all equipment which may be installed before completion of the building and which are a part of the construction contract. Appliances would be an example of fixed equipment.

C. Site development: Includes all work required which lies within the site boundary and five feet from the edge of the building.

D. Total construction: This represents the total budget for construction, usually the contract document base bid.

E. Site acquisition: Money budgeted for purchasing the project site and/or demolition of existing structures.
F. Fees: Cost of architectural and engineering services and of consultant services.

G. Contingency: A percentage of the total construction cost is included to serve as a planning contingency, bidding contingency, and construction reserve (change orders).

H. Administrative costs: Items the owner is responsible for during the planning process, i.e., legal fees, site survey, soil testing, insurance.

I. Total budget: This represents the total budget required to occupy the new projects.

The following is the actual cost breakdown in percentage figures based on a 125 condominiums on the site with an average square footage of 2000 square feet per unit.

A. Building costs: $8,000,000
   125x2000 at $32./sq. ft.

B. Fixed equipment: 640,000
   8% of A
C. Site development $ 960,000
   12% of A

D. Total construction: 9,600,000
   A + B + C

E. Site acquisition 150,000

F. Fees: 5% of D 480,000

G. Contingency: 10% of D 960,000

H. Administrative costs 1% of D 96,000

I. Total budget required $11,286,000
   for Ancient Tree:
related
building
analysis

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A related building analysis is a study of projects that resemble the proposed Ancient Tree as described in the preceding program.

These related projects are random samples chosen from different architectural publications, and they basically cover some of the many styles, designs and master planning found in recent condominium projects.

The four projects chosen for this study are:

- Whaler's Cove; Foster City, California
- Butternut Hill; Waitsfield, Vermont
- Embarcadero; Newport, Oregon
- Woodbridge; Newport Beach, California

Whaler's Cove is an interesting project combining New England design with the California environment. There are six different floor plans incorporating skylights, vaulted ceilings, atriums and private decks. Most of these private areas face at least part of the man-made lake on the site.
The site is a series of land fingers jutting out into the lake with all buildings made up of two units each. The units run the longest length from front to back, but because of the buildings only being two units each, the density required for Ancient Tree probably could not be achieved.

Butternut Hill condominiums are located in a ski resort area, and is a prime example of a nice size vacation home - 1050 square feet.

The small square footages are made up by the use of double height ceilings, which is one of the space considerations mentioned in the preceding program.

The site covers 101 acres of rolling, wooded land. The architects have used the natural setting as a design advantage for entering the individual units. This type of design concept would work nicely on the ravine at Ancient Tree.

Embarcadero condominiums have units clustered together to form a traditional fishing village.

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Related building analysis
Exterior is of cedar and timber to blend with the surrounding wood slopes. Living units are positioned so the lower units are on Yaquina Bay with the boat docks at their front doors, while the upper units have a scenic view of the water.

Although these units are just vacation homes, they show ingenuity in the use of siting and sun-space relationships.

Woodbridge townhomes incorporates two and three bedroom plans. This project has well designed living spaces, including attached garage. Site planning is laid out to achieve a very high density. Because of this, circulation is tight, so the units were offset to break up the wall-street effect, but driveways are nonexistent. Mounding and lush vegetation complete the landscape. Woodbridge is typical of what is proposed for Ancient Tree. The unit itself is divided lengthwise into public and private areas with circulation through the middle. Entry and patio areas are semi-protected by the unit

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Related building analysis

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spaces and plumbed areas tend to be clustered together. The unit groupings can be in many combinations. All in all, Woodbridge makes a very good basis on which to plan Ancient Tree.
Whaler's Cove

Related building analysis
site

analysis

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The Site Analysis is the first step toward the preliminary master planning and design of Ancient Tree or for that matter, any project. It allows the designers and planners to take a close look at the general conditions that will affect the project or control the different functions of that project.

The following site analysis for Ancient Tree will be in a "check list" type form and will cover most of the conditions of the existing site as well as the surrounding area. The analysis will also refer to the reference maps included in this section.

The Site Analysis:

A. Environmental

1. Physical: 58.8 acres of rolling, partly wooded farmland. A sharp ravine, two ponds, creeks and two utility easements are included.

2. Social: The site is located in a middle to upper-middle class section of northern
Indianapolis. Single-family dwellings as well as an apartment complex and commercial districts surround the site.

3. Emotional: This is an excellent site for multi-family housing with easy access to anything a person might need in a semi-rural setting.

B. Zoning

The following are allowable types of buildings on the site.

1. D-S (Dwelling Suburban) Single-Family
   only. The location of these dwellings are areas of extreme topography, conducive to estate development, or requiring low densities. Typical density would be 0.4 units per acre.

2. D-1, D-2
   Location would be in suburban areas with moderate topography, good thoroughfare access, and served with neighborhood and
community services. Typical density would be 0.9 to 1.9 per acre.

3. D-3, D-4
Location would be in medium to medium-high density single-family areas with relatively flat topography, good throughfare access, and closely associated with neighborhood and community facilities. Typical density would be 2.6 to 4.2 units per acre.

4. D-5
Location would be in urban developed areas with these areas having medium-high density single-family with urban services and utilities. Attachment to public or semi-public water and sanitary facilities is mandatory. Typical density would be 4.5 units per acre.

Preliminary master planning would place Ancient Tree in D-5. Other zoning requirements would be:

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Site analysis
- No building within 35 feet of perimeter property lines or the right-of-ways of west ninety-first or west ninety-sixth streets
- Minimum side yards: 20 feet total
- Minimum rear yards: 50 feet total
- Minimum front yards: 20 feet total, this figure shall be dictated by driveway length
- Minimum basic square footage for one story unit is 720 square feet
- No building shall be over two stories in the front elevation and three stories in the rear elevation
- Allow for two guest parking places per unit

C. Utilities
All utilities from the city of Indianapolis are immediately available to the site from the north and south boundaries. These are currently 2300 new openings on the sanitary
sewer network for the northside.

D. Land Contours

1. Elevations: All maps included in this site analysis have elevation numbers in five foot increments. For more detail, see "Topography" map.

2. Drainage Patterns: see "Drainage" map

3. Flood Basins: see "Topography" map

4. Blocked visual access do to mounds and ridges: looking north-ninety-sixth street overpass over interstate 465. Looking south from the north end of the site-east/west ravine

5. Points of visual emphasis:
   - Two street powerline towers
   - 1200 foot television transmitter

6. Slope Orientation: generally west to east to ravine, then to Williams Creek

E. Special Features
1. see "Special Features" map  

F. Existing Foliage  
1. see "Existing Vegetation" map  

G. Sensory  
1. noise: Interstate 465 running generally east to west along the northwest corner of the site. Traffic is generally moderate to heavy from 7 A.M. thru the day until 1 A.M.  
2. odors: oil refinery 3 to 4 miles to the west  
3. visual: see "Views" map  

H. Time-Distance  
1. see site location map of Indianapolis  

I. Existing vehicular traffic on and around site  
1. other than a driveway servicing the northeast edge of the site, there are no traffic problems on the site
Around the site -

1. volume: light to moderate to heavy
2. location: light - ninety-sixth and ninety-first streets, moderate - Ditch Road, heavy - eighty-sixth street
3. frequency: heaviest traffic occurs on all streets between 8 and 9 A.M., and 4 to 7 P.M.
4. nature: business, shopping, school
5. contribution: limit site access to just one entry off each of the surrounding streets

J. Surrounding physical environment

1. surrounding zoning: D-1, D-2
2. possible development on adjacent and surrounding property: continuous D-1, D-2
3. profile (skyline): single-family homes, two story apartments, power transmission towers, and television transmission tower
4. image: basic rural developments - light
construction
5. materials: wood, masonry
6. density: .4 to 5.0 per acre
7. landscaping: little or no natural
foliage west of the site. Heavy foliage
elsewhere. Land forms are flat to rolling
from west to east across the site to
the flood plain.

K. Surrounding social environment
1. single-family homes (west): 35 years
   of age or older, middle income
2. apartments (west): 20-30 years of age,
   low to middle income
3. single-family homes (east and south):
   50 years of age or older, upper-middle
   or upper income

L. Climate (40 degrees north latitude)
1. annual precipitation: 39.25 inches
2. annual average temperature: 52.1 degrees,