Chemical bank. 1978-1979

[s.l.]: [s.n.], 1978-1979

https://digital.library.wisc.edu/1711.dl/EZHHEDQGWTT4E84

http://rightsstatements.org/vocab/InC/1.0/

SEMINAR
REAL ESTATE
ANALYSIS

Proposed Outline
Real Estate Training Seminar
CHEMICAL NATIONAL BANK
November 30-December 2, 1978

Thursday, November 30, 1978 (Graaskamp)

9:00-10:30   Basic Definitions and Concepts

               A. Real Estate, Real Estate Enterprise, Real Estate Process,
                   and Land Defined
               B. Enterprise Concept and Cash Solvency Test
               C. Risk and Enterprise Management Defined
               D. Strategic concepts of a mortgage
               E. Strategic Elements of Equity Investment

10:30-10:45   Coffee Break

10:45-12:00   Elements of Feasibility Analysis

               A. Real Estate Management as an Art
               B. Real Estate Enterprise as an Industrial System
               C. Feasibility Defined
               D. Feasibility Report Formats
               E. Feasibility as a Pre-Architectural Program
               F. Feasibility and Appraisal Compared

Lunch

1:00-2:00   Systematic Analysis of Site and Structure to Define Alternative
               Uses

               A. Physical Attributes
               B. Legal-Political Attributes
               C. Linkage Attributes
               D. Dynamic Attributes
               E. Environmental Attributes
               F. Financial Limits on Alternative Uses
               G. Most probable use sinarios

2:00-3:00   Market Analysis and Absorption Rates

               A. Market Data Models
               B. Definition of Market Opportunity Groups

3:00-3:15   Coke Break

3:15-4:30   Merchandise Planning and the Capture Rate

               A. Identification of Sales Unit
               B. Naming and Profiling Prospect Group
               C. Survey Research to Profiel Competitive Standard
               D. Survey Research of Consumer to Identify Competitive Edge
               E. Survey Research of Political Constituency
               F. Pre-Architectural Merchandise Plan

4:30-5:00   Basic Financial Planning With Ratios

                A.   Rent Required by Specified Capital Budget
                B.   Capital Budget Justified by Market Rents
                C.   Sensitivity Ratios
                D.   Elements of Total Financial Planning

Friday, December 1 (Graaskamp & Robbins)

9:00-9:30   Introduction to Neighborhood Shopping Center Case

9:30-10:30   Introduction to Computer Terminal With BFCF*

10:30-10:45   Coffee Break

10:45-12:00   Preliminary Sensitivity Analysis With BFCF and DAP

Lunch

1:00-3:00   Structuring Loans on After Tax Cash Flows Using IMV

3:00-3:15   Coke Break

3:15-5:00   Introduction to MR. CAP

Saturday, December 2, 1978

9:00-10:15   MR. CAP Continued

10:15-10:30   Coffee Break

10:30-1:00   Selected Case Applications of MR. CAP

CONTEMPORARY REAL ESTATE ANALYSIS
Training Seminar - Chemical National Bank
November 30-December 2, 1978

Instructors: James A. Graaskamp
              Michael L. Robbins

FIRST MORNING
9:00 A.M.-10:30 A.M.

I. Basic Concepts and Definitions

A. Real estate is a tangible product - defined as artificially
    delineated space with a fourth dimension of time referenced to a
    fixed point on the face of the earth.

    1. Real estate is a space-time unit, room per night, apartment per
        month, square foot per year, tennis court hours, or a condominium
        for two weeks in January at a ski slope.
    2. To the space-time abstraction can be added special attributes
        to house some form of activity.
    3. Improvements from survey market to city layouts to structures
        define space.
    4. Legal contracts and precedents define time.
    5. Rights of use are defined by public values, court opinions.
    6. Private rights to use are those which remain after the public
        has exercised its rights to control, to tax, or to condemn.

B. A real estate project is cash cycle business enterprise which combines
    a space-time product with certain types of management services to
    meet the needs of a specific user. It is the process of converting
    space-time needs to money-time dimensions in a cash economy.

    1. A real estate business is any business which provides expertise
        necessary to relate space-time need to money-time requirements
        and includes architects, brokers, city planners, mortgage bankers,
        and all other special skills.
    2. The true profit centers in real estate are in the delivery of
        services and cash capital. Money is an energy transfer system.
    3. Equity ownership is the degree to which one enterprise controls
        or diverts cash from another real estate enterprise.
    4. Public has direct ownership to the degree real estate taxes
        take a percentage of tenant income in excess of service cost.
    5. Consumer must view space as a total consumption system involving
        direct cost, surface cost, transportation cost and negative in-
        come of risk.
    6. The best real estate project is the one which has the lowest net
        present value of cost as the sum of cost to the consumer prod-
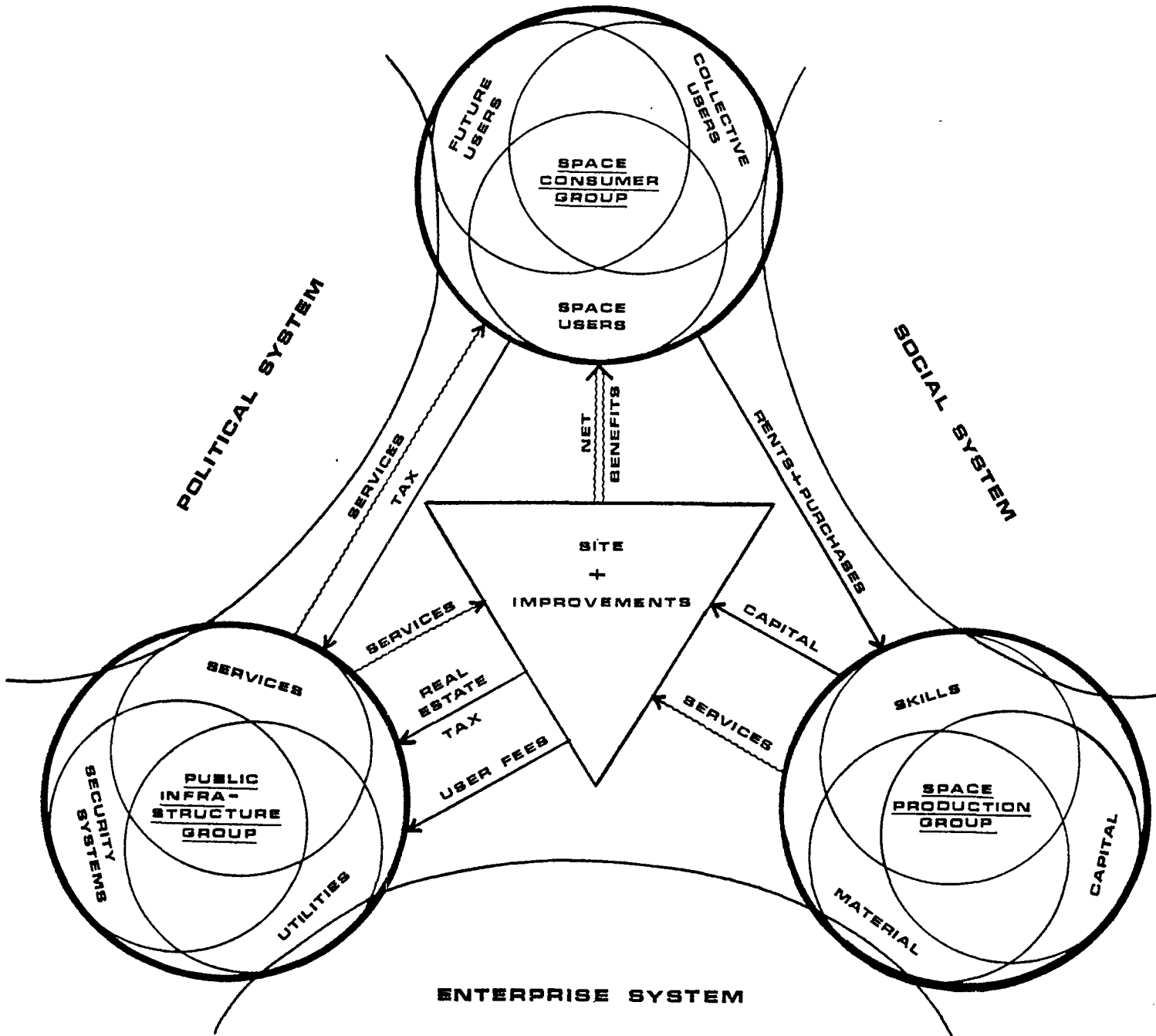   uction sector and public sector.

C. The real estate process is the dynamic interaction of three groups, space users (consumers), space producers, and the various public agencies (infrastructures) which provide services and capital to support the consumer needs. (See Exhibit 1)

   1. Each of these three decision groups represent an enterprise, an organized undertaking. All are cash cycle enterprises constrained by a need for cash solvency, both short and long term.
   2. A desirable real estate solution occurs when the process permits maximum satisfaction to the consumer at a price that he can afford within the environmental limits of land while permitting the consumer, producer, and the government cash cycle to achieve solvency - cash break even at a minimum, after full payment for services rendered.
   3. Solvency of the total process, not value, is the critical issue.
   4. Land is an environmental constraint and not a profit center.
   5. Land provides access to a real estate business opportunity and is not the opportunity itself. Real estate business wants to control land to create a captive market for services.

D. Land is the point where demand and supply forces find cash solvency. Location is a manufactured attribute. Site attributes are exploited to reduce outlays and to increase receipts and include:
   1. Physical attributes
   2. Legal-political attributes
   3. Linkage attributes
   4. Dynamic attributes
   5. Environmental attributes

E. Recognition of the fact that profit maximization must be limited by concerns for physical environment and community priorities for land use has resulted in redefinition of the most basic concept in appraisal; i.e. highest and best use, in the authorized terminology handbook sponsored by the American Institute of Real Estate Appraisers and the Society of Real Estate Appraisers. Compare the 1971 definition with that for 1975:

> Highest and best use concept-
> "A valuation concept that can be applied to either the land or improvements. It normally is used to mean that use of a parcel of land (without regard to any improvements upon it) that will maximize the owner's wealth by being the most profitable use of the land. The concept of highest and best use can also be applied to a property which has some improvements upon it that have a remaining economic life. In this context, highest and best use can refer to that use of the existing improvements which is most profitable to the owner. It is possible to have two different highest and best uses for the same property: one for the land ignoring the improvements; and another that recognizes the presence of the improvements.:
> p. 57, Real Estate Appraisal Principles and Terminology, Second Edition, Society of Real Estate Appraisers 1971.

Exhibit 1

FUTURE USERS

COLLECTIVE USERS

SPACE CONSUMER GROUP

SPACE USERS

POLITICAL SYSTEM

SOCIAL SYSTEM

SERVICES TAX

NET BENEFITS

RENTS + PURCHASES

SITE + IMPROVEMENTS

SERVICES

REAL ESTATE TAX

USER FEES

CAPITAL

SERVICES

SERVICES

SECURITY SYSTEMS

PUBLIC INFRA-STRUCTURE GROUP

UTILITIES

SKILLS

SPACE PRODUCTION GROUP

CAPITAL

MATERIAL

ENTERPRISE SYSTEM

THE REAL ESTATE PROCESS

"Highest and Best Use: That reasonable and probable use that will support the highest present value, as defined, as of the effective date of the appraisal. Alternatively, that use, from among reasonably probable and legal alternative uses, found to be physically possible, appropriately supported, financially feasible, and which results in highest land value. The definition immediately above applies specifically to the highest and best use of land. It is to be recognized that in cases where a site has existing improvements on it, the highest and best use may very well be determined to be different from the existing use. The existing use will continue, however, unless and until land value in its highest and best use exceeds the total value of the property in its existing use. Implied within these definitions is recognition of the contribution of that specific use to community environment or to community development goals in addition to wealth maximization of individual property owners. Also implied is that the determination of highest and best use results from the appraisers judgement and analytical skill, i.e., that the determined from analysis represents an opinion, not a fact to be found. 'In appraisal practice, the concept of highest and best use represents the premise upon which value is based. In the context of most probable selling price (market value) another appropriate term to reflect highest and best use would be most probable use. In the context of investment value an alternative term would be most profitable use."
Real Estate Appraisal Terminology, Edited by Byrl II. Boyce, Ph.D. SRPA, Ballinger Publishing Co., Cambridge, Mass. 1975

F. The purchase of a piece of real estate today involves the acceptance of a great many assumptions about the future. Those who take care to validate these assumptions in a period of transition as to public land use control tend to have the most successful investment.

   1. Business decisions today make explicit recognition of their assumptions and the need to act under conditions of uncertainty.
   2. Business risk is the difference between assumptions about the future and realizations, the proforma budget and the end of the year income statement.
   3. Risk management is the control of variance between key assumptions and realizations.
   4. An appraisal is a set of assumptions about the future productivity of a property under conditions of uncertainty.

G. The concept of highest and best use of land was a commodity concept which did not consider externalities adequately. It is being replace be concepts of most fitting use and the concept of most probable use.

   1. The most fitting use is that use which is the optimal reconciliation of effective consumer demand, the cost of production, and the fiscal and environmental impact on third parties.
   2. Reconciliation involves financial impact analysis on "who pays" and "who benefits" - thus the rash of debate on how to do impact studies.

3. The <u>most probable use</u> will be something less than the most fitting use depending on topical constraints imposed by current political factors, the state of real estate technology, and short term solvency pressures on consumer, producer, or public agency.

4. <u>Most probable use</u> means that an appraisal is first a feasibility study of alternative uses for a site in search of a user, an investor, and in need of public consent.

H. In seeking the most fitting and most probable use, the inner city planner and private property appraiser must interact to determine how community objectives and consumer - production sector solvency can be achieved simultaneously.

1. A real estate decision has only two basic forms. Either a site is in search of a use and consumer with the ability to pay, or a consumer, need or use with a defined ability to pay is seeking some combination of space-time attributes he can afford.

2. The individual consumer with needs and a budget is the drive wheel.

3. The public sector represents the community owned consumer service delivery system, seeking to minimize marginal cost to the consumer and average cost to the community at large.

4. The production sector responds to a derivative demand for engineering and management expertise.

I. Critiquing the form and adequacy of a real estate solution is analogous to the artistic concept of judging the success of an art object by relating form of the solution to the context to which it was created.

1. Context includes those elements which are fixed, given, or objectives and to which any solution must adapt.

2. Form giving elements are those variables within the artists control, i.e. options or alternatives at a particular time.

3. A solution is judged for its correctness or success in terms of the degree of fit of the form proposed to the context.

4. Feasibility analysis is concerned with the degree of fit or the extent of misfit between a proposed course of action and the context within which it must operate or fit.

5. Success therefore depends on how appropriately the problem is defined; testing feasibility depends primarily upon accurate and comprehensive definition of the context.

J. <u>An enterprise</u> is any organized undertaking, and a real estate problem or project always begins from the viewpoint of some enterprise relative to its environment.

1. The <u>systems engineer</u> sees the eventual form of an enterprise, in terms of both its configuration and behavior, as representing a negotiated consensus between two general sources of power--the power of the environment to dictate form and behavior of the organization on one hand and the power of the organization to decide for itself what its characteristics and behavior will be on the other.

2. The system engineer uses "power of the environment" as a dynamic alternative to the static implications of context and adds dynamic element of behavior to the elective responses of the form giver.

II. Financial Management and Risk Management

Investment is a real estate enterprise as mortgage lender or equity investor is simply buying a set of financial assumptions about the interaction of the project to its context, of the firm to its environment. Real estate analysis is to control the variance between expectations and realizations, between proforma prospects and historical balance sheets and profit and loss statements.

A. Analysis is risk management, control of variance.
B. There are essentially two types of risk exposures:

   1. Static risks (uncontrollable, or external events) are those which can only cause a loss due to surprise upset of a plan.

   2. Dynamic risks (partially controllable internal events) can produce profit or loss and are best controlled by the finesse of management execution of a plan.

C. Risk evaluation or comparison grows out of the function of risk management for an enterprise.

   1. Risk management has two objectives:

      a. First priority - conservation of existing enterprise assets despite surprise events.
      b. Second priority - realization of budgeted expectations despite surprise events.

   2. The process of risk management involves systematic and continuous:

      a. Identification of significant exposures to loss
      b. Estimation of potential loss frequency and severity
      c. Identification of alternative methods to avoid loss
      d. Selection of a risk management method
      e. Monitoring execution of risk management plan

   3. The risk management process is both a philosophy of inquiry or analysis and a checklist of management concern, which is attempting to answer systematically "WHAT IF...?" questions, to anticipate surprise and to provide for a response or adjustment in advance of the contingency.

D. Identification of significant exposures to loss can begin by using standard business documents as reminders, such as:

   1. Review of balance sheet accounts
   2. Review of profit and loss statement accounts
   3. Review of business organization or function chart
   4. Review of elements of financial feasibility analysis

E. Significant has to do with potential loss frequency, loss severity, and degree of uncertainty.

   1. Very frequent and minor become expense accounts
   2. Less frequent but predicatable and major become reserves or budget allowances.

3. Infrequent, uncertain but very severe become issues of risk management.

4. A 50/50 probability is the most uncertain outcome.

F. The alternative methods of avoiding loss which everyone sub-consciously uses include:

1. Eliminate risk exposure
2. Reduce frequency or severity of loss (diversification or mortgage loan closing process)
3. Combine risks to increase predictability (reserves for expense)
4. Shift risk by contract (subcontracts or escalator clauses)
5. Shift risk by combination (diversification) by contract (insurance)
6. Limit maximum loss (corporate shell or limited partnership)
7. Hedging (sale and leaseback, options, contingent sales)

G. Risk management concepts leads to understanding of the true essence of a mortgage contract and an equity commitment

1. A mortgage is a classic straddle in two markets for the borrower; it is a call on a space-time commodity in a rising market and a put to the lender in a falling market. It is also a straddle in the money market. The mortgage contract is a risk management agreement to provide coverage of static risks and an imperfect straddle on the dynamic risks. Protection for the lender is revenue to the borrower, negative incentives, and salvage.

2. Equity ownership is the degree to which you can divert cash flow and maintain control within an acceptable level of risk avoidance.

III. Feasibility Analysis

A. The concept of feasibility is elusive and much abused. Combining the systems concept of enterprise under conditions of uncertainty and the physical design concept of fit leads to the following definition:

"A real estate project is 'feasible' when the real estate analyst determines that there is a reasonable likelihood of satisfying explicit objectives when a selected course of action is tested for fit to a context of specific constraints and limited resources.

B. The problem of defining objectives and measuring success depends almost entirely on correctly defining the problem and values of the client.

The majority of enterprises are not solely interested in rate of return on investment or lowest cost.

Most decisions must fit a combination of success "measures" with each decision maker weighting the overall importance of each item differently. Examples of such measures would be:

1. A check list of physical attributes
2. A check list of critical linkage attributes
3. A check list of dynamic behavioral attributes

4. A check list of attributes or services (given weighted point scores)
5. Financial ratios measuring risk, such as cash break-even, rate of capital recapture, loan ratios or sensitivity to specified contingencies
6. Probability distributions of alternative outcomes and standard error of the estimate
7. Pshychological gratifications
8. Specified legal attributes
9. Measures of impact on environment

C. The definition also implies uncertainty - a reasonable likelihood of succeeding. That statement is deliberately short of a statistical probability statement. However, analystical judgments can produce some verbal probability statements (that horse is a nag while the black stallion is an odds on favorite) so that the measures of success should lend themselves to explicit recognition of the degree of uncertainty with which success might be achieved.

D. The general theory of the management process for any enterprise can be converted to real estate semantics for feasibility:

Values, objectives, policy	Strategic format
Search for opportunity alternatives	Market trend analysis
Selection of an opportunity	Merchandising target with monopoly character
Program to capture opportunity	Legal-political constraints
	Ethical-aesthetic constraints
	Physical-technical constraints
	Financial constraints
Construction of program	Project development
Operation of program	Property management
Monitoring and feedback	Real estate research

E. The analyst must also identify and measure or define the limited resources of the client in terms of personnel, expertise, available cash resources, and the time line of expectations and commitment since time available to achieve the solution is often a critical resource and constraint relative to alternative choices.

F. These basic elements and definitions then lead to a correct title for the report required. Most feasibility reports go wrong on the title page because the analyst did not clearly understand to which elements of context and form his report was to be addressed. Seldom does the analyst do a complete feasibility study as a single report on his own. Components may be provided by others and the sequence of sets may differ in each case depending on how the consultant understands the client. Therefore, a report should be entitled as one of the following:

1. Strategy study: selection of objectives, tactics, and decision criteria.
2. Market analysis: economic base studies or other related aggregate data review.
3. Merchandising studies: consumer surveys, competitive property analysis, marketability evaluation, etc.
4. Legal studies: opinion on potential legal constraints, model contracts or forms of organization, and political briefs.

5. Compatability studies of project to community planning, conservation standards, or other public policies.
6. Engineering, land planning, and architectural studies.
7. Financial studies: economic modeling, capital budgets, present value and discounted cash flow forecasts, rate of return analysis, financial packages.

IV. What is the Problem as Perceived by the Client?

The original problem as perceived by the client is seldom the real issue of feasibility analysis that will need to be examined by the analyst.

A. The appraiser is conditioned to having the client specify the function of the appraisal, such as for fire insurance or eminent domain and then having the client's attorney or the court jurisdiction define the definition of fair market value, the question which the appraiser then begins to answer.

B. However, the client may ask for an appraisal when he needs a feasibility study. He may ask what he should pay for a piece of property before he has determined that his strategic needs are best met by purchase rather than by leasing by avoiding ownership of additional space altogether (by subcontracting certain functions of others by the way in which he purchases services and supplies).

1. Since everyone is an expert on real estate the client will probably presume that a certain procedure will be followed.
2. The architect will presume that the real estate expert will show the financial implications of a final design, when in fact the real estate expert should first assist in the pre architectural program of design objectives.
3. Almost every client will overlook some of the basic issues because of the natural bias of his position.
4. The consultant must begin by attempting to discover what is taken for granted and that search will continue to condition his relationship ith his client.

C. When the client first contacts the consultant the question provided by the client will conceal some implicit client preferences and assumptions. The consultant will need to interview his client by asking him explicitly about:

1. His concept as to the "essence" of his business
2. His preferred method of meeting entrepreneurial risk
3. His preferred method of personnel compensation
4. His style of value decision trade-offs between qualitative and quantitative issues.
5. His perception of his risk position and his risk utility "curve."
6. His personal non-business objective.
7. His reasons for being involved with real estate (a simple question revealing in most cases tremendous naivete and lack of indepth preparation by the client).

D. The client is often skeptical of the ability of the consultant to contribute anything new since he may regard the consultant as one "who tells him the time by reading the client's own watch."

1. Moreover, he may be using the consultant to double
check another source of information and therefore
expects a consultant to begin from scratch as a way
of confirming the original source.
2. Nevertheless, the feasibility analyst must eventually
extract from the client, preferably in writing, an
agreement as to what the stated objectives of the study
are and the input which will be provided by others
than the analyst.
3. This step will probably only be accomplished after the
consultant has come to a better understanding of the
real problems faced by the client.

V. **What is the Problem as Understood by the Consultant?**

The problem as perceived by the client almost always must be
converted into a sequence of problems as understood by the consultant.
The perceived question of "How much should I pay for the land,"
may come to be understood as "Why do I need to invest in land"?

A. The feasibility analyst should be the devil's disciple for
in order to define what needs doing, he must first discover
what has been done, what assumptions have been made, and
whether those who made the assumptions knew what they were doing.

1. A useful technique is to reverse the question or the
alternative in order to have better perspective on
the assumed area of solution. If asked to organize
a non-profit partnership to create a counseling
facility, approach the problem as how to dissolve a
partnership of non-profit contributors. If asked
the feasibility of restaurant expansion, investigate
the possibility of reducing the size of the kitchen
instead.

2. To gain perspective, one creative think system (Synectics)
recommends conversion of the familiar to the strange
and the strange to the familiar by analogy. Thus any
multi-user real estate becomes analagous to a retailing
model while any single user real estate decision becomes
an industrial location model.

3. Statement of the problem as a "compressed conflict" by
describing it in two words which appear to be mutually
exclusive or contradictory may be useful in understanding
a problem. For example, customer control as "channeled
freedom" or land use control has "fixed state of flux"
can then lead to discovery of more remote analogies.
Analogies serve as reliminary models suggesting
opportunity areas for a solution.

B. In search of the real problem as opposed to the initial
problem perceived by the client, the analyst should retreat
to some basic classification and task identification check-
lists. First there are only three alternative feasibility
situations:

    1. A site or a project owned by a specific client in
search of a market.
    2. An identified market segment or use in search of
the site and project to be provided by a specific
client.
    3. A specific client desiring to search for an opportunity
in real estate enterprise.

C. Next the analyst must know the viewpoint of the audience
for his report, written or oral, because the elements
considered important by a mortgage lender may be significantly
different than those of a general partner or those of a
limited partner or those of a large tenant.

D. Since there are so many facets to the context of a real
estate project and measurement of its success, not to mention
the assumptions on which the determination of feasibility
depends, it is important to have the client agree on what
elements of feasibility are to be provided by which expert
or analyst.

    1. Analyst should be an expert on experts
    2. It is useful to include a standard checklist of
components with a letter or proposal as that checklist
later becomes the really significant portion of the
statement of limiting conditions (hold harmless
agreements) which are part of the final report.
A sample of one such checklist is provided in Exhibit 2.

E. With a review of which elements are to be provided by which
experts it then becomes possible to assist the client in
choosing which report title or titles are properly the
responsbility of the real estate analyst. (See 1.360)

F. With definition of the report expected and the information
to be provided by others, the analyst can prepare a budget
and a schedule for staging the report so that he and the
client can begin to establish priorities both in time and
money available for research to define the feasibility
assignment on which the analyst is to proceed.

G. Despite the necessity of defining the assignment in light of
the clients problem, it is necessary for the analyst to recall
that he is to remain an independent analyst an advocate of
his own opinion:

    1. There is a difference between a justified feasibility
opinion about the total project and the more limited
feasibility of justifying a mortgage loan from a credit
source not generally known for its analytical ability.

EXHIBIT 2   Feasibility Assignment and Accountability Worksheet
                            XYZ Appraisal Company
                xxx Street   Anywhere U.S.A.

Name of Client _____   Date _____

Assignment Description _____

Feasibility Input	Provided by	Approved by	Sequence and date available
1. Definition of questions and strategic objectives			
2. Definition of success criterion			
3. Ranking of criteria by priority			
4. Definition of specific site			
5. Definition of market opportunity			
6. Space user profile			
7. Space consumer preference survey			
8. Space product definition			
9. Aggregate and market forecast and absorption rate			
10. Merchandising capture rate by product mix			
11. Legal and political constraints assumed for user and investor			
12. Site constraints and site development plan			
13. Architectural constraints and plans			
14. Environmental impact assumptions			
15. School district impact assumption			
16. Municipal infrastructure and revenue impact			
17. Aesthetic and social impact			
18. Land cost assumptions			
19. Improvement cost assumptions			
20. Indirect cost assumptions			
21. Operational cash-flow budget assumptions			
22. Income tax liability assumptions			
23. Financing and refinancing assumption			
24. Other			

Accepted by Client _____
                            (Date)

Worksheet suggested in part by John Rasmussen, Feasibility Research Group,
210 Michigan Theater Building, Ann Arbor, Michigan 48108.

2. The analyst must be careful not to be a subcontractor to an architect, engineer, or other service organization where he cannot make his own report directly to the client, critical of his professional associates as it may be. It is recommended that the feasibility analyst as a generalist have a primary contract with his client.

H. Correctly defining the context in all its basic dimensions requires a _generalist_; an appraiser is a generalist. A feasibility study produces a set of parameters, a set of predesigned or preoperational specifications within which a program proposal _should_ work. The analyst and his client should always remember that the second stage of the feasibility study will be _confirmation_ of the feasibility assumptions and parameters by technical analysis and planning by the _specialists_.

I. An appraisal is a forecast of productivity of a property relative to the needs of a certain buyer group and a prediction of the price at which it would sell to the most probable buyer.

1. Anticipation of an economic behavior by the buyer leads to the highest price he would be willing to pay.

2. Anticipation of the behavior of the seller leads to an estimate of the least he would be willing to accept.

3. Analysis of the influence of outside factors affecting price supply and demand leads to an estimate central tendency between buyer and seller maximum.

4. The upper and lower ranges specify a transaction zone within which a most probable price will occur. The most probable sales price does not need to be at the center of the zone nor do the alternatives need to follow a normal distribution curve. The zone and the distribution most typically are statements of verbal probability.

J. An appraisal is therefore a feasibility study of alternative courses of action and these alternatives are matched to the most probable user/investment group to be seeking such a property opportunity at that time.

The appraisal process as a feasibility study lends itself to the following logical process;

1. What is the problem for which the appraisal is to serve as a benchmark?

2. Which definition of value would best serve the decision process?

3. What does an inventory of site attributes reveal as to the positive and negative contributions of the site to alternative uses?

4. What does an inventory of improvement attributes existing on the site reveal as to the positive and negative contributions of the improvements to alternative uses?

5. What basic alternative use programs or scenarios may be considered as plausible alternatives motivating buyers as of the date of the appraisal?

6. Which alternative use appears to be the most probable use when screened by external factors including effective market demand, political controls, forecasting risk, and potential profitability as perceived by investor/buyers.

7. What is the profile of the most probable buyer/investor for the most probable use to the degree that the profile can define the search for comparable transactions?

8. Could the appraiser simulate the purchase guidelines of a most probable buyer group if there were no sales which were thought to be comparable and appropriate to the subject situation?

9. What is the value to be justified by the appraiser using normative, traditional measures of what a buyer should do, such as the cost approach or conventional income approach?

VI. Property analysis to determine alternative uses

A. Elements of analysis are approached as an inductive research problem moving progressively from on-site facts to external conditions. The appraiser needs to examine the following elements in sequence: (See Exhibit 3)

1. Physical attributes of site and improvement.

2. Legal-political constraints on alternative uses.

3. Basic financial parameters of alternative uses.

4. Existence of effective market demand for remaining alternatives.

5. Comparative risk and return evaluation of alternatives for which there may be demand.

B. A physical analysis of inventory of site and improvement attributes should include the five following subsets:

1. Physical attributes (static) include site dimensions, soils, geology, topography, site improvements and capacity, and on-site flora and fauna.

2. Legal-political attributes include not only zoning and sub-dividing codes at the local level but also relevent federal, state, or private controls which might direct or restrict site use. As appropriate, the appraiser should note administrative patterns relevant to application of law to use of subject site.

3. Linkage attributes identify relationships of site to networks, populations or activities centers that might generate potential demand for the subject property.

4. Dynamic attributes are those attributes which exist in the mind of others in terms of status, anxiety, beauty, imagery, sentimentality or other perceptions which attach to the subject property to the degree that these are economically significant.

5. Environmental attributes of the site concern with off-site natural systems of which the subject property may be a part such as riparian rights, pollution down wind, storm water runoff, etc. Even the shadow cast by the structure off-site may become significant in the era of solar energy. Impacts on others may be perceptual (i.e. dynamic) or fiscal (legal-political) as well.

C. Static site attributes which begin to narrow the potential market to alternative uses should include both the facts and their implications for productive use in such topic areas as:

1. Size, shape, and lot area

2. Topography, soils, geology, slope stability, bearing capacity, septic suitability, potential for subsidance, etc.

3. Water table, wells, streams, ponds, storm water swales, shoreland edges, and bulkhead lines, flood plain designations, etc.

4. Flora and fauna which enhance marketability or which might cause environmental impact litigation

5. Concealed utility easements, old foundations, etc.

6. Existing on-site utility services and capacity

7. Access points to public thoroughfares or private right-of-ways

8. Site improvements such as paving, retaining walls, pedestrian paths, culverts, etc.

9. Landmark attributes or historical site features

D. An inventory of legal attributes should move from specific site controls imposed by local zoning ordinances to state and federal regulations as well as private controls which may intervene. The appraiser has an obligation to report foreseeable attitues or future legislation which will affect administration of these ordinances relative to future uses of the site.

1. All alternative setback lines and building envelope interpretations relative to site

2. Legal uses under applicable zoning and critical limitations of each relative to FAR, bulk, parking requirements, DU count, etc.

3. Special zoning options which may be available at owners option such as rezoning, downzoning, PUD zoning, etc.

4. Special controls imposed by extra-territorial zoning, tax conservancy commitments, subdivision process, urban renewal districts, tax increment districts, etc.

5. Special state or federal constraints under airport approach zone districts, harbor commissions, coastal zones, Office of Environmental Protection Agency, etc.

6. Public attitudes of public commissions for sewer, water, highway, planning, or building administration

7. Public and planning premises of community master plans relative to sprawl, restoration, redevelopment, and other land use priorities as these attitudes will affect administraion of the law

8. Existing or impending legislation relative to such matters as:

   a. Septic tank installation
   b. Water quality for ground water, water recharge areas, storm water runoff, salt water encroachment, etc.
   c. Air quality standards relative to use, HVAC performance, micro-climate interference, etc.
   d. Conservation of envrionmental edges, prime agricultural land, wet lands

9. Define physical system sub-systems

   a. Foundation system
   b. Structural system
   c. Floor system
   d. Ceiling system
   e. Roof system
   f. Exterior wall system
   g. Interior wall system
   h. Horizontal circulation sytsem (provacy, interaction, congestion, confusion)
   i. Vertical circulation system (handicapped code, cost, economy of scale and height)

10. Delineation of functional systems

    a. Bay spaces
    b. Module unit
    c. Ceiling heights
    d. Visual codes - such as mass, entrance, claustrophobic signals

11. Public controls on possible alternative special uses such as restaurants, places of public assembly, schools, etc.

Static Attributes

Physical

Legal

Linkage

Environmental

Building Envelope
& Orientation of
Technical Alternatives

SITE IN SEARCH OF A USE

Market Attributes

General Market
Patterns

Micro Markets

Neighborhood
Expectations

Future Markets

Possible Alternative
Use Scenarios

*Consumer profiles, price
range, and product description

*Alternative revenue justified
capital budgets and source
and application financing
structure

Solvency Tests

Justified Private Capital
- Required Capital
  Investment
+ Public Capital Subsidy
= Net Private Capital
  Exposure

Acceptable Alternative Uses

*Preliminary environmental,
political, and fiscal
constraints

Infrastructure Tests

Environmental Tolerance

Public Service Capacity

Fiscal Impact

Public Priorities and
Subsidy

Financially Solvent
Most Fitting Use

*After-tax cash flows,
financial ratios, and
qualitative screens

Investment Tests

Investor Limitations
& Objectives

Acceptable Risk Sensitivity
Parameters

Most Probable Use of Site
In Search of Use

12/1/78

EXHIBIT 3

F. Analysis of the static and legal/political attributes of site and structure should be summarized in terms of competitive advantages and disadvantages of plausible alternative uses for costs, pricing, marketing, and political administration of compatibility.

1. Some static attributes may help identify most probable user types (Ex. special display window sizes may be suitable for antique or art display) while attributes will make certain uses unlikely (Ex. floor load limitations of fire proofing weights required of places of public assembly).

2. Some static or legal attributes can provide monopoly advantages because suitability is unique relative to lands all around it, because of exemption from certain regulations, or existing approvals of development plans, including licenses for dredging, building code variances, etc.

3. Some attributes lead to higher cost which the front door approach may reveal as leading to excessive rents or prices.

G. Linkage attributes relate to subject property to both networks of supporting infra-structure which contributes toward effective demand for the property as economic space time or the supply and demand impact of related activity centers which may interact with the subject property.

1. Analysis moves best from the borders of the subject property outward to expanding zones of potential demand or competitive supply.

2. Utility services are network linkages in terms of:

    a. Limitations on sewage processing, storm water retention or runoff constraints
    b. Community energy supplies, priorities, and capacity
    c. Water processing and chemistry as applicable
    d. Possible dependency on resources such as wild game and fish, underutilized labor pools, fire department coverage zones, etc.

3. Street, sidewalk, rail, and public transit systems including access points, traffic department controls, etc.

4. Relationship of subject site to contiguous properties, balance of city block, and neighborhood layout pattern.

5. Relationship of subject site to generators of potential needs and uses for the subject site, such as:

    a. Employment centers
    b. School system alternatives
    c. Retail services
    d. Complimentary existing nearby uses
    e. Recreational services
    f. Health care systems
    g. Security systems
    h. Waste disposal services

6. Neighborhood demographics (population, age, employment, income, etc.)

7. Relationship to competitive alternative and estimate of supply of available space, competitive ranking, and exposure of subject site to competitive interception of potential demand.

H. Dynamic attributes are those characteristics which exist in the minds of the beholder, which are mental or emotional responses which a site or project stimulates and which affect decision making behavior.

1. Image conditioning of the approach zone

2. Visual factors in terms of prominence of the site, views from the site, potential for controlled sight lines, etc.

3. Prestige and status

4. Anxiety factors of access and security

5. Noise as a function of traffic count (FHA noise pollution manual)

6. Prevailing air currents and airborne pollution (phosphate plants or sulphite paper mills, for example).

7. Political images established for a site by the public positions of local politicians or vested interest groups.

8. Historical community reputation and values attached to the project site and structures.

I. Environmental attributes of the site recognize that the real estate product today must respond not only to the needs of the individual consumer in the marketplace but to the collective community of consumers represented by the community political administrators. Land use must be sold to both "markets." If the proposal won't sell at City Hall, there will be little opportunity to market the product individually. Pre-architectural programs must not only consider physical factors of environmental impact off-site, but in addition:

1. Silhouette of social impact in terms of public perceptions of:

   a. Displacement of existing residents and neighborhood units
   b. Contribution to social integration or mobility barriers
   c. Contribution to land use heterogeneity
   d. Contribution to regional and community master plans

2. Fiscal impact on the community where appropriate:

   a. Direct impact on real estate tax revenues
   b. Direct impact on other governmental revenue
   c. Direct impact on incremental government
   d. Secondary contributions to local government revenues
   e. Secondary cost burdens created for local communities

3. Social factors in the ethical environment:

a. Impact on supply/demand equilibrium
b. Stamina of project sponsor in the face of public pressure
c. Vulnerability of potential project buyers to secondary political pressures and counter attack
d. Potential uses requiring unique political resources or private/public consortiums

J. For the experienced real estate analyst systamatic narrowing of alternative uses from study of the attributes leads to a limited series of alternatives which can then be given a final screening in terms of preliminary financial analysis and effective demand. The analyst may review these attributes to identify alternative uses by emphasizing one or more of the following angles of inquiry.

1. Does any site of site attributes suggest a special space/time - to money/time configuration? For example, a high floor area ratio but little parking may suggest a building with a low person occupancy, such as a switchboard building or luxury apartment with minimum number of dwelling units.

2. What attributes of the subject site provide monopoly characteristics or are inferior to alternative sites?

3. What patterns in adjacent or competitive structure represent a trend to which the subject property should adapt?

4. What patterns of use is revealed by transactions in similar properties on nearby locations?

K. A program of use or reuse can be called a scenario and may be suggested by physical characteristics of the property, contiguous property trends and conditions, or known supply shortages with which the appraiser is familiar. Some examples of scenarios are provided in Exhibit 1.

L. Ranking of these scenarios for economic power is accomplished by means of the Back Door approach, i.e., the revenue justified investment for the property, as is alternative whrksheets for this approach using the default point and the debt cover ratio as the critical conversion of income to capital are provided in Exhibits 4-10.

M. Economic power has to be qualified in terms of marketing risks and capital budgeting risks of each of the alternative uses before alternative uses can be ranked in summary fashion as in Exhibit 6.

1. Note that Exhibit 6 integrates the basic elements of preliminary feasibility analysis.

2. Remaining disucssion will emphasize market risk which is the primary cause of misleading appraisal conclusions

Exhibit 4

REVENUE REQUIRED BY CAPITAL BUDGET
LOAN TO COST RATIO APPROACH

SITE ACQUISTION COST
+

CONSTRUCTION BUDGET
+

INDIRECT COST AND DEVELOPMENT FEES
=

TOTAL CAPITAL BUDGET

x   x

1- LOAN TO COST RATIO		LOAN TO COST RATIO
=	=

CASH EQUITY REQUIRED		MORTGAGE LOAN
x	x

REQUIRED PRE-TAX CASH DISTRIBUTION RATE		DEBT SERVICE CONSTANT
=	=

CASH THROW OFF REQUIRED FOR EQUITY		CASH REQUIRED FOR MORTGAGE LENDER

+

NET OPERATING INCOME
+

OPERATING EXPENSES
+

REAL ESTATE TAXES
+

CASH REPLACEMENTS
=

EFFECTIVE GROSS REVENUE REQUIRED
+

VACANCY LOSS
=

GROSS POTENTIAL REVENUE
÷

NET LEASABLE UNITS
=

RENT REQUIRED PER UNIT

Exhibit 5

REVENUE JUSTIFIED CAPITAL BUDGET
DEFAULT RATIO APPROACH

GROSS RENT POTENTIAL

X	X
1- DEFAULT RATIO	DEFAULT RATIO
=	=
RISK VARIABLES AND EQUITY CASH	CASH BUDGET OUTLAYS
-	-
VACANCY LOSS	OPERATING EXPENSES
-	-
RISK RESERVE	REAL ESTATE TAXES
=	-
CASH AVAILABLE FOR INVESTORS	CASH REPLACEMENTS
÷	=
REQUIRED PRE-TAX CASH DISTRIBUTION RATE	CASH AVAILABLE FOR DEBT SERVICE
=	÷
JUSTIFIED CASH EQUITY INVESTMENTS	DEBT SERVICE CONSTANT
	=
	JUSTIFIED MORTGAGE LOAN

+

TOTAL JUSTIFIED INVESTMENT

-

EXISTING CLAIMS OR PLANNED IMPROVEMENT BUDGET

=

PROCEEDS AVAILABLE FOR PROPERTY PURCHASE "AS IS"

Exhibit 6

REVENUE JUSTIFIED CAPITAL BUDGET
DEBT COVER RATIO APPROACH

GROSS RENT POTENTIAL

−

VACANCY LOSS

=

EFFECTIVE GROSS REVENUE

−

OPERATING EXPENSES

−

REAL ESTATE TAXES

−

CASH REPLACEMENTS

=

NET OPERATING INCOME AVAILABLE

FOR DEBT PAYMENT, INCOME TAX, CASH DIVIDENDS

−   ÷

DEBT SERVICE CASH   DEBT COVER RATIO

                                     REQUIRED BY LENDERS

=   =

CASH AVAILABLE FOR   CASH AVAILABLE FOR

INCOME TAX AND INVESTORS   DEBT SERVICE

÷   ÷

REQUIRED PRE-TAX CASH

DISTRIBUTION RATE   DEBT SERVICE CONSTANT

=   =

JUSTIFIED CASH   JUSTIFIED MORTGAGE

EQUITY INVESTMENT   LOAN

+

TOTAL JUSTIFIED INVESTMENT

−

EXISTING CLAIMS OR PLANNED

IMPROVEMENT BUDGET

=

PROCEEDS AVAILABLE FOR

PROPERTY PURCHASE AS IS

CAPITAL BUDGET

ARCHITECTURAL PROGRAM

Exhibit 7

FRONT DOOR
APPROACH

CONSTRUCTION COST PER SQ. FT.	◄	BUILDING COMPLEXITY AND QUALITY

$*$

GROSS BUILDING AREA	◄	BUILDING DESIGN AND EFFICIENCY

$=$

BUILDING BUDGET

$=$

LAND VALUE, SITE WORK, FEES, CARRYING CHARGE, BUILDERS PROFIT

$=$

MARKET CHECK

PROJECT VALUE

$÷$

NET INCOME MULTIPLIER

$=$

PROJECT BUDGET	$*$	MORTGAGE LOAN / COST

$=$

MORTGAGE LOAN	$*$	MORTGAGE CONSTANT	$=$	ANNUAL DEBT SERVICE

$=$ $+$

EQUITY	$*$	CASH ON CASH RATE	$=$	CASH THROW-OFF

$=$

DEPRECIATION	—	MORTGAGE INTEREST		NET OPERATING INCOME

$=$ $+$

TAXABLE INCOME		RESERVES

$*$ $+$

TAX RATE		REAL ESTATE TAXES AND OPERATING EXP.

$=$ $+$

− TAX LIABILITY OR + TAX CREDIT		VACANCY & BAD DEBT

$+$ $=$

CASH THROW-OFF		POTENTIAL GROSS INC.

$=$ $÷$

SPENDABLE CASH AFTER TAXES		NET LEASEABLE AREA

$=$

	RENT PER SQ. FT.

TAX SUBSIDY

MARKET   TARGET

OPERATING BUDGET

Exhibit 8
FRONT DOOR - MINIMUM RENT REQUIRED

$20/sq. ft.

X

20,000 sq. ft.

=

$400,000

÷

$200,000

=

$600,000

-

(80% LTV)

| $480,000 | X | (.1025 constant) | = | $49,200 |

+

| $120,000 | X | .07 | = | $8,400 |

=

$57,600

+

$2,400

+

$50,000

+

$6,000

=

$116,000 90% NLA

÷

$18,000

=

$6.44-6.50/sq.ft.

Default ratio:

$$\frac{\text{Debt service + expenses}}{\text{Gross rent}}$$

$$\frac{\$49,200 + 50,000}{\$116,000} = 86\%$$

Payback before taxes:

$$\frac{\text{Equity cash investment}}{\text{Equity dividend}}$$

$$\frac{120,000}{8,400} = 14+ \text{ yrs.}$$

Debt cover ratio:

$$\frac{\text{Net operating income*}}{\text{Debt service}}$$

$$\frac{60,000}{49,200} = 1.22$$

* NOI = gross rent - vacancy - expenses

OPERATING BUDGET

Exhibit 9

BACK DOOR APPROACH

MARKET SURVEY

RENT / SQUARE FT. ← MARKET RENT/SPACE UNIT

*

NET LEASEABLE AREA = TARGET CAPTURE RATE

*

RENTAL MARKET TOTAL SPACE UNIT DEMAND

=

POTENTIAL GROSS INCOME * DEFAULT POINT

-

TOTAL CASH OUTLAYS - OPERATING EXPENSES

=

CASH MARGIN REAL ESTATE TAXES

-

VACANCY

-

RESERVES CASH AVAILABLE FOR DEBT SERVICE

=

MORTGAGE CONSTANT = MORTGAGE LOAN

+

CASH THROW-OFF = CASH ON CASH RATE = EQUITY

+ =

PRINCIPAL REPAYMENT TOTAL PROJECT VALUE

-

DEPRECIATION LAND VALUE, SITE WORK, FEES, CARRYING CHARGES BUILDERS PROFIT

= =

TAXABLE INCOME BUILDING BUDGET

* ÷

TAX RATE GROSS BUILDING AREA

= =

- TAX LIABILITY, OR + TAX CREDIT CONSTR. COST / SQ. FT.

+

CASH THROW-OFF ARCHT. PROGR.

=

SPENDABLE CASH AFTER TAXES | TAX SUBSIDY

MARKET CHECK

POTENTIAL GROSS INCOME

-

VACANCY, R.E. TAXES & OPERATING EXPENSES

=

NET OPERATING INCOME

*

NET INCOME MULTIPLIER

CAPITAL BUDGET

$6.75/sq. ft.

X

$18,000

=

$121,500   .80

-

$97,200 $26,000

=   -

$24,300 $24,000

-                           =

$6,000

-                           $47,200

$2,400   ÷

=   .1025   = $460,500

+

$15,900   .12   = $132,500

=

$592,500

-

$200,000

=

$392,500

÷

$20,000

=

$19.625 or
19.5/sq.ft.

Default ratio =

$$\frac{47,200 + 50,000}{121,500} = .80$$

Payback ratio:

$$\frac{132,500}{15,900} = 8.33 \text{ yrs.}$$

Debt cover ratio:

$$\frac{65,500}{47,200} = 1.39$$

Lecture Pages 18-21 are missing

A. With a preliminary hypothesis as to the prospect, survey questions may be intended to provide:

1. Key ratios necessary for segmentation of market data already broken down by trade area, demographics, employment, etc.

2. Key indicators of anxieties or preferences or tradeoffs of the prospect.

3. Key indicators of the anxieties or preferences of non-prospects who feel a vested interest in the impace or have a significant part in the purchase process. (For example - the members of the Public Housing Authority have a different set of needs than the ultimate user, but the product is "bought" by the Board).

B. Consider the elderly housing market chart in Exhibit 11. Notice that the ratios required for market segmentation follow a logical reduction pattern. The analyst has made several working assumptions - namely that his market is over 65 and over-whelmingly from Dane County because these assumptions are both reasonable and conform to break-out points in the raw data.

C. The ratio sought by the survey follow a precise reduction pattern:

1. How many will consider moving?
2. Of those, how many would consider staying in town?
3. Of those, how many would consider an apartment?
4. Of those remaining who would consider an apartment in town, how many would consider a specific location?
5. Notice the recution process defines a subset of the elderly market - a micro-market.

D. Each of these ratios suggests a specific calculation or perhaps a short table of statistics. The specific title on the table of data and its sub-columns should be written before the questions are drafted and the collection of data begun. Notice the research begins with careful definition of the questions to be answered. All answers become relevant and all unnecessary questions are avoided. These types of questions depend on knowing the precise character of secondary data available to which the ratios must be applied in the systematic model devised for the problem.

1. Confine vocabulary to basic 1000 words; avoid lingo.

2. Structure questions to permit check-off, or branching to set up subsets. (See Exhibit 16)

3. Always test the questionnaire on half a dozen prospects or friends to reveal misunderstandings before using on the market.

4. Questions may take different formats.
(See Exhibit 14)

EXHIBIT 14

Simple Survey Formats
for Classification of Subsets & Measurement of Preference

I'd like to ask you a few questions about the place you lived just before
you moved into this apartment.

5. About how many years did you live in your former home?

___ less than 1 year   ___ 10 to 15 years
___ 1 year - L.T. 2 years   ___ more than 15 years,_____
___ 2 to L.T. 5 years
___ 5 to L.T. 10 years

6. Did you live in a house or in an apartment building just before your move here?

___ house   ___ apartment   ___ other,_____

About how many apartments, including yours
were there in the building?

___ L.T. 4   ___ 17 to 24
___ 4 to 8   ___ 24 to 32
___ 9 to 16   ___ more than 32

About how much rent did you pay per month, including
utilities but not telephone? $_____

___ L.T. $50   ___ $100 to L.T. $125
___ $50 to L.T. $75   ___ $125 to $150
___ $75 to L.T. $100   ___ more than $150

Did you own or rent the house?

___ own   ___ rent

Did you rent a room, a flat or floor, or entire
house?

___ room ___ flat/floor ___ entire

About how much rent did you pay per month, including
utilities but not telephone? $_____

___ L.T. $50   ___ $100 to L.T. $125
___ $50 to L.T. $75   ___ $125 to $150
___ $75 to L.T. $100   ___ more than $150

Now I'd like to ask you some general questions about your decision to move
to this apartment.

7. How did you first find out about them?

___ family   ___ newspaper
___ friends   ___ radio
___ church   ___ television
___ Housing Authority ___ other,_____

26. How important are the following items to you?

	Very Important	Somewhat Important	Indifferent	Somewhat Unimportant	Not Important
Private Balconies or patios	( )	( )	( )	( )	( )
Laundry facilities in each building	( )	( )	( )	( )	( )
Washer/dryer connection in your apartment	( )	( )	( )	( )	( )
Extra storage space	( )	( )	( )	( )	( )
More than 1 bath	( )	( )	( )	( )	( )
Carpeted stairways & hallways in common areas of apt. bldg. (Areas shared by all residents)	( )	( )	( )	( )	( )
Master T.V. Antenna System	( )	( )	( )	( )	( )
Children's day care center and/or nursery school nearby	( )	( )	( )	( )	( )

EXHIBIT 14 cont'd.

14. What type of building features would you prefer in the layout of the condominium unit? (choose only one of each of the following sets of alternatives)

( ) Two bedrooms with larger living area or/
( ) Three bedrooms

( ) Three bedrooms, or/
( ) Four bedrooms, or/
( ) Large master bedroom and two 4-bed bunk rooms

( ) Two-story living room with inside balcony, or/
( ) Living room with beamed cathedral ceiling

( ) Full dining room, or
( ) Dining "L" plus family-sized kitchen

( ) Sundeck balcony for living room or/
( ) Outdoor patio at ground level

( ) Walk-in closets in each room or/
( ) Large work room plus laundry room in each unit & standard closets

( ) One car garage attached to unit or/
( ) Two car garage in group parking complex, or/
( ) Carport and lower price

( ) Central air conditioning or/
( ) Woodburning masonry fireplace or/
( ) Gas-log fireplace and window air conditioning unit

( ) Contemporary natural decor with wood and rock materials, or/
( ) Maintenance-free modern masonry and aluminum exteriors, or/
( ) Well styled colonial detailing

( ) Extensive outside landscaping, or/
( ) More floor space in each room

E. The second type of question is generally attempting to measure either anxieties or preferences. Both are dangerous survey areas for amateurs as well as professionals and it is often cheaper to subcontract these particular functions to consumer research specialists. Nevertheless, a little common sense can generate considerable useful information on the competitive edge.

    1. Probe for dissatisfaction with existing space or life style.
    2. Probe for anxieties about uncontrollable trends and events.
    3. Probe for desired social structure ties, real or imagined.

F. The real estate analyst can choose between systematic telephone interviews, direct mail questionnaires, and personal interviews in depth.

    1. The telephone interview may be less expensive per question and fastest but is limited in the type and amount of quesions which can be asked. Rifled to a project known to the analyst, it tells much about the user profile for a good comparable without having to ask about the product which the analyst can inspect for himself. (See <u>Exhibit 15</u>)

    2. A telephone survey is also useful to disaggregate census data or to estimate market penetration of a competitor (such as a retail store) into an area.

    3. Direct mail questionnaires may cost from 5¢ to $3 or more for each successful question; they take at least a week to prepare and test and perhaps three weeks before cutoff of additional responses. The type of question is broader and can be graphic such as alternative site maps and simple floor plans; response depends on careful construction of the mailing list, a very time consuming process. Consider the following types of questions:

    4. The double barreled question occurs when two or more questions are combined in one so that the answer is always ambiguous as to the significance of each item but often occurs in the effort to shorten an interview or a question.

        a. Would you be at all uneasy if people of a different religion or race were to move in next to your home?

        b. As you see it, what are some of the good points and the bad points of the present Governor of this State?

    5. Personal interviews in depth permit questions using photographs with colors and styles. Expensive and time consuming, it assumes precious qualification of the interviewee as a typical prospect.

G. Processing of surveys can involve simple tallies or counts, simple subdividing of responses into subcategories, or preferably organization of the questionnaire to permit key punching or cross tabbing or statistical analysis by computer processing. The problem of identification requires:

EXHIBIT #15

Telephone Survey Script - Elderly Housing

PRE-SURVEY INFO.

Survey
Turnkey Elderly Housing
Triangle Project
Madison, Wis.

Code of Interviewer   ☒ 1   __ 2   __ 3   __ 4   __ 5

PROJECT CODE Code of Project   ☒ Braxton
    __ Romnes
    __ Tenney Park

Sex of Respondent   __ Male   ☒ Female

****

INTRO.

Hello, my name is _____. We are conducting
a survey of residents of elderly housing apartments so that
we may identify those features of apartment design and planning
that are satisfying to residents, as well as those that are
irritations.

The purpose of seeking your responses to these questions, is
to provide a base of information from you --the real experts
on housing for the elderly-- upon which we can make specific
recommendations to developers of the proposed elderly housing
project on the Triangle Urban Renewal Area, here in Madison.
This information will result in an improved living environ-
ment in the proposed housing project. Your responses are
confidential and you will not be identified as an individual.

Would you mind answering a few questions ?   Thank you.

****

PRIOR LIVING EXPERIENCE

NOTE:
(Read options
only when arrow
is shown as in
question # 2)

1. When did you move into your present home ?

   ⬭ 1960 to 1965   ⬭ 1971 to 1972
   ⬭ 1966 to 1968   ⬭ 1973 to 1974
   ☒ 1969 to 1970

2. What type of home did you live in before moving to your present
home ?

   ⬇ ☒ one family house   ⬇ ⬭ 1 to 4 unit apartment bldg.
     ⬭ two family house   ⬭ 5 or more unit apt. bldg.
     ⬭ other_____   ⬭ other_____

3. How long did you live in your former home ?

   ⬭ less than 6 month   ☒ 2 - 5 years
   ⬭ 6 mo. to 1 year   ⬭ 5 -10 years
   ⬭ 1 - 2 years   ⬭ Over 10 years

4. Was your previous home:

☐ owned by you (or you and your spouse)
☐ owned by your family (or your spouses' family)
☐ occupied without cash rent
☒ rented by you (or you and your spouse)

└ ─ ─ ➤ How much was your rent each month ?

☐ less than $50   ☐ $100 to 125
☐ $50 to 75   ☒ $125 to 175
☐ $75 to 100   ☐ $175 or more

Did your rent include:

Electricity   ☐ yes   ☒ no
Heat
Water
Gas   ☒ DNA

PRESENT LIVING EXPERIENCE | YOUR RESPONSES TO THE FOLLOWING QUESTIONS WILL TELL US WHAT YOU FEEL IS IMPORTANT IN AN APARTMENT SPECIFICALLY DESIGNED FOR THE ELDERLY

5. Which of the rooms in the apartment should be the largest, second largest, and third largest ?

	Largest	Second Largest	Third Largest
Kitchen-Dining area	☐	☐	☒
Living Room	☒	☒	☐
Bedroom	☐	☐	☐

6. Is your present home:

☐ too large for your needs
☐ too small for your needs
☒ just right for your needs

7. How many people live with you in your apartment ?

☒ none   ☐ three
☐ one   ☐ four
☐ two   ☐ five or more

If you could change your present apartment by making one
room larger and one room smaller;

8. Would you make your:

↓   ( ) LR larger; BR smaller or/
    ( ) BR larger; LR smaller or/
    ( ) leave them like they are

9. Would you make your:

↓   ( ) LR larger; K-D area smaller or/
    ( ) K-D area larger; LR smaller or/
    ( ) leave them like they are

───

Optional Unit Features   If you had to select one of the following:

10. Would you prefer:

↓   ( ) A dining area <u>in</u> the kitchen or/
    ( ) A dining area next to the kitchen

11. Would you prefer:

↓   ( ) A bathroom door opening to bedroom only or/
    ( ) A bathroom door opening to living room area only

12. Would you prefer:

↓   ( ) A large closet area in the bedroom or/
    ( ) A large closet area in the living-dining-kitchen area

13. Would you prefer:

↓   ( ) A balcony or
    ( ) Slightly larger apartment size

14. Would you prefer:

↓   ( ) Larger closet space or
    ( ) More open space in your apartment

OPTIONAL PROJECT FEATURES

15. If you had the choice, would you want:

    ( ) A larger apartment and less community space or/
    ( ) A smaller apartment and more community space or/
    (■) make no change

If you had to select one of the following:

16. Would you prefer:

    (■) One large room with a music area, T.V. area, conversation area, and a small library or/
    ( ) Several smaller separate rooms for each of these activities, in addition to a central lounge

17. Would you prefer:

    ( ) A special lounge area for children of guests or/
    (■) A larger main lounge

18. Should there be a separate lounge for women only (yes ■) and a separate lounge for men only (yes ■)
    No
    No

19. Is there a craft or hobby room in the building you live in now ?

    (■) yes
    ( ) no

20. Would you like (do you like) a crafts room ?

    ( ) no
    (■) yes

21. For what crafts would you (do you) use the craft room ?

    ( ) Pottery   ( ) woodworking
    ( ) knitting and crocheting   ( ) sewing
    ( ) painting   ( ) copper enamiling
    (■) weaving   ( ) other _____
    ( ) photography   ( ) other _____

22. How many times a week would you (do you) use the room ?

    ( ) less than once a week   ( ) More than 3 times
    ( ) once   ( ) Never
    ( ) twice
    (■) three

23. Should the crafts room be:

    (■) one large room for all crafts or/
    ( ) several smaller rooms for each craft

Project Mass/Scale Misc.

THE FOLLOWING QUESTIONS WILL PROVIDE US WITH INFORMATION AS TO
WHAT YOU FEEL IS ESSENTIAL IN A HIGH RISE BUILDING FOR THE ELDERLY.
WHILE WE REALIZE THAT SOME PEOPLE DO NOT LIKE HIGH RISE STRUCTURES
IT IS ESSENTIAL THAT WE FIND OUT HOW WE CAN BEST DESIGN SUCH A
BUILDING TO MINIMIZE THE IRRITATIONS AND MAXIMIZE THE BENEFITS
TO THE RESIDENTS.

If you **had** to live in a high rise building:

24. Would you prefer:

   ▣ A six story building with 16 apartments and neighbors
   on each floor or/
   ▢ A ten story building with 10 apartments and neighbors
   on each floor

25. Would you prefer:

   ▣ A six story building with less open space outside or/
   ▢ A ten story building with more open space outdoors

26. Would you prefer:

   ▣ a large laundry room with adjacent bathrooms on one
   floor or/
   ▢ smaller laundry facilities (one washer and dryer) on
   each floor

27. Would you prefer:

   ▢ small lounges on each floor or/
   ▣ a larger main lounge

28. Would you prefer:

   ▢ An enclosed roof top sun deck or/
   ▣ a larger patio area outdoors

Additional Comments

ARE THERE ANY ADDITIONAL SUGGESTIONS YOU WOULD LIKE TO MAKE ?

more exits in case of fire

THANK YOU FOR YOUR HELP.   GOODBYE.

1. Coding by colored paper, colored return envelope, stamp
   on self-addressed stamped envelope to reflect geographic
   area, building address, type of respondent, original mailing
   list source, etc. Careful organization before mailing solves
   most processing problems.

2. Beware of code numbers if you promised anonymity; give them
   the option of identifying the respondent, etc.

3. Always identify yourself as an analyst (but not the project
   or the client), providing a phone numer or an address where
   the interviewee can find you. It will generate both pre-
   sale prospect lists and some primary unexpected political
   participation by others.

CASH FLOW PRO FORMA USING PARAMETER NORMS

SENSITIVITY APT. DEMO

U. W. REAL ESTATE DEPT.

```
DATE:   2/14/1977
BLDG:      1
RUN :      1
```

```
GROSS SQUARE FEET IN BUILDING:        700.
BUILDING EFFICIENCY          :        85.0 PCT
NET LEASEABLE SQUARE FOOTAGE :        595.

LAND AND CONSTRUCTION COST : $      19500.
LOAN TO COST RATIO         :         75.0 PCT
ORIGINAL LOAN AMOUNT       : $      14625.

EQUITY REQUIREMENT         : $       4875.

PERMANENT INTEREST RATE    :         9.000 PCT
TERM OF LOAN                    30. YEARS

ANNUAL DEBT SERVICE        : $       1412.
```

		ANNUAL DOLLARS
GROSS INCOME : 595. SQ FT AT $ 6.00		3570.
LESS: VACANCY OF 5.00 PCT		179.

GROSS ADJUSTED INCOME		3392.
PLUS: PARKING INCOME		150.
PLUS: OTHER INCOME		24.
GROSS EFFECTIVE INCOME		3566.
LAND LEASE EXPENSE		100.
OPERATING EXPENSES: 595. SQ FT AT $ 2.76		1642.

NET OPERATING INCOME		1823.
DEBT SERVICE (9.66 PCT CONSTANT)		1412.

PRO FORMA CASH FLOW		411.

```
RETURN ON EQUITY        8.43 PERCENT

DEBT SERVICE COVERAGE:     1.291

DEFAULT RATIO :      83.48 PERCENT
```

LOAN DATA FOR EACH SET OF FINANCIAL CONDITIONS

AMOUNT FINANCED $ 14625.   EQUITY $ 4875.

LOAN RATIO 75.00 PCT

INTEREST	TERM	CONSTANT	DEBT SERVICE		
			ANNUAL	PER SQ FT	PER UNIT
9.000	30.0	9.6555	1412.	2.3733	
9.250	30.0	9.8721	1444.	2.4265	
9.500	30.0	10.0903	1476.	2.4802	
8.500	30.0	9.2270	1349.	2.2680	
8.000	30.0	8.8052	1288.	2.1643	

AMOUNT FINANCED $ 15600.   EQUITY $ 3900.

LOAN RATIO 80.00 PCT

INTEREST	TERM	CONSTANT	DEBT SERVICE		
			ANNUAL	PER SQ FT	PER UNIT
9.000	30.0	9.6555	1506.	2.5315	
9.250	30.0	9.8721	1540.	2.5883	
9.500	30.0	10.0903	1574.	2.6455	
8.500	30.0	9.2270	1439.	2.4192	
8.000	30.0	8.8052	1374.	2.3086	

AMOUNT FINANCED $ 16575.   EQUITY $ 2925.

LOAN RATIO 85.00 PCT

INTEREST	TERM	CONSTANT	DEBT SERVICE		
			ANNUAL	PER SQ FT	PER UNIT
9.000	30.0	9.6555	1600.	2.6897	
9.250	30.0	9.8721	1636.	2.7501	
9.500	30.0	10.0903	1672.	2.8109	
8.500	30.0	9.2270	1529.	2.5704	
8.000	30.0	8.8052	1459.	2.4529	

AMOUNT FINANCED $ 17550.   EQUITY $ 1950.

LOAN RATIO 90.00 PCT

INTEREST	TERM	CONSTANT	DEBT SERVICE		
			ANNUAL	PER SQ FT	PER UNIT
9.000	30.0	9.6555	1695.	2.8480	
9.250	30.0	9.8721	1733.	2.9119	
9.500	30.0	10.0903	1771.	2.9762	
8.500	30.0	9.2270	1619.	2.7216	
8.000	30.0	8.8052	1545.	2.5972	

AMOUNT FINANCED $ 18525.   EQUITY $ 975.

LOAN RATIO 95.00 PCT

INTEREST	TERM	CONSTANT	DEBT SERVICE		
			ANNUAL	PER SQ FT	PER UNIT
9.000	30.0	9.6555	1789.	3.0062	
9.250	30.0	9.8721	1829.	3.0736	
9.500	30.0	10.0903	1869.	3.1415	
8.500	30.0	9.2270	1709.	2.8728	
8.000	30.0	8.8052	1631.	2.7414	

PRO FORMA CASH FLOW TABLE

SENSITIVITY APT. DEMO

U. W. REAL ESTATE DEPT.

FIXED PARAMETERS

SITE :	2000. SQUARE FEET	DATE 2-14-1977
BUILDING :	700. SQUARE FEET	BLDG 1
EFFICIENCY:	85.00 PCT(595. SQ FT)	
LOAN RATIO:	75.00 PCT OF S 19500.	
LOAN :	S 14625.	
EQUITY :	S 4875.	
FINANCING :	30. YEARS 9.000 PCT	
OTR INCOME:	S 174. ANNUALLY	RUN 1
EXPENSES :	S 2.76 PER SQ FT	
LAND LEASE:	S 100.	

ANNUAL CASH FLOWS

VACANCY ALLOWANCE

RENTAL RATES ANNUAL S/SQ FT	3.00 PCT	4.00 PCT	5.00 PCT	7.00 PCT	10.00 PCT
S 4.80	-210.	-239.	-267.	-324.	-410.
S 5.40	136.	104.	72.	8.	-89.
S 6.00	483.	447.	411.	340.	233.
S 6.60	829.	790.	750.	672.	554.
S 7.20	1175.	1132.	1089.	1004.	875.

BREAKEVEN RENTAL RATES

VACANCY ALLOWANCE

RENTAL RATES ANNUAL S/SQ FT	3.00 PCT	4.00 PCT	5.00 PCT	7.00 PCT	10.00 PCT
	5.16	5.22	5.27	5.39	5.57

PRO FORMA CASH FLOW TABLE

SENSITIVITY APT. DEMO

U. W. REAL ESTATE DEPT.

FIXED PARAMETERS

SITE :	2000. SQUARE FEET	DATE 2-14-1977
BUILDING :	700. SQUARE FEET	BLDG 1
EFFICIENCY:	85.00 PCT(595. SQ FT)	
LOAN RATIO:	75.00 PCT OF $ 19500.	
LOAN :	$ 14625.	
EQUITY :	$ 4875.	
FINANCING :	30. YEARS 9.000 PCT	
VACANCY :	5.00 PCT OF LEASEABLE	
OTR INCOME:	$ 174. ANNUALLY	RUN 1
LAND LEASE:	$ 100.	

ANNUAL CASH FLOWS

ANNUAL EXPENSE RATES PER SQ FT

RENTAL RATES ANNUAL $/SQ FT	$ 2.40	$ 2.64	$ 2.76	$ 3.00	$ 3.36
$ 4.80	-53.	-196.	-267.	-410.	-624.
$ 5.40	286.	143.	72.	-71.	-285.
$ 6.00	625.	483.	411.	268.	54.
$ 6.60	965.	822.	750.	608.	393.
$ 7.20	1304.	1161.	1089.	947.	732.

BREAKEVEN RENTAL RATES

ANNUAL EXPENSE RATES PER SQ FT

RENTAL RATES ANNUAL $/SQ FT	$ 2.40	$ 2.64	$ 2.76	$ 3.00	$ 3.36
	4.89	5.15	5.27	5.53	5.90

PRO FORMA CASH FLOW TABLE

SENSITIVITY APT. DEMO

U. W. REAL ESTATE DEPT.

FIXED PARAMETERS

SITE	:	2000. SQUARE FEET	DATE 2-14-1977
BUILDING	:	700. SQUARE FEET	BLDG 1
EFFICIENCY:		85.00 PCT(595. SQ FT)	
LOAN RATIO:		75.00 PCT OF $ 19500.	
LOAN	:	$ 14625.	
EQUITY	:	$ 4875.	
VACANCY	:	5.00 PCT OF LEASEABLE	
OTR INCOME:		$ 174. ANNUALLY	RUN 1
EXPENSES	:	$ 2.76 PER SQ FT	
LAND LEASE:		$ 100.	

ANNUAL CASH FLOWS

FINANCING PARAMETERS

S		30. YEARS	30. YEARS R	30. YEARS	30. YEARS	30. YEA
T		9.00 PCT	9.25 PCT C	9.50 PCT	8.50 PCT	8.00 P
		--------	--------	--------	--------	--------

RENTAL RATES
ANNUAL $/SQ FT

		30. YEARS	30. YEARS	30. YEARS	30. YEARS	30. YEA
S	4.80	-267.	-299.	-331.	-204.	-143.
S	5.40	72.	40.	8.	135.	196.
S	6.00	411.	380.	348.	474.	536.
S	6.60	750.	719.	687.	813.	875.
S	7.20	1089.	1058.	1026.	1152.	1214.

BREAKEVEN RENTAL RATES

FINANCING PARAMETERS

S		30. YEARS	30. YEARS R	30. YEARS	30. YEARS	30. YEA
T		9.00 PCT	9.25 PCT C	9.50 PCT	8.50 PCT	8.00 P
		--------	--------	--------	--------	--------

RENTAL RATES
ANNUAL $/SQ FT

	5.27	5.33	5.39	5.16	5.05

PRØ FØRMA CASH FLØW TABLE

SENSITIVITY APT. DEMØ

U. W. REAL ESTATE DEPT.

SITE :	2000. SQUARE FEET	DATE 2-14-1977
BUILDING :	700. SQUARE FEET	BLDG 1
LØAN RATIØ:	75.00 PCT ØF S 19500.	
LØAN :	S 14625.	
EQUITY :	S 4875.	
FINANCING :	30. YEARS 9.000 PCT	
VACANCY :	5.00 PCT ØF LEASEABLE	
ØTR INCØME:	S 174. ANNUALLY	RUN 1
EXPENSES :	S 2.76 PER SQ FT	
LAND LEASE:	S 100.	

ANNUAL CASH FLØWS

BUILDING EFFICIENCY (PCT ØF GRØSS)

75.00 PCT 78.00 PCT 80.00 PCT 82.00 PCT 85.00 PCT
LØAN TØ CØST RATIØ

75.00 PCT 80.00 PCT 85.00 PCT 90.00 PCT 95.00 PCT
--------- --------- --------- --------- ---------

RENTAL RATES
ANNUAL S/SQ FT

S	4.80	-393.	-355.	-330.	-305.	-267.
S	5.40	-94.	-44.	-11.	22.	72.
S	6.00	205.	267.	308.	349.	411.
S	6.60	505.	578.	627.	677.	750.
S	7.20	804.	890.	947.	1004.	1089.

BREAKEVEN RENTAL RATES

BUILDING EFFICIENCY (PCT ØF GRØSS)

75.00 PCT 78.00 PCT 80.00 PCT 82.00 PCT 85.00 PCT
LØAN TØ CØST RATIØ

75.00 PCT 80.00 PCT 85.00 PCT 90.00 PCT 95.00 PCT
--------- --------- --------- --------- ---------

RENTAL RATES
ANNUAL S/SQ FT

5.59   5.49   5.42   5.36   5.27

PRØ FØRMA CASH FLØW TABLE

SENSITIVITY APT. DEMØ

U. W. REAL ESTATE DEPT.

FIXED PARAMETERS

SITE   :   2000. SQUARE FEET   DATE   2-14-1977
BUILDING   :   700. SQUARE FEET   BLDG   1
EFFICIENCY: 85.00 PCT(595. SQ FT)
FINANCING   :   30. YEARS 9.000 PCT
VACANCY   :   5.00 PCT ØF LEASEABLE
ØTR INCØME: S   174. ANNUALLY   RUN   1
EXPENSES   :   S 2.76 PER SQ FT
LAND LEASE: S 100.

ANNUAL CASH FLØWS

LØAN TØ CØST RATIØ

	75.00 PCT	80.00 PCT	85.00 PCT	90.00 PCT	95.00 PCT
RENTAL RATES ANNUAL S/SQ FT					
S 4.80	-267.	-361.	-455.	-550.	-644.
S 5.40	72.	-22.	-116.	-210.	-305.
S 6.00	411.	317.	223.	129.	35.
S 6.60	750.	656.	562.	468.	374.
S 7.20	1089.	995.	901.	807.	713.

BREAKEVEN RENTAL RATES

LØAN TØ CØST RATIØ

	75.00 PCT	80.00 PCT	85.00 PCT	90.00 PCT	95.00 PCT
RENTAL RATES ANNUAL S/SQ FT					
	5.27	5.44	5.61	5.77	5.94

PRO FORMA CASH FLOW TABLE

SENSITIVITY APT. DEMO

U. W. REAL ESTATE DEPT.

FIXED PARAMETERS

SITE :	2000. SQUARE FEET	DATE 2-14-1977
BUILDING :	700. SQUARE FEET	BLDG 1
EFFICIENCY:	85.00 PCT(595. SQ FT)	
LOAN RATIO:	75.00 PCT OF S 19500.	
LOAN :	S 14625.	
EQUITY :	S 4875.	
FINANCING :	30. YEARS 9.000 PCT	
REVENUE :	S 6.00 PER SQ FT	
OTR INCOME:	S 174. ANNUALLY	RUN 1
LAND LEASE:	S 100.	

ANNUAL CASH FLOWS

ANNUAL EXPENSE RATES PER SQ FT

	S 2.40	S 2.64	S 2.76	S 3.00	S 3.36
VACANCY RATES					
3.00 PCT	697.	554.	483.	340.	126.
4.00 PCT	661.	518.	447.	304.	90.
5.00 PCT	625.	483.	411.	268.	54.
7.00 PCT	554.	411.	340.	197.	-17.
10.00 PCT	447.	304.	233.	90.	-124.

BREAKEVEN RENTAL RATES

ANNUAL EXPENSE RATES PER SQ FT

	S 2.40	S 2.64	S 2.76	S 3.00	S 3.36
VACANCY RATES					
3.00 PCT	4.79	5.04	5.16	5.41	5.73
4.00 PCT	4.84	5.09	5.22	5.47	5.84
5.00 PCT	4.89	5.15	5.27	5.53	5.90
7.00 PCT	5.00	5.26	5.39	5.64	6.03
10.00 PCT	5.17	5.43	5.57	5.83	6.23

PRØ FØRMA CASH FLØW TABLE

SENSITIVITY APT. DEMØ

U. W. REAL ESTATE DEPT.

FIXED PARAMETERS

SITE	:	2000. SQUARE FEET	DATE 2-14-1977
BUILDING	:	700. SQUARE FEET	BLDG 1
EFFICIENCY:		85.00 PCT(595. SQ FT)	
LØAN RATIO:		75.00 PCT ØF S 19500.	
LØAN	:	S 14625.	
EQUITY	:	S 4875.	
REVENUE	:	S 6.00 PER SQ FT	
ØTR INCØME:		S 174. ANNUALLY	RUN 1
EXPENSES	:	S 2.76 PER SQ FT	
LAND LEASE:		S 100.	

ANNUAL CASH FLØWS

FINANCING PARAMETERS

S

T

VACANCY RATES	30. YEARS 9.00 PCT	30. YEARS R 9.25 PCT C	30. YEARS 9.50 PCT	30. YEARS 8.50 PCT	30. YEA 8.00 P
3.00 PCT	483.	451.	419.	545.	607.
4.00 PCT	447.	415.	383.	510.	571.
5.00 PCT	411.	380.	348.	474.	536.
7.00 PCT	340.	308.	276.	402.	464.
10.00 PCT	233.	201.	169.	295.	357.

BREAKEVEN RENTAL RATES

FINANCING PARAMETERS

S

T

VACANCY RATES	30. YEARS 9.00 PCT	30. YEARS R 9.25 PCT C	30. YEARS 9.50 PCT	30. YEARS 8.50 PCT	30. YEA 8.00 P
3.00 PCT	5.16	5.22	5.27	5.06	4.95
4.00 PCT	5.22	5.27	5.33	5.11	5.00
5.00 PCT	5.27	5.33	5.39	5.16	5.05
7.00 PCT	5.39	5.44	5.50	5.27	5.16
10.00 PCT	5.57	5.62	5.68	5.45	5.33

PRO FORMA CASH FLOW TABLE

SENSITIVITY APT. DEMO

U. W. REAL ESTATE DEPT.

SITE :	2000. SQUARE FEET	DATE 2-14-1977
BUILDING :	700. SQUARE FEET	BLDG 1
LOAN RATIO:	75.00 PCT OF S 19500.	
LOAN :	S 14625.	
EQUITY :	S 4875.	
FINANCING :	30. YEARS 9.000 PCT	
REVENUE :	S 6.00 PER SQ FT	
VACANCY :	5.00 PCT OF LEASEABLE	
OTR INCOME:	S 174. ANNUALLY	RUN 1
LAND LEASE:	S 100.	

ANNUAL CASH FLOWS

BUILDING EFFICIENCY (PCT OF GROSS)

75.00 PCT 78.00 PCT 80.00 PCT 82.00 PCT 85.00 PCT
LOAN TO COST RATIO

EXPENSE RATES ANNUAL S/SQ FT	75.00 PCT	80.00 PCT	85.00 PCT	90.00 PCT	95.00 PCT
S 2.40	394.	464.	510.	556.	625.
S 2.64	268.	333.	375.	418.	483.
S 2.76	205.	267.	308.	349.	411.
S 3.00	79.	136.	174.	212.	268.
S 3.36	-110.	-60.	-28.	5.	54.

BREAKEVEN RENTAL RATES

BUILDING EFFICIENCY (PCT OF GROSS)

75.00 PCT 78.00 PCT 80.00 PCT 82.00 PCT 85.00 PCT
LOAN TO COST RATIO

EXPENSE RATES ANNUAL S/SQ FT	75.00 PCT	80.00 PCT	85.00 PCT	90.00 PCT	95.00 PCT
S 2.40	5.21	5.11	5.04	4.98	4.89
S 2.64	5.46	5.36	5.29	5.23	5.15
S 2.76	5.59	5.49	5.42	5.36	5.27
S 3.00	5.84	5.74	5.67	5.61	5.53
S 3.36	6.22	6.12	6.05	5.99	5.90

PRO FORMA CASH FLOW TABLE

SENSITIVITY APT. DEMO

U. W. REAL ESTATE DEPT.

FIXED PARAMETERS

SITE :	2000. SQUARE FEET	DATE 2-14-1977
BUILDING :	700. SQUARE FEET	BLDG 1
LOAN RATIO:	75.00 PCT OF S 19500.	
LOAN :	S 14625.	
EQUITY :	S 4875.	
REVENUE :	S 6.00 PER SQ FT	
VACANCY :	5.00 PCT OF LEASEABLE	
OTR INCOME:	S 174. ANNUALLY	RUN 1
EXPENSES :	S 2.76 PER SQ FT	
LAND LEASE:	S 100.	

ANNUAL CASH FLOWS

BUILDING EFFICIENCY (PCT OF GROSS)

75.00 PCT 78.00 PCT 80.00 PCT 82.00 PCT 85.00 PCT
LOAN TO COST RATIO

75.00 PCT 80.00 PCT 85.00 PCT 90.00 PCT 95.00 PCT

FINANCING

30.YR 9.00PCT	205.	267.	308.	349.	411.
30.YR 9.25PCT	174.	235.	277.	318.	380.
30.YR 9.50PCT	142.	204.	245.	286.	348.
30.YR 8.50PCT	268.	330.	371.	412.	474.
30.YR 8.00PCT	330.	391.	433.	474.	536.

BREAKEVEN RENTAL RATES

BUILDING EFFICIENCY (PCT OF GROSS)

75.00 PCT 78.00 PCT 80.00 PCT 82.00 PCT 85.00 PCT
LOAN TO COST RATIO

75.00 PCT 80.00 PCT 85.00 PCT 90.00 PCT 95.00 PCT

FINANCING

30.YR 9.00 PCT	5.59	5.49	5.42	5.36	5.27
30.YR 9.25 PCT	5.65	5.55	5.48	5.42	5.33
30.YR 9.50 PCT	5.72	5.61	5.54	5.48	5.39
30.YR 8.50 PCT	5.46	5.36	5.30	5.24	5.16
30.YR 8.00 PCT	5.34	5.25	5.19	5.13	5.05

PRØ FØRMA CASH FLØW TABLE

SENSITIVITY APT. DEMØ

U. W. REAL ESTATE DEPT.

FIXED PARAMETERS

SITE :	2000. SQUARE FEET	DATE	2-14-1977
BUILDING :	700. SQUARE FEET	BLDG	1
EFFICIENCY:	85.00 PCT(595. SQ FT)		
LØAN RATIØ:	75.00 PCT ØF S 19500.		
LØAN :	S 14625.		
EQUITY :	S 4875.		
FINANCING :	30. YEARS 9.000 PCT		
VACANCY :	5.00 PCT ØF LEASEABLE		
ØTR INCØME:	S 174. ANNUALLY	RUN	1
EXPENSES :	S 2.76 PER SQ FT		

ANNUAL CASH FLØWS

LAND LEASE CØST

RENTAL RATES ANNUAL S/SQ FT	S 100.	S 150.	S 200.	S 250.	S 300.
S 4.80	-267.	-317.	-367.	-417.	-467.
S 5.40	72.	22.	-28.	-78.	-128.
S 6.00	411.	361.	311.	261.	211.
S 6.60	750.	700.	650.	600.	550.
S 7.20	1089.	1039.	989.	939.	889.

BREAKEVEN RENTAL RATES

LAND LEASE CØST

RENTAL RATES ANNUAL S/SQ FT	S 100.	S 150.	S 200.	S 250.	S 300.
	5.27	5.36	5.45	5.54	5.63

PRO FORMA CASH FLOW TABLE

SENSITIVITY APT. DEMO

U. W. REAL ESTATE DEPT.

SITE   :   2000. SQUARE FEET   DATE   2-14-1977
BUILDING   :   700. SQUARE FEET   BLDG   1
EFFICIENCY: 85.00 PCT(595. SQ FT)
LOAN RATIO: 75.00 PCT OF S   19500.
LOAN   : S   14625.
EQUITY   : S   4875.
FINANCING : 30. YEARS 9.000 PCT
REVENUE   : S 6.00 PER SQ FT
VACANCY   :   5.00 PCT OF LEASEABLE
OTR INCOME: S   174. ANNUALLY   RUN   1

ANNUAL CASH FLOWS

LAND LEASE COST

EXPENSE RATES ANNUAL S/SQ FT	S 100.	S 150.	S 200.	S 250.	S 300.
S 2.40	625.	575.	525.	475.	425.
S 2.64	483.	433.	383.	333.	283.
S 2.76	411.	361.	311.	261.	211.
S 3.00	268.	218.	168.	118.	68.
S 3.36	54.	4.	-46.	-96.	-146.

BREAKEVEN RENTAL RATES

LAND LEASE COST

EXPENSE RATES ANNUAL S/SQ FT	S 100.	S 150.	S 200.	S 250.	S 300.
S 2.40	4.89	4.98	5.07	5.16	5.25
S 2.64	5.15	5.23	5.32	5.41	5.50
S 2.76	5.27	5.36	5.45	5.54	5.63
S 3.00	5.53	5.61	5.70	5.79	5.88
S 3.36	5.90	5.99	6.08	6.17	6.26

SENSITIVITY TABLE

SENSITIVITY APT. DEMØ

U. W. REAL ESTATE DEPT.

SITE   :   2000. SQUARE FEET   DATE   2-14-1977
BUILDING   :   700. SQUARE FEET   BLDG   1
EFFICIENCY: 85.00 PCT ØF GRØSS
LØAN RATIØ: 75.00 PCT ØF S   19500.
EQUITY   :   S   4875.
FINANCING :   30. YEARS 9.000 PCT
REVENUE   :   S 6.00 PER SQ FT
VACANCY   :   5.00 PCT ØF LEASEABLE
PARK/ØTHER: S   174. ANNUALLY   RUN   1
EXPENSES   :   S 2.76 PER SQ FT
LAND LEASE: S   100. ANNUALLY
CØNSTRUCTIØN AND LAND CØST   19500.

                EFFECT ØF SELECTED CHANGES IN PARAMETERS
                    PARAMETER CHANGE   INCREASE IN
                                               CASH FLØW

INCREASE BUILDING EFFICIENCY 1 PCT   21.
INCREASE RENTAL RATE S .10 PER SQ FT   57.
DECREASE VACANCY RATE 1PCT   36.
DECREASE ØPERATING RATE S .10 PER SQ FT   60.
DECREASE PERMANENT RATE .25PCT   31.
DECREASE PERMANENT LØAN TERM BY 1 YEAR   -10.
DECREASE PERMANENT LØAN TERM BY 5 YEARS   -61.
DECREASE THE LØAN RATIØ BY 5 PERCENT   94.
DECREASE LAND LEASE BY 10%   100.

                    EQUIVALENT EFFECT TØ YIELD
              A S 100. INCREASE IN ANNUAL CASH FLØW

        INCREASE BUILDING EFFICIENCY BY   4.86 PCT
        INCREASE RENT RATE BY   S 0.18 PER SQ FT
        DECREASE VACANCY BY   2.80 PCT
        DECREASE EXPENSE RATE BY   S 0.17 PER SQ FT
        DECREASE PERMANENT RATE BY   0.79 PCT
        INCREASE PERMANENT LØAN TERM BY   8.2 YEARS
        DECREASE LØAN RATIØ BY   5.3 PERCENT
        DECREASE LAND LEASE BY   S   100.

Exhibit 15

SYSTEMATIC ESTIMATION OF FORECAST ANNUAL INCOME FOR AN INCOME-PRODUCTING PROPERTY

PART I.   ANNUAL RETURNS TO INVESTOR

BASIC APPRAISAL A LA SRA 201

A.   ESTIMATE POTENTIAL GROSS CASH INCOME: CASH INCOME FROM SPACE SALES

B.   DEDUCTIONS FROM POTENTIAL GROSS
1.   NORMAL VACANCY
2.   SEASONAL INCOME LOSS
3.   COLLECTION   LOSSES
4.   FRANCHISE FEES, DEPOSITS RETURNED, ETC.

C.   ADD "OTHER" INCOME FROM SERVICE SALES

D.   DERIVE EFFECTIVE GROSS INCOME

E.   DEDUCT OPERATING EXPENSES (ON EXPECTED CASH OUTLAY WITH-OUT ACCRUAL RESERVES)
1.   FIXED EXPENSES
2.   VARIABLE EXPENSES
3.   REPAIRS AND MAINTENANCE
4.   REPLACEMENTS

F.   DERIVE NET OPERATING INCOME

MORTGAGE EQUITY APPROACH

G.   DEDUCT ANNUAL DEBT SERVICE
1.   CONTRACT INTEREST
2.   SUPPLEMENTARY VARIABLE INTEREST
3.   PRINCIPAL AMORTIZATION

H.   DERIVE CASH THROW--OFF

PART I OF IMV INVESTMENT VALUE APPROACH

I.   ADD BACK PRINCIPAL PAYMENTS AND REPLACEMENTS

J.   DEDUCT TAX DEPRECIATION ALLOWANCE

K.   DERIVE TAXABLE INCOME

L.   DETERMINE MARGINAL INCOME TAX ON REAL ESTATE INCOME

M.   DEDUCT INCOME TAX FROM CASH-THROW OFF (H)

N.   DERIVE AFTER-TAX CASH FLOW

O.   ADD TAX SAVINGS ON OTHER INCOME (IF K IS NEGATIVE)

P.   ADD SURPLUS FROM REFINANCING

Q.   DERIVE SPENDABLE AFTER-TAX CASH

PART II.   RESALE RETURNS TO INVESTOR   (OVER)

J. Graaskamp

PART II.   RESALE RETURNS TO INVESTOR

     A.   ESTIMATED RESALE PRICE

     B.   DEDUCT BROKER'S COMMISSION AND OTHER TRANSACTION COSTS

     C.   DERIVE EFFECTIVE GROSS PROCEEDS FROM SALE

     .D.   DEDUCT ALL CREDIT CLAIMS
         1.   SHORT AND LONG TERM NOTE BALANCES DUE
         2.   PREPAYMENT PENALTIES
         3.   DEDUCT EQUITY SHARES TO NON-OWNER INTEREST

     E.   DERIVE PRE-TAX REVERSION TO EQUITY

     F.   DEDUCT TAX CLAIMS ON OWNERSHIP INTEREST
         1.   DEDUCT CAPITAL GAINS TAX
         2.   DEDUCT INCOME TAX ON DISALLOWED ACCELERATED
            DEPRECIATION
         3.   DEDUCT SURTAX ON TAXABLE PREFERENTIAL INCOME

     G.   DERIVE AFTER TAX RESALE PROCEEDS TO INVESTOR

Exhibit 16

I. Elements of After Tax Synthesis

    A. Identification of profit center trade level

    B. Specification of the time line for outlays and receipts

    C. The capital budget (source & application)
       1. Construction costs
       2. Carrying costs

    D. Operating budgets (source & application)
       1. Pattern of sales revenues
       2. Fixed management costs
       3. General sales costs and investment

    E. Financing plan
       1. Credit amounts and terms
       2. Equity amounts and terms
       3. Holding power

    F. Profits classified as to type and tax
       1. Cash from operations
       2. Cash from capital gains
       3. Cash surplus from financing
       4. Cash from tax savings on other income
       5. Cash from reduction or shift of fixed outlays
       6. Indirect non-cash benefits

    G. Selected measures of profitability
       1. Measures of spendable cash
       2. Measures of change in net worth without sale
       3. Measures of change in net worth after sale

RUN MACAM
ENTER INPUT FILE NAME
YC4BAS.DAT

R E P O R T   S E C T I O N   N U M B E R   8   PAGE 1
===

MORTGAGE AMORTIZATION SCHEDULE FOR PERMANENT MORTGAGE

MORTGAGE AMOUNT	1275000.	TERM	28
INTEREST RATE	0.0962	MORTGAGE FACTOR	0.10410039
PERIOD PAYMENT	132728.00	PAYMENTS PER YEAR	1
BONUS INTEREST	0.0000	TYPE 0 GREATER THAN	0.

YR	ANNUAL PAYMENT	INTEREST PAYMENT	PRINCIPAL PAYMENT	BALANCE	BONUS INT PAYMENT
1	132728.	122719.	10009.	1264991.	0.
2	132728.	121755.	10973.	1254018.	0.
3	132728.	120699.	12029.	1241989.	0.
4	132728.	119541.	13187.	1228803.	0.
5	132728.	118272.	14456.	1214347.	0.
6	132728.	116881.	15847.	1198500.	0.
7	132728.	115356.	17372.	1181128.	0.
8	132728.	113684.	19044.	1162083.	0.
9	132728.	111851.	20878.	1141206.	0.
10	132728.	109841.	22887.	1118319.	0.

P R O   F O R M A

INVESTMENT ANALYSIS OF

CASE 4 - BASIC ANALY

FOR

ORVIL P. ANDERSON

```
* GROSS RENT      $ 220893.   * RATE OF GROWTH OF GROSS RENT   0.0000
* EXPENSES        $  19457.   * RATE OF GROWTH OF EXPENSES     0.0000
* R E TAXES       $  24097.   * RATE OF GROWTH OF R E TAXES    0.0000
  INCOME TAX RATE    0.3500     PROJECT VALUE GROWTH OF          6.0000
* VACANCY RATE       0.0378     WORKING CAPITAL LOAN RATE        0.1500
  EQUITY DISCOUNT    0.1200     EXTRAORDINARY EXPENSES     $       0.
  RESALE COST        0.0600     REINVESTMENT RATE                0.0600
  WKG CAPITAL RS $      0.      CAPITAL RESER INTEREST RATE      0.0600
  INITIAL COST  $ 1750000.      INITIAL EQUITY REQUIRED    $  475000.

  ALL '*' VALUES ARE AVERAGE AMOUNTS FOR HOLDING PERIOD. OF 10 YRS.
```

P R O   F O R M A

INVESTMENT ANALYSIS OF

CASE 4 - BASIC ANALY

FOR

ORVIL P. ANDERSON

C O M P O N E N T   S U M M A R Y

TITLE	PCT. DEPR	BEGIN USE	USEFUL LIFE	DEPR METHOD	COST	SCH
LAND	0.00	1	0.	0	$ 332400.	0
IMPROVEMENTS	0.95	1	30.	2	$ 1417600.	0

M O R T G A G E   S U M M A R Y

TITLE	INTR RATE	BEGIN YR.	END YR.	TERM	ORIG BALC	PCT VALUE
PERMANENT MORTGAGE	0.0962	1	27	28	$ 1275000.	0.729

P R O   F O R M A

INVESTMENT ANALYSIS OF

CASE 4 - BASIC ANALY

FOR

ORVIL P. ANDERSON

CASH FLOW ANALYSIS
==================   1976   1977   1978   1979
  1 GROSS RENT   220893.   220893.   220893.   220893.
  2   LESS VACANCY   8339.   8339.   8339.   8339.
  3   LESS REAL ESTATE TAXES   24097.   24097.   24097.   24097.
  4   LESS EXPENSES   19457.   19457.   19457.   19457.
  5 NET INCOME   169000.   169000.   169000.   169000.
  6   LESS DEPRECIATION   44891.   44891.   44891.   44891.
  7   LESS INTEREST   122719.   121755.   120699.   119541.
  8 TAXABLE INCOME   1391.   2354.   3410.   4568.
  9   PLUS DEPRECIATION   44891.   44891.   44891.   44891.
 10   LESS PRINCIPAL PAYMENTS   10009.   10973.   12029.   13187.
 11 CASH THROW-OFF   36272.   36272.   36272.   36272.
 12   LESS TAXES   487.   824.   1194.   1599.
 13   LESS RESERVES AT 3000.000   3000.   3000.   3000.   3000.
 14 CASH FROM OPERATIONS   32785.   32448.   32078.   31673.
 15 WORKING CAPITAL LOAN(CUM B)   0.   0.   0.   0.
 16 DISTRIBUTABLE CASH AFR TAX   32785.   32448.   32078.   31673.
 17 TAX SAVING ON OTHER INCOME   0.   0.   0.   0.
 18 SPENDABLE CASH AFTER TAXES   32785.   32448.   32078.   31673.

P R O   F O R M A

INVESTMENT ANALYSIS OF

CASE 4 - BASIC ANALY

FOR

ORVIL P. ANDERSON

CASH FLOW ANALYSIS
==================   1976   1977   1978   1979
MARKET VALUE
19 BY METHOD - 6 - AT 0.0150   1776250.   1802894.   1829937.   1857386.
20 LESS RESALE COST   106575.   108174.   109796.   111443.
21 LESS LOAN BALANCES   1264991.   1254018.   1241989.   1228303.
22 PLUS CUM. CASH RESERVES   3000.   6180.   9551.   13124.

23 B/4 TAX NET WORTH   407684.   446882.   487702.   530264.

24 CAPITAL GAIN (IF SOLD)   -35434.   34502.   104813.   175506.
25   CAPITAL GAINS TAX   -6201.   6038.   18342.   30713.
26   TAX PREFERENCE TAX   0.   1088.   6361.   11663.
27   INCOME TAX ON EXCESS DEP   0.   0.   0.   0.
28   TOTAL TAX ON SALE   -2170.   7125.   24703.   42376.

29 AFTER TAX NET WORTH   409855.   439757.   462999.   487888.

                        P R O   F O R M A

                   INVESTMENT ANALYSIS OF

                     CASE 4 - BASIC ANALY

                            FOR

                   ORVIL P. ANDERSON

.

YEAR OF ANALYSIS
==================   1976   1977   1978   1979

MODIFIED INTERNAL RATE OF RETURN ANALYSIS
===

RETURN ANALYSIS WITHOUT SALE
============================

		1976	1977	1978	1979
41	CUM. AFT TAX SPENDABLE CASH	32785.	67201.	103311.	141183.
44	MOD. I.R.R. ON ORIG EQUITY	-0.9310	-0.6239	-0.3986	-0.2616
45	MOD. I.R.R. ON CUM. EQUITY	-0.9310	-0.6239	-0.3986	-0.2616

RETURN ANALYSIS WITH SALE
=========================

		1976	1977	1978	1979
46	CUM. CASH LESS ORIG EQUITY	-34530.	31957.	91310.	154071.
47	CUM. CASH LESS CUM. EQUITY	-34530.	31957.	91310.	154071.
48	MOD I.R.R. ON ORIG EQUITY	-0.0727	0.0331	0.0604	0.0728
49	MOD I.R.R. ON CUM. EQUITY	-0.0727	0.0331	0.0604	0.0728

P R O   F O R M A

INVESTMENT ANALYSIS OF

CASE 4 - BASIC ANALY

FOR

ORVIL F. ANDERSON

CASH FLOW ANALYSIS
====================

		1980	1981	1982	1983
1	GROSS RENT	220893.	220893.	220893.	220893.
2	LESS VACANCY	8339.	8339.	8339.	8339.
3	LESS REAL ESTATE TAXES	24097.	24097.	24097.	24097.
4	LESS EXPENSES	19457.	19457.	19457.	19457.
5	NET INCOME	169000.	169000.	169000.	169000.
6	LESS DEPRECIATION	44891.	44891.	44891.	44891.
7	LESS INTEREST	118272.	116881.	115356.	113684.
8	TAXABLE INCOME	5837.	7228.	8754.	10426.
9	PLUS DEPRECIATION	44891.	44891.	44891.	44891.
10	LESS PRINCIPAL PAYMENTS	14456.	15847.	17372.	19044.
11	CASH THROW-OFF	36272.	36272.	36272.	36272.
12	LESS TAXES	2043.	2530.	3064.	3649.
13	LESS RESERVES AT 3000.000	3000.	3000.	3000.	3000.
14	CASH FROM OPERATIONS	31229.	30742.	30208.	29623.
15	WORKING CAPITAL LOAN(CUM B)	0.	0.	0.	0.
16	DISTRIBUTABLE CASH AFR TAX	31229.	30742.	30208.	29623.
17	TAX SAVING ON OTHER INCOME	0.	0.	0.	0.
18	SPENDABLE CASH AFTER TAXES	31229.	30742.	30208.	29623.

P R O   F O R M A

INVESTMENT ANALYSIS OF

CASE 4 - BASIC ANALY

FOR

ORVIL F. ANDERSON

CASH FLOW ANALYSIS

======================	1980	1981	1982	1983
MARKET VALUE				
19 BY METHOD - 6 - AT 0.0150	1885247.	1913526.	1942229.	1971362.
20 LESS RESALE COST	113115.	114812.	116534.	118282.
21 LESS LOAN BALANCES	1214347.	1198500.	1181128.	1162083.
22 PLUS CUM. CASH RESERVES	16911.	20926.	25182.	29692.
23 B/4 TAX NET WORTH	574696.	621140.	669749.	720689.
24 CAPITAL GAIN (IF SOLD)	246586.	318058.	389929.	462205.
25 CAPITAL GAINS TAX	43152.	55660.	68238.	80886.
26 TAX PREFERENCE TAX	16994.	22354.	27745.	33165.
27 INCOME TAX ON EXCESS DEP	0.	0.	0.	0.
28 TOTAL TAX ON SALE	60146.	78015.	95982.	114051.
29 AFTER TAX NET WORTH	514550.	543126.	573766.	606638.

P R O   F O R M A

INVESTMENT ANALYSIS OF

CASE 4 - BASIC ANALY

FOR

ORVIL P. ANDERSON

YEAR OF ANALYSIS
===================   1980   1981   1982   1983

MODIFIED INTERNAL RATE OF RETURN ANALYSIS
===

RETURN ANALYSIS WITHOUT SALE
============================

		1980	1981	1982	1983
41	CUM. AFT TAX SPENDABLE CASH	180883.	222478.	266035.	311620.
44	MOD. I.R.R. ON ORIG EQUITY	-0.1756	-0.1188	-0.0795	-0.0513
45	MOD. I.R.R. ON CUM. EQUITY	-0.1756	-0.1188	-0.0795	-0.0513

RETURN ANALYSIS WITH SALE
=========================

		1980	1981	1982	1983
46	CUM. CASH LESS ORIG EQUITY	220433.	290604.	364801.	443258.
47	CUM. CASH LESS CUM. EQUITY	220433.	290604.	364801.	443258.
48	MOD I.R.R. ON ORIG EQUITY	0.0792	0.0828	0.0848	0.0859
49	MOD I.R.R. ON CUM. EQUITY	0.0792	0.0828	0.0848	0.0859

P R O   F O R M A

INVESTMENT ANALYSIS OF

CASE 4 - BASIC ANALY

FOR

ORVIL P. ANDERSON

CASH FLOW ANALYSIS
==================   1984   1985   1985   1978
  1 GROSS RENT   220893.   220893.   220893.   220893.
  2   LESS VACANCY   8339.   8339.   8339.   8339.
  3   LESS REAL ESTATE TAXES   24097.   24097.   24097.   24097.
  4   LESS EXPENSES   .   19457.   19457.   19457.   19457.
  5 NET INCOME   169000.   169000.   169000.   169000.
  6   LESS DEPRECIATION   44891.   44891.   44891.   44891.
  7   LESS INTEREST   111851.   109841.   109841.   120699.
  8 TAXABLE INCOME   12259.   14268.   14268.   3410.
  9   PLUS DEPRECIATION   44891.   44891.   44891.   44891.
 10   LESS PRINCIPAL PAYMENTS   20878.   22887.   22887.   12029.
 11 CASH THROW-OFF   36272.   36272.   36272.   36272.
 12   LESS TAXES   4291.   4994.   4994.   1194.
 13   LESS RESERVES AT 3000.000   3000.   3000.   3000.   3000.
 14 CASH FROM OPERATIONS   28981.   28278.   28278.   32078.
 15 WORKING CAPITAL LOAN(CUM B)   0.   0.   0.   0.
 16 DISTRIBUTABLE CASH AFR TAX   28981.   28278.   28278.   32078.
 17 TAX SAVING ON OTHER INCOME   0.   0.   0.   0.
 18 SPENDABLE CASH AFTER TAXES   28981.   28278.   28278.   32078.

P R O   F O R M A

INVESTMENT ANALYSIS OF

CASE 4 - BASIC ANALY

FOR

ORVIL P. ANDERSON

CASH FLOW ANALYSIS
==================   1984   1985   1985   1978
MARKET VALUE
19 BY METHOD - 6 - AT 0.0150   2000932. 2030946. 2030946. 1829937.
20 LESS RESALE COST   120056.   121857.   121857.   109796.
21 LESS LOAN BALANCES   1141206. 1118319. 1118319. 1241989.
22 PLUS CUM. CASH RESERVES   34474.   39542.   39542.   9551.

23 B/4 TAX NET WORTH   774145.   830313.   830313.   487702.

24 CAPITAL GAIN (IF SOLD)   534892.   607996.   607996.   104813.
25   CAPITAL GAINS TAX   93606.   106399.   106399.   18342.
26   TAX PREFERENCE TAX   38617.   44100.   44100.   6361.
27   INCOME TAX ON EXCESS DEP   0.   0.   0.   0.
28   TOTAL TAX ON SALE   132223.   150499.   150499.   24703.

29 AFTER TAX NET WORTH   641922.   679814.   679814.   462999.

P R O   F O R M A

INVESTMENT ANALYSIS OF

CASE 4 - BASIC ANALY

FOR

ORVIL P. ANDERSON

YEAR OF ANALYSIS
================   1984   1985   1985   1978

MODIFIED INTERNAL RATE OF RETURN ANALYSIS
===

RETURN ANALYSIS WITHOUT SALE
============================

		1984	1985	1985	1978
41	CUM. AFT TAX SPENDABLE CASH	359298.	409134.	409134.	103311.
44	MOD. I.R.R. ON ORIG EQUITY	-0.0305	-0.0148	-0.0148	-0.3986
45	MOD. I.R.R. ON CUM. EQUITY	-0.0305	-0.0148	-0.0148	-0.3986

RETURN ANALYSIS WITH SALE
=========================

		1984	1985	1985	1978
46	CUM. CASH LESS ORIG EQUITY	526220.	613949.	613949.	91310.
47	CUM. CASH LESS CUM. EQUITY	526220.	613949.	613949.	91310.
48	MOD I.R.R. ON ORIG EQUITY	0.0864	0.0865	0.0865	0.0604
49	MOD I.R.R. ON CUM. EQUITY	0.0864	0.0865	0.0865	0.0604

STOP --

Ready

R E P O R T   S E C T I O N   N U M B E R   9   PAGE 1
==

DEPRECIATION SCHEDULE FOR SHELL

INITIAL COST   644385.
DEPRECIATION METHOD   4   PERCENT DEPRECIABLE 0.900
USEFUL LIFE   30.   BEGINNING YEAR   1

	ANNUAL	CUMULATIVE	CUMULATIVE	
YR	DEP.	STR. LINE	ACCELERATED	EXCESS
1	32219.	19332.	32219.	12888.
2	30608.	38663.	62828.	24164.
3	29078.	57995.	91905.	33711.
4	27624.	77326.	119529.	42203.
5	26243.	96658.	145772.	49114.
6	24931.	115989.	170703.	54714.
7	23684.	135321.	194387.	59066.
8	22500.	154652.	216887.	62234.
9	21375.	173984.	238262.	64278.
10	20306.	193316.	258568.	65252.

DEPRECIATION SCHEDULE FOR ELECT

INITIAL COST   267992.
DEPRECIATION METHOD   4   PERCENT DEPRECIABLE 0.950
USEFUL LIFE   8.   BEGINNING YEAR   1

	ANNUAL	CUMULATIVE	CUMULATIVE	
YR	DEP.	STR. LINE	ACCELERATED	EXCESS
1	50249.	31824.	50249.	18424.
2	40827.	63648.	91075.	27427.
3	33172.	95472.	124247.	28775.
4	26952.	127296.	151199.	23903.
5	25848.	159120.	177048.	17927.
6	25848.	190944.	202896.	11952.
7	25848.	222768.	228744.	5976.
8	25848.	254592.	254592.	0.
9	0.	0.	0.	0.
10	0.	0.	0.	0.

DEPRECIATION SCHEDULE FOR HEAT & AIR COND.

INITIAL COST   286394.
DEPRECIATION METHOD   4   PERCENT DEPRECIABLE 0.950
USEFUL LIFE   15.   BEGINNING YEAR   1

	ANNUAL	CUMULATIVE	CUMULATIVE	
YR	DEP.	STR. LINE	ACCELERATED	EXCESS
1	28639.	18138.	28639.	10501.
2	25775.	36277.	54415.	18138.
3	23198.	54415.	77613.	23198.
4	20878.	72553.	98491.	25938.
5	18790.	90691.	117281.	26590.
6	16911.	108830.	134193.	25363.
7	15320.	126968.	149513.	22545.
8	15320.	145106.	164833.	19727.
9	15320.	163245.	180153.	16909.
10	15320.	181383.	195473.	14090.

DEPRECIATION SCHEDULE FOR CEILING & FLOOR

INITIAL COST   103818.
DEPRECIATION METHOD   4   PERCENT DEPRECIABLE 0.950
USEFUL LIFE   10.   BEGINNING YEAR   1

	ANNUAL	CUMULATIVE	CUMULATIVE	
YR	DEP.	STR. LINE	ACCELERATED	EXCESS
1	15573.	9863.	15573.	5710.
2	13237.	19725.	28809.	9084.
3	11251.	29588.	40061.	10473.
4	9564.	39451.	49624.	10174.
5	8167.	49314.	57791.	8478.
6	8167.	59176.	65959.	6782.
7	8167.	69039.	74126.	5087.
8	8167.	78902.	82293.	3391.
9	8167.	88764.	90460.	1696.
10	8167.	98627.	98627.	0.

DEPRECIATION SCHEDULE FOR PAVING

INITIAL COST   90000.
DEPRECIATION METHOD   4   PERCENT DEPRECIABLE 0.850
USEFUL LIFE   10.   BEGINNING YEAR   1

	ANNUAL	CUMULATIVE	CUMULATIVE	
YR	DEP.	STR. LINE	ACCELERATED	EXCESS
1	13500.	7650.	13500.	5850.
2	11475.	15300.	24975.	9675.
3	9754.	22950.	34729.	11779.
4	8291.	30600.	43019.	12419.
5	7047.	38250.	50067.	11817.
6	5990.	45900.	56057.	10157.
7	5111.	53550.	61167.	7617.
8	5111.	61200.	66278.	5078.
9	5111.	68850.	71389.	2539.
10	5111.	76500.	76500.	0.

DEPRECIATION SCHEDULE FOR ROOF

INITIAL COST   14319.
DEPRECIATION METHOD   4   PERCENT DEPRECIABLE 1.000
USEFUL LIFE   15.   BEGINNING YEAR   1

	ANNUAL	CUMULATIVE	CUMULATIVE	
YR	DEP.	STR. LINE	ACCELERATED	EXCESS
1	1432.	955.	1432.	477.
2	1289.	1909.	2721.	811.
3	1160.	2864.	3880.	1017.
4	1044.	3818.	4924.	1106.
5	939.	4773.	5864.	1091.
6	846.	5728.	6709.	982.
7	846.	6682.	7555.	873.
8	846.	7637.	8400.	764.
9	846.	8591.	9246.	654.
10	846.	9546.	10091.	545.

DEPRECIATION SCHEDULE FOR FENCE & SIGNS

INITIAL COST   14319.
DEPRECIATION METHOD   4   PERCENT DEPRECIABLE 0.900
USEFUL LIFE   15.   BEGINNING YEAR   1

	ANNUAL	CUMULATIVE	CUMULATIVE	
YR	DEP.	STR. LINE	ACCELERATED	EXCESS
1	1432.	859.	1432.	573.
2	1289.	1718.	2721.	1002.
3	1160.	2577.	3880.	1303.
4	1044.	3437.	4924.	1498.
5	939.	4296.	5864.	1568.
6	846.	5155.	6709.	1554.
7	761.	6014.	7470.	1456.
8	685.	6873.	8155.	1282.
9	676.	7732.	8831.	1099.
10	676.	8591.	9507.	916.

DEPRECIATION SCHEDULE FOR PARKING LOT LIGHTING

INITIAL COST   10740.
DEPRECIATION METHOD   4   PERCENT DEPRECIABLE 0.900
USEFUL LIFE   15.   BEGINNING YEAR   1

	ANNUAL	CUMULATIVE	CUMULATIVE	
YR	DEP.	STR. LINE	ACCELERATED	EXCESS
1	1074.	644.	1074.	430.
2	967.	1289.	2041.	752.
3	870.	1933.	2911.	977.
4	783.	2578.	3693.	1116.
5	705.	3222.	4398.	1176.
6	634.	3866.	5032.	1166.
7	571.	4511.	5603.	1092.
8	514.	5155.	6117.	962.
9	507.	5800.	6624.	824.
10	507.	6444.	7131.	687.

MORTGAGE AMORTIZATION SCHEDULE FOR PERMANENT MORTGAGE

MORTGAGE AMOUNT	1275000.	TERM		28
INTEREST RATE	0.0962	MORTGAGE FACTOR		0.10410039
PERIOD PAYMENT	132728.00	PAYMENTS PER YEAR		1
BONUS INTEREST	0.0000	TYPE 0 GREATER THAN		0.

YR	ANNUAL PAYMENT	INTEREST PAYMENT	PRINCIPAL PAYMENT	BALANCE	BONUS INT PAYMENT
1	132728.	122719.	10009.	1264991.	0.
2	132728.	121755.	10973.	1254018.	0.
3	132728.	120699.	12029.	1241989.	0.
4	132728.	119541.	13187.	1228803.	0.
5	132728.	118272.	14456.	1214347.	0.
6	132728.	116881.	15847.	1198500.	0.
7	132728.	115356.	17372.	1181128.	0.
8	132728.	113684.	19044.	1162083.	0.
9	132728.	111851.	20878.	1141206.	0.
10	132728.	109841.	22887.	1118319.	0.

P R O   F O R M A

INVESTMENT ANALYSIS OF

CASE STUDY 4

FOR

ORVIL P ANDERSON

* GROSS RENT $ 220893.   * RATE OF GROWTH OF GROSS RENT   0.0000
* EXPENSES $ 19457.   * RATE OF GROWTH OF EXPENSES   0.0000
* R E TAXES $ 24097.   * RATE OF GROWTH OF R E TAXES   0.0000
  INCOME TAX RATE   0.3500   PROJECT VALUE GROWTH OF   6.0000
* VACANCY RATE   0.0378   WORKING CAPITAL LOAN RATE   0.1500
  EQUITY DISCOUNT   0.1200   EXTRAORDINARY EXPENSES $ 0.
  RESALE COST   0.0600   REINVESTMENT RATE   0.0600
  WKG CAPITAL RS $ 0.   CAPITAL RESER INTEREST RATE   0.0600
  INITIAL COST $ 1764367.   INITIAL EQUITY REQUIRED $ 489367.

ALL '*' VALUES ARE AVERAGE AMOUNTS FOR HOLDING PERIOD. OF 10 YRS.

P R O   F O R M A

INVESTMENT ANALYSIS OF

CASE STUDY 4

FOR

ORVIL P ANDERSON

C O M P O N E N T   S U M M A R Y

TITLE	PCT. DEPR	BEGIN USE	USEFUL LIFE	DEPR METHOD		COST	SCH
LAND	0.00	1	0.	0	$	332400.	0
SHELL	0.90	1	30.	4	$	644385.	0
ELECT	0.95	1	8.	4	$	267992.	0
HEAT & AIR COND.	0.95	1	15.	4	$	286394.	0
CEILING & FLOOR	0.95	1	10.	4	$	103918.	0
PAVING	0.35	1	10.	4	$	90000.	0
ROOF	1.00	1	15.	4	$	14319.	0
FENCE & SIGNS	0.90	1	15.	4	$	14319.	0
PARKING LOT LIGHTING	0.90	1	15.	4	$	10740.	0

M O R T G A G E   S U M M A R Y

TITLE	INTR RATE	BEGIN YR.	END YR.	TERM		ORIG BALC	PCT VALUE
PERMANENT MORTGAGE	0.0962	1	28	28	$	1275000.	0.723

P R O   F O R M A

INVESTMENT ANALYSIS OF

CASE STUDY 4

FOR

ORVIL P ANDERSON

CASH FLOW ANALYSIS
====================

		1977	1979	1983	1986
1	GROSS RENT	220893.	220893.	220893.	220893.
2	LESS VACANCY	8339.	8339.	8339.	8339.
3	LESS REAL ESTATE TAXES	24097.	24097.	24097.	24097.
4	LESS EXPENSES	19457.	19457.	19457.	19457.
5	NET INCOME	169000.	169000.	169000.	169000.
6	LESS DEPRECIATION	144118.	109642.	80308.	50933.
7	LESS INTEREST	122719.	120699.	115356.	109841.
8	TAXABLE INCOME	-97836.	-61342.	-26663.	8226.
9	PLUS DEPRECIATION	144118.	109642.	80308.	50933.
10	LESS PRINCIPAL PAYMENTS	10009.	12029.	17372.	22887.
11	CASH THROW-OFF	36272.	36272.	36272.	36272.
12	LESS TAXES	6728.	1557.	0.	2879.
13	LESS RESERVES AT 3000.000	3000.	3000.	3000.	3000.
14	CASH FROM OPERATIONS	26544.	31715.	33272.	30393.
15	WORKING CAPITAL LOAN(CUM B)	0.	0.	0.	0.
16	DISTRIBUTABLE CASH AFR TAX	26544.	31715.	33272.	30393.
17	TAX SAVING ON OTHER INCOME	34243.	21470.	9332.	0.
18	SPENDABLE CASH AFTER TAXES	60787.	53185.	42604.	30393.

P R O   F O R M A

INVESTMENT ANALYSIS OF

CASE STUDY 4

FOR

ORVIL P ANDERSON

CASH FLOW ANALYSIS
================   1977   1979   1983   1986
MARKET VALUE
19   BY METHOD - 6 - AT 0.0150   1790833. 1844960. 1958174. 2047620.
20   LESS RESALE COST   107450.   110698.   117470.   122857.
21   LESS LOAN BALANCES   1264991. 1241989. 1181128. 1118319.
22   PLUS CUM. CASH RESERVES   3000.   9551.   25132.   39542.

(23) B/4 TAX NET WORTH   421392.   501824.   684737.   845986.

24   CAPITAL GAIN (IF SOLD)   8280.   237690.   701169.   989395.
25   CAPITAL GAINS TAX   1449.   41576.   122705.   173144.
26   TAX PREFERENCE TAX   621.   17927.   51741.   72351.
27   INCOME TAX ON EXCESS DEP   19199.   39001.   36299.   29522.
28   TOTAL TAX ON SALE   21269.   98424.   210744.   274517.

(29) AFTER TAX NET WORTH   400123.   403400.   473993.   571470.

P R O   F O R M A

INVESTMENT ANALYSIS OF

CASE STUDY 4

FOR

ORVIL P ANDERSON

YEAR OF ANALYSIS
==================   1977   1979   1983   1986

BEFORE TAX RATIO ANALYSIS
=========================
30   RETURN ON NET WORTH B/4 TAX   -0.0648   0.1678   0.1338   0.1174
31   CHANGE IN NET WORTH B/4 TAX   -67975.   41029.   48330.   56400.
32   CASH RTN ON ORIG CASH EQUIY   0.0741   0.0741   0.0741   0.0741
33   PERCENT ORIG EQUITY PAYBACK   0.0542   0.1790   0.4503   0.6447
34   PRESENT VALUE OF PROJECT   1683629. 1719308. 1750277. 1752330.

YEAR OF ANALYSIS
===================   1977   1979   1983   1986

AFTER TAX RATIO ANALYSIS
=========================
35 RETURN ON NEW WORTH AFT TAX   -0.0582   0.1465   0.1456   0.1269
36 CHANGE IN NET WORTH AFT TAX   -88623.   13790.   31583.   43648.
37 CASH RTN ON ORIG CASH EQUIY   0.1242   0.1087   0.0871   0.0621
38 PERCENT ORIG EQUITY PAYBACK   0.1242   0.3488   0.7227   0.9340
39 PRESENT VALUE OF PROJECT   1686527.   1699479.   1726324.   1733930.

40 NET INCOME-MARKET VALUE RTO   0.0944   0.0916   0.0863   0.0825
41 LENDER BONUS INTEREST RATE   0.0000   0.0000   0.0000   0.0000
42 DEFAULT RATIO   0.7980   0.7980   0.7980   0.7980

P R O   F O R M A

INVESTMENT ANALYSIS OF

CASE STUDY 4

FOR

ORVIL P ANDERSON

YEAR OF ANALYSIS
=====================   1977   1979   1983 ·   1986

MODIFIED INTERNAL RATE OF RETURN ANALYSIS
==

RETURN ANALYSIS WITHOUT SALE
============================

41 CUM. AFT TAX SPENDABLE CASH   60787.   181607.   430079.   622677.
44 MOD. I.R.R. ON ORIG EQUITY   -0.8758   -0.2814   -0.0183   0.0244
45 MOD. I.R.R. ON CUM. EQUITY   -0.8758   -0.2814   -0.0183   0.0244

RETURN ANALYSIS WITH SALE
=========================

46 CUM. CASH LESS ORIG EQUITY   -28457.   95641.   414705.   704780.
47 CUM. CASH LESS CUM. EQUITY   -28457.   95641.   414705.   704780.
48 MOD I.R.R. ON ORIG EQUITY   -0.0582   0.0613   0.0916   0.0933
49 MOD I.R.R. ON CUM. EQUITY   -0.0582   0.0613   0.0916   0.0933

STOP --

Ready

MRCAP

Input Forms

_____ 1,	Project Title		User Name	
_____ 10,	Starting Year	Data Sets	Classification	% Owned Yr. 1	Holding Period	Units/Year
_____ 20,	Back-Door	Back-Door Loans	Investment Default	B/4 Tax	Beginning Year	End Year
_____ 30,	Default Ratio	Cash-On-Cash	Year	% Change	Equity B/4 Tax	Reserve B/4 Tax
_____ 40,	Fixed Income	2	3	4	5
_____ 41,	6	7	8	9	10
_____ 42,	11	12	13	14	15
_____ 43,	16	17	18	19	20
_____ 44,	21	22	23	24	25
_____ 50,	Variable Income	2	3	4	5
_____ 51,	6	7	8	9	10
_____ 52,	11	12	13	14	15
_____ 53,	16	17	18	19	20
_____ 54,	21	22	23	24	25
_____ 60,	Vacancy Rate	2	3	4	5
_____ 61,	6	7	8	9	10
_____ 62,	11	12	13	14	15
_____ 63,	16	17	18	19	20
_____ 64,	21	22	23	24	25

_____	70,	_____ Real Estate Tax	,	_____ 2	,	_____ 3	,	_____ 4	, _____ 5
_____	71,	_____ 6	,	_____ 7	,	_____ 8	,	_____ 9	, _____ 10
_____	72,	_____ 11	,	_____ 12	,	_____ 13	,	_____ 14	, _____ 15
_____	73,	_____ 16	,	_____ 17	,	_____ 18	,	_____ 19	, _____ 20
_____	74,	_____ 21	,	_____ 22	,	_____ 23	,	_____ 24	, _____ 25
_____	80,	_____ Fixed Expenses	,	_____ 2	,	_____ 3	,	_____ 4	, _____ 5
_____	81,	_____ 6	,	_____ 7	,	_____ 8	,	_____ 9	, _____ 10
_____	82,	_____ 11	,	_____ 12	,	_____ 13	,	_____ 14	, _____ 15
_____	83,	_____ 16	,	_____ 17	,	_____ 18	,	_____ 19	, _____ 20
_____	84,	_____ 21	,	_____ 22	,	_____ 23	,	_____ 24	, _____ 25
_____	90,	_____ Variable Expenses	,	_____ 2	,	_____ 3	,	_____ 4	, _____ 5
_____	91,	_____ 6	,	_____ 7	,	_____ 8	,	_____ 9	, _____ 10
_____	92,	_____ 11	,	_____ 12	,	_____ 13	,	_____ 14	, _____ 15
_____	93,	_____ 16	,	_____ 17	,	_____ 18	,	_____ 19	, _____ 20
_____	94,	_____ 21	,	_____ 22	,	_____ 23	,	_____ 24	, _____ 25
_____	100,	_____ Discount Rate	,	_____ Income Tax Rate	,	_____ Reinvestment Rate			
_____	101,	_____ Extraordinary Exp.	,	_____ Project Growth Rate	,	_____ Project Growth Type			
_____	102,	_____ Working Capital Loan	,	_____ Ownership	,	_____ Resale Cost Rate	,	_____ Charge New Capital	
_____	103,	_____ Reserves Witheld	,	_____ Equity Reserves	,	_____ Equity Reserve Rate	,	_____ Reserve Maximum	

PARTNERSHIPS

110. 1. _____
          Title(20 character maximum)

111. 1. _____ , _____ , _____
          Income Tax   % of Spendable   % Equity Contribution

112. 1. _____ , _____ , _____ , _____
          % Equity Reserve   % Tax Loss   % Tax Payment   Discount Rate

113. 1. _____ , _____ , _____
          Reinvestment Rate   % Mortgage Liability General Partner

110. 2. _____
          Title

111. 2. _____ , _____ , _____
          Income Tax   % of Spendable   % Equity Contribution

112. 2. _____ , _____ , _____ , _____
          % Equity Reserve   % Tax Loss   % Tax Payment   Discount Rate

113. 2. _____ , _____ , _____
          Reinvestment Rate   % Mortgage Liability General Partner

110. 3. _____
          Title

111. 3. _____ , _____ , _____
          Income Tax   % of Spendable   % Equity Contribution

112. 3. _____ , _____ , _____ , _____
          % Equity Reserve   % Tax Loss   % Tax Payment   Discount Rate

113. 3. _____ , _____ , _____
          Reinvestment Rate   % Mortgage Liability General Partner

110. 4. _____
          Title

111. 4. _____ , _____ , _____
          Income Tax   % of Spendable   % Equity Contribution

112. 4. _____ , _____ , _____ , _____
          % Equity Reserve   % Tax Loss   % Tax Payment   Discount Rate

113. 4. _____ , _____ , _____
          Reinvestment Rate   % Mortgage Liability General Partner

110. 5. _____
          Title

111. 5. _____ , _____ , _____
          Income Tax   % of Spendable   % Equity Contribution

112. 5. _____ , _____ , _____ , _____
          % Equity Reserve   % Tax Loss   % Tax Payment   Discount Rate

113. 5. _____ , _____ , _____
          Reinvestment Rate   % Mortgage Liability General Partner

110. 6. _____
          Title

111. 6. _____ , _____ , _____
          Income Tax   % of Spendable   % Equity Contribution

112. 6. _____ , _____ , _____ , _____
          % Equity Reserve   % Tax Loss   % Tax Payment   Discount Rate

113. 6. _____ , _____ , _____
          Reinvestment Rate   % Mortgage Liability General Partner

_____ 110, 7, _____
              Title

_____ 111, 7, _____ , _____ , _____
              Income Tax   % of Spendable   % Equity Contribution

▃▃▃▃▃▃▃▃ 112, 7, _____ , _____ , _____ , _____
              % Equity Reserve % Tax Loss   % Tax Payment   Discount Rate

_____ 113, 7, _____ , _____ , _____
              Reinvestment Rate % Mortgage Liability General Partner

_____ 110, 8, _____
              Title

_____ 111, 8, _____ , _____ , _____
              Income Tax   % of Spendable   % Equity Contribution

_____ 112, 8, _____ , _____ , _____ , _____
              % Equity Reserve % Tax Loss   % Tax Payment   Discount Rate

_____ 113, 8, _____ , _____ , _____
              Reinvestment Rate % Mortgage Liability General Partner

_____ 110, 9, _____
              Title

_____ 111, 9, _____ , _____ , _____
              Income Tax   % of Spendable   % Equity Contribution

_____ 112, 9, _____ , _____ , _____ , _____
              % Equity Reserve % Tax Loss   % Tax Payment   Discount Rate

_____ 113, 9, _____ , _____ , _____
              Reinvestment Rate % Mortgage Liability General Partner

_____ 110, 10, _____
               Title

_____ 111, 10, _____ , _____ , _____
               Income Tax   % of Spendable   % Equity Contribution

—_____ 112, 10, _____ , _____ , _____ , _____
               % Equity Reserve % Tax Loss   % Tax Payment   Discount Rate

_____ 113, 10, _____ , _____ , _____
               Reinvestment Rate % Mortgage Liability General Partner

_____ 110, 11, _____
               Title

_____ 111, 11, _____ , _____ , _____
               Income Tax   % of Spendable   % Equity Contribution

_____ 112, 11, _____ , _____ , _____ , _____
               % Equity Reserve % Tax Loss   % Tax Payment   Discount Rate

_____ 113, 11, _____ , _____ , _____
               Reinvestment Rate % Mortgage Liability General Partner

_____ 110, 12, _____
               Title

_____ 111, 12, _____ , _____ , _____
               Income Tax   % of Spendable   % Equity Contribution

_____ 112, 12, _____ , _____ , _____ , _____
               % Equity Reserve % Tax Loss   % Tax Payment   Discount Rate

_____ 113, 12, _____ , _____ , _____
               Reinvestment Rate % Mortgage Liability General Partner

_____ 110, 13, _____
                Title

_____ 111, 13, _____ , _____ , _____
                Income Tax   % of Spendable   % Equity Contribution

_____ 112, 13, _____ , _____ , _____ , _____
                % Equity Reserve   % Tax Loss   % Tax Payment   Discount Rate

_____ 113, 13, _____ , _____ , _____
                Reinvestment Rate   % Mortgage Liability General Partner

_____ 110, 14, _____
                Title

_____ 111, 14, _____ , _____ , _____
                Income Tax   % of Spendable   % Equity Contribution

_____ 112, 14, _____ , _____ , _____ , _____
                % Equity Reserve   % Tax Loss   % Tax Payment   Discount Rate

_____ 113, 14, _____ , _____ , _____
                Reinvestment Rate   % Mortgage Liability General Partner

_____ 110, 15, _____
                Title

_____ 111, 15, _____ , _____ , _____
                Income Tax   % of Spendable   % Equity Contribution

_____ 112, 15, _____ , _____ , _____ , _____
                % Equity Reserve   % Tax Loss   % Tax Payment   Discount Rate

_____ 113, 15, _____ , _____ , _____
                Reinvestment Rate   % Mortgage Liability General Partner

COMPONENT ENTRIES

_____ 200, 1, _____
　　　　　　　　　Title(20 character maximum)

_____ 201, 1, _____ , _____ , _____
　　　　　　　　　Original Cost　　　% Depreciable　　　Depreciation Method

_____ 202, 1, _____ , _____ , _____
　　　　　　　　　Starting Year　　　Useful Life　　　Switching

_____ 200, 2, _____
　　　　　　　　　Title

_____ 201, 2, _____ , _____ , _____
　　　　　　　　　Original Cost　　　% Depreciable　　　Depreciation Method

_____ 202, 2, _____ , _____ , _____
　　　　　　　　　Starting Year　　　Useful Life　　　Switching

_____ 200, 3, _____
　　　　　　　　　Title

_____ 201, 3, _____ , _____ , _____
　　　　　　　　　Original Cost　　　% Depreciable　　　Depreciation Method

_____ 202, 3, _____ , _____ , _____
　　　　　　　　　Starting Year　　　Useful Life　　　Switching

_____ 200, 4, _____
　　　　　　　　　Title

_____ 201, 4, _____ , _____ , _____
　　　　　　　　　Original Cost　　　% Depreciable　　　Depreciation Method

_____ 202, 4, _____ , _____ , _____
　　　　　　　　　Starting Year　　　Useful Life　　　Switching

_____ 200, 5, _____
　　　　　　　　　Title

_____ 201, 5, _____ , _____ , _____
　　　　　　　　　Original Cost　　　% Depreciable　　　Depreciation Method

_____ 202, 5, _____ , _____ , _____
　　　　　　　　　Starting Year　　　Useful Life　　　Switching

_____ 200, 6, _____
　　　　　　　　　Title

_____ 201, 6, _____ , _____ , _____
　　　　　　　　　Original Cost　　　% Depreciable　　　Depreciation Method

_____ 202, 6, _____ , _____ , _____
　　　　　　　　　Starting Year　　　Useful Life　　　Switching

_____ 200, 7, _____
　　　　　　　　　Title

_____ 201, 7, _____ , _____ , _____
　　　　　　　　　Original Cost　　　% Depreciable　　　Depreciation Method

_____ 202, 7, _____ , _____ , _____
　　　　　　　　　Starting Year　　　Useful Life　　　Switching

_____ 200, 8, _____
　　　　　　　　　Title

_____ 201, 8, _____ , _____ , _____
　　　　　　　　　Original Cost　　　% Depreciable　　　Depreciation Method

_____ 202, 8, _____ , _____ , _____
　　　　　　　　　Starting Year　　　Useful Life　　　Switching

_____ 200, 9, _____
                Title

_____ 201, 9, _____, _____, _____
                Original Cost   % Depreciable   Depreciation Method

_____ 202, 9, _____, _____, _____
                Starting Year   Useful Life   Switching

_____ 200, 10, _____
                Title

_____ 201, 10, _____, _____, _____
                Original Cost   % Depreciable   Depreciation Method

_____ 202, 10, _____, _____, _____
                Starting Year   Useful Life   Switching

_____ 200, 11, _____
                Title

_____ 201, 11, _____, _____, _____
                Original Cost   % Depreciable   Depreciation Method

_____ 202, 11, _____, _____, _____
                Starting Year   Useful Life   Switching

_____ 200, 12, _____
                Title

_____ 201, 12, _____, _____, _____
                Original Cost   % Depreciable   Depreciation Method

_____ 202, 12, _____, _____, _____
                Starting Year   Useful Life   Switching

_____ 200, 13, _____
                Title

_____ 201, 13, _____, _____, _____
                Original Cost   % Depreciable   Depreciation Method

_____ 202, 13, _____, _____, _____
                Starting Year   Useful Life   Switching

_____ 200, 14, _____
                Title

_____ 201, 14, _____, _____, _____
                Original Cost   % Depreciable   Depreciation Method

_____ 202, 14, _____, _____, _____
                Starting Year   Useful Life   Switching

_____ 200, 15, _____
                Title

_____ 201, 15, _____, _____, _____
                Original Cost   % Depreciable   Depreciation Method

_____ 202, 15, _____, _____, _____
                Starting Year   Useful Life   Switching

MORTGAGE ENTRIES

_____ 300, 1, _____
Title(20 character maximum)

_____ 301, 1, _____ , _____ , _____ , _____
Principal Amount   Annual Interest   Payment Period   Term

_____ 302, 1, _____ , _____ , _____ , _____
Payments/Year   Year Began   Year End   Refinanced by #

_____ 303, 1, _____ , _____ , _____ , _____
Bonus Interest   Base Amount   Base Type   Mortgage Factor

_____ 300, 2, _____
Title

_____ 301, 2, _____ , _____ , _____ , _____
Principal Amount   Annual Interest   Payment Period   Term

_____ 302, 2, _____ , _____ , _____ , _____
Payments/Year   Year Began   Year End   Refinanced by #

_____ 303, 2, _____ , _____ , _____ , _____
Bonus Interest   Base Amount   Base Type   Mortgage Factor

_____ 300, 3, _____
Title

_____ 301, 3, _____ , _____ , _____ , _____
Principal Amount   Annual Interest   Payment Period   Term

_____ 302, 3, _____ , _____ , _____ , _____
Payments/Year   Year Began   Year End   Refinanced by #

_____ 303, 3, _____ , _____ , _____ , _____
Bonus Interest   Base Amount   Base Type   Mortgage Factor

_____ 300, 4, _____
Title

_____ 301, 4, _____ , _____ , _____ , _____
Principal Amount   Annual Interest   Payment Period   Term

_____ 302, 4, _____ , _____ , _____ , _____
Payments/Year   Year Began   Year End   Refinanced by #

_____ 303, 4, _____ , _____ , _____ , _____
Bonus Interest   Base Amount   Base Type   Mortgage Factor

_____ 300, 5, _____
Title

_____ 301, 5, _____ , _____ , _____ , _____
Principal Amount   Annual Interest   Payment Period   Term

_____ 302, 5, _____ , _____ , _____ , _____
Payments/Year   Year Began   Year End   Refinanced by #

_____ 303, 5, _____ , _____ , _____ , _____
Bonus Interest   Base Amount   Base Type   Mortgage Factor

_____ 300, 6, _____
Title

_____ 301, 6, _____ , _____ , _____ , _____
Principal Amount   Annual Interest   Payment Period   Term

_____ 302, 6, _____ , _____ , _____ , _____
Payments/Year   Year Began   Year End   Refinanced by #

_____ 303, 6, _____ , _____ , _____ , _____
Bonus Interest   Base Amount   Base Type   Mortgage Factor

```
_____ 300,  7,  _____
                   Title

_____ 301,  7,  _____ , _____ , _____ , _____
                   Principal Amount   Annual Interest    Payment Period     Term

_____ 302,  7,  _____ , _____ , _____ , _____
                   Payments/Year      Year Began         Year End           Refinanced by #

_____ 303,  7,  _____ , _____ , _____ , _____
                   Bonus Interest     Base Amount        Base Type          Mortgage Factor

_____ 300,  8,  _____
                   Title

_____ 301,  8,  _____ , _____ , _____ , _____
                   Principal Amount   Annual Interest    Payment Period     Term

_____ 302,  8,  _____ , _____ , _____ , _____
                   Payments/Year      Year Began         Year End           Refinanced by #

_____ 303,  8,  _____ , _____ , _____ , _____
                   Bonus Interest     Base Amount        Base Type          Mortgage Factor
```

OUTPUT OPTIONS (Enter "0" to suppress report printing; Enter "1" to permit report printing)

____ 400 ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____
         1   2   3   4   5   6   7   8   9   10

Report Field Identifiers

Field #	Report Title	Field #	Report Title
1.	Summary of Income & Expense	6.	After Tax Ratios
2.	Component Summary	7.	Modified Internal Rate of Return
3.	Cash Flow	8.	Mortgage Amortization
4.	Market Value	9.	Depreciation Schedules
5.	Before Tax Ratios	10.	Partnership Report

          * = Position #1 of Card 400

         5 = Auto 1, 2, 3, 4, 5, 6, 7, 10

         9 = Auto All

         3 = Select Specific Line #'s (10 maximum)

GRAPHIC OUTPUT (Enter output line I.D. numbers 1-48, in any order)

____ 401 ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____

____ 402 ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____

PRINT YEARS (Enter any year number 1-25, in any order)

____ 403 ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____

____ 404 ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____

____ 405 ____ , ____ , ____ , ____ , ____

Improvements Allocation	Total	A	B	C
	1,242,988	878,849	297,236	73,903
Building Cost	~~1,260,728~~	~~886,460~~	~~299,280~~	~~74,538~~
Intangibles	81,240	58,726	18,031	4,483
Land Under Building – Area	60,242 *	43,050 *	14,560 *	2,632 *
" " " – Value *1.30	78,315	55,965	18,928	3,422
Parking Land – Area	180,000 * / ~~110,000~~	113,238 *	48,438 / ~~29,600~~ *	18,324 / ~~4,200~~ *
Value *1.30	234,000	147,209	62,969 / ~~38,480~~	23,821 / ~~14,560~~
Open Space – Area	15,456 * / ~~85,456~~	9,723 *	4,159 / ~~22,896~~ *	1,573 / ~~8,699~~ *
Value *1.30	20,093	12,640	5,407 / ~~29,895~~	2,045 / ~~4,309~~
Parking Surface *.50	90,000 / ~~110,000~~	56,619	24,219 / ~~14,800~~	9,162 / ~~5,600~~
Parking Lighting	10,240	6,256	2,890	1,093
Total	1,764,328	1,216,764	429,680	117,929
	.7226	~~.65~~		
Mortgage Amount	1,275,000	829,278	310,502	85,220
Income Allocation				
Gross Income	220,893	133,365	74,368	13,160
Vacancy	8,339	3,054	5,114 .2475	171 .0668
R.E. Taxes	24,097	16,619	5,868	1,610
Opr Expenses	19,452	13,419	4,738	1,200
Net Income	169,000	100,273	58,648	10,029
Reserve Contributions	3,000	2,070	730	200

Parking

Size of Parking Stall

$$\frac{180,000}{275} = 654 \text{ ft}$$

	GLA	$/Sq Ft	Average Sales	High Sales
Grocery	16,650	193.65 / 131.49	2,189,308	3,224,222
Hardware	10,200	75.86 / 57.74	588,948	773,772
Drugs	6,000	90,01 / 54.87	329,220	540,060
Furniture	4,800	60.80 / 35.35	169,680	290,840
Clothing	4,200	108.32 / 65.08	273,336	454,944
Misc	1,200	67.05	80,460	80,460
Financial	2,688	—	—	—
Liquor	1,344	186.49 / 79.50	106,840	25064.
Cleaners	1,000	67.45 / 30.28	30,280	67,450
Beauty Shop	1,000	90.19 / 52.01	52,010	90,190
Barber	670	67.57 / 40.30	27,001	45,272
Misc.	7,858	67.05	526,879	526,879
Restaurant	2,632	78.28 / 49.93	131,416	206,633
			4,505,378	6,326,236

Value of a Parking Stall

I = annual income
A = average unit sale (in dollars)
C = customers per car
M = minimum daily turnover per space
P = percent of customers arriving by car
N = number of shopping days per year
$\#$ = number of parking stalls

$$I = A * C * M * P * N * \#$$

$C = 1.5$ $I_{Avg} = 4,505,378$
$M = 3.0$
$P = .90$ $I_{High} = 6,326,236$
$N = 325$
$\# = 275$

$$A = (C * M * P * N$$

$$A = \frac{I}{(C * M * P * N * \#)}$$

$$A_{Avg} = 12.45, \quad A_{High} = 17.48$$

Land Form "C"

    2,632 = Under Building
   18,324 = Parking
    1,573 = Open Space
   ‾‾‾‾‾‾‾
   22,529 = Total Incse To "A" + "B" parking

Building Cost
    A = 878,849
    B = 297,236   1,176,085
Intangibles
    A = 58,726
    B = 18,031   76,757
Land Under Building
    A = 43,050
    B = 14,560   57,610 * 1.30   74,893
Open Space
    A = 9,723
    B = 4,159   13,882 * 1.30   18,047
Parking Lot Lighting   10,740
Land For Parking
    Orig = 180,000
Under "C" = 2,632
Open Spa "C" = 1,573   184,205 * 1.3   239,466
    ‾‾‾‾‾
    Parking Surface
      184,205 * .5   92,102

$$\frac{220,893}{C*M*P*N**} = A_{Income}$$

$$\frac{220,893}{361,969} = .6102$$

Total Cost.

$$
\begin{array}{r}
1,176,085 \\
26,757 \\
74,893 \\
18,047 \\
10,740 \\
239,466 \\
\underline{92,102} \\
1,688,090
\end{array}
$$

Redesign of Parking to allocate 550 Sq ft / parking stall

$$
\frac{184,205}{550} = 335 \text{ parking stalls}
$$

Determine Gross Income

$$
I = .6102 * 1.5 * 3.0 * .90 * 325 * 335
$$

$$
I = 269,064
$$

Basic Assumptions

Site: 5.875 A.
= 255,698

Improvements

  A. 43,050 | Parking: 275 cars
  B. 14,560 |
  C. 2,632 |

Appraised Value

  Land = 332,400
Improve = 1,367,600
    Total = 1,700,000

Corrections

5.875 = 255,915
255,698 = 5.8700 A.

One Truck loading dock / 10,000
sq ft of building area

Parking : Recommended
standard of 5.5 spaces /
1000 sq ft of GLA
= Ratio of 2.2 to 1.
1 stall = 400 sq ft

Employee Parking

Parking Formula
A = Average unit sale ($)
C = Customers per Car
M = Minimum daily turnover
    per space
P = % customers arriving by car
N = number of shopping days
    per year.

A * C * M = value per day

Value per day * N = value of one parking still you annum
in retail value

2.14×1.09352 4.66 $= 3.25$

$1.38 \times$ "   3.83 $: 1.94$

1.16 2.42 $: 1.57$

1.53 3.33 $: 2.06$

$.96$ 2.83 $: 1.24$

1.08 1.42 $: 1.23$

1.73 1.33 $: 1.95$

2.11 1.25 $: 1.93$

      1.25 $:$

		% Adj	
1.	3.25	.50	1.625
2.	1.94	.90	1.746
3.	1.57	1.20	1.884
4.	2.06	.85	1.751
5.	1.24	1.35	1.674
6	1.23	1.00	1.23
7.	1.95	1.00	1.95
8.	1.93	.85	1.64

$$1.69 \pm .217$$

$$\left[1.47 \leftarrow 1.69 \rightarrow 1.90 \right]$$

Land Value

Income

Grocery Store

16,650 k / 2.50 / 41,625

1.75% / 2,378,520

Taxes = Lessor & Base

Lessee = Increases

Renewal Option

One 5yr w/ increase tied to C.P.I.

Mtg

Amt = 1,275,000   75%

Term = 25

Amo = 27

I.R. = $9\frac{5}{8}$ = .09625

Points = $\frac{1}{8}$ $\frac{9}{6}$ 1%

Pmt = 132,728

Constant = .1041

Debt Service Coverage = 1.25

Breakpoint = 81%

1,275,000 @ .09625 ($9\frac{5}{8}$)

w/ Pmt = 132,728 Per Annum

Constant = .10410039

Term = 28

Retail Depreciation

Item	% q total	Life
Shell	35-45	30
Elect, Wiring, Plumb	10-20	8
Heat & Air Cond.	15-25	15
Ceiling & Floor	7-12	10
Paving	5-15	10
Roof	1-2	15
Fence & Signs	1-2	15
Parking lot Lighting	.5-1	15

Retail Depreciation			% g. Dep
Shell	=	615,408	.44999
Elect, Wiring, Plumb	=	251,912	.1842
Heat & Air Cond.	=	273,520	.20
Ceiling & Floor	=	99,151	.0725
Paving	=	90,000	.0658
Roof	=	13,676	.01
Fence & Signs	=	13,676	.01
Parking lot Lighting	=	10,257	.0075
		1,367,600	
Land	=	332,400	
Total		1,700,000	

Item	% of Total	Amount
Land	~~332,400~~	332,400
Shell	.45	644,385
Elect, Wiring, Plumb	.1872	267,992
Heat + Air Cond.	.20	286,394
Ceiling + Floor	.0725	103,818
Paving	.06285	90,000
Roof	.01	14,319
Fence & Signs	.01	14,319
Parking lot lighting	.0075	10,740
	1,764,368	1,764,368

Net Income / MKT Val.

1	10
.0962	.0841

166000 / 1725500

169000 / 1750833

.0944

166000 / 1972918

189794
− 166000
23794

169000 / 2,087,620

.0825

(1,932,85)

− 169,000

24,285

Notes On Run #2

increase Gross Income yrly by 24,295 to
245,188 This will stabilize to Net Income/
Market Value ratio of .0944 same in
years 1 and 10

I.R.R.	Bldg C	Basic
1 = -.0462	1. -.0811	1. .0547
10 = .0934	10. .0730	10 .0806
Default		
All = .7980	.8746	
Payback		
1 = .1542 / .0542	1. .0739	
10 = 1.0539	10. .5478	

Begin Individual Building Performance

Land	Intangibles	10,640
Shell		50,600
Elect.		20,000
Heat + Air Cond		81,240
Ceiling + Floor		
Paving		
Roof		
Fence + Signs		
Parking lot		

Improvements

43,050 = A   .7146   Cond
14,560 = B   .2417   60,242 * 1.30 = 78,314
2,632 = C   .0437   Land Cost under Building
60,242   332,400 - 78,314
                            254,085

Land Allocation
332,400 * .7146   .2417   .0437
          ~~237,533~~
          55,963   18,928   3,422

Parking Analysis

Site Area   255,698
Building Area   − 60,242 $\frac{180,000}{275} = 654$
             195,456

275 × 400 =   − 110,000
            85,456   Open Space

Parking Allocation

Yun Yun Tree	=	28	= .1018
Bldg B	=	74	= .2691
Bldg A	=	173	= .6291
		275	

~~2f × 400~~
254,085

     ×   .1018   .2691   .6291
        25,865   68374   159,845

Income Difference
    269,064 · New A + B estimate
    -207,733 · Old A + B estimate
    61,331 - count as variable income

Income Statement   Optimistic
    Gross Income ·   269,064
            Vac   - 8,168
    R.E. Tax   · 22,487
        Exp   - 18,157
                      220,252
    Dbt   - 131,797   = 1.67 Dbt Cov. Ratio
                   88,454

                  207,733
                  - 8,168
                  - 22,487
                  - 18,157
                  158,921
                - 131,797
                  27,124

CASE 4 Testing Format

1. Basic Analysis
   Cash Solvency Analysis
   Appraised Value and Stated Mortgage
   Check Net Income / Market Value Ratio
   Default
   Payback

2. Investor Position
   Use Costs as indicated
   Component Appreciation
   Default
   Payback

213.048 ÷ 57610 = 3.70

2.50	× 1.0255	= 2.56	42688.
2.80		2.87	29289
4.05		4.15	24921
3.75		3.85	18460
3.90		4.00	16798
3.75		3.85	4615
5.50		5.64	15161
6.25		6.41	8615
4.05		4.15	4153
5.00		5.13	5128
6.25		6.41	4294
5.00		5.13	40293

214,416

.0928

195 9091*

181804
22 882 + 207733 = 230615

Run Results

	C	B	4
Default			
1.	.8959	.5777	.9122
Payback			
1.	.0579	.1803	.0507
10.	.4442	1.6625	.3967
I.R.R.			
1.	−.0946	.0264	−.1040
10.	+.0718	.1353	.0644

SOURCE OF DATA

FOR

CHEMICAL BANK SEMINAR

All data used in this demonstration case was taken from
James A. Graaskamp's hypothetical case studies and are
intended for educational purposes only.

CHEMICAL

BANK

SEMINAR

CHEMICAL BANK REAL ESTATE LENDING SEMINAR

Wednesday

1:00-2:30   The Real Estate Process and Risk Management Systems

2:30-3:15   Formatting Traditional and Contemporary Financial Approaches
             to Income

             1. Revenue required by stated capital investment
             2. Revenue justified capital investment
             3. Relationship of before tax and after tax approaches

3:30-5:00   Financial Ratio Approaches

             1. First level risk ratios - demonstrations
             2. Second level incentive ratios - demonstrations
             3. Third level regulatory ratios - demonstrations

             Hand out Shopping Center Case for evening reading

Thursday

9:00-10:30   Systematic Analysis of a Project

10:45-12:00 Initial Financial Analysis With Basic Ratio Approach Applied
             to Shopping Center

1:00-2:00   Residential Lending - Shift of Risk to Institutional Specialists
             Income Property Lending - A Commodity Market Risk System

2:00-3:00   Projections Over Time - Shopping Center Case Demos

             1. The Ellwood concept applied - before tax (computer service output)
             2. Mortgage equity approach applied - after tax (computer service
                 output)

3:15-5:00   Sensitivity Analysis for Shopping Center Case Study
             (Using computer outputs on EDUCARE DAP)

Friday

9:00-9:30   A Systematic Approach to Income Property Mortgage Loan Analysis

9:30-10:30   Analysis of Shopping Center Design Proposals

10:30-12:00 Shopping Center Financial Analysis Ala MR CAP

             1. Financial contributions of each lease
             2. Reorganization of proposal
             3. Conditions of mortgage loan

1:00-2:30   Alternative Shopping Center Financing Solutions

             1. Partnership solution
             2. Land-leaseback solution

2:30-3:15   How to Critique an Appraisal Report or Feasibility Study

3:30-4:15   The Ethics of Real Estate Finance

REAL ESTATE FEASIBILITY SEMINAR

Presented by Professor James A. Graaskamp, SREA, CRE
University of Wisconsin School of Business

I. Basic Concepts and Definitions

A. Real estate is a tangible product - defined as artificially
    delineated space with a fourth dimension of time referenced to a
    fixed point on the face of the earth.

    1. Real estate is a space-time unit, room per night, apartment per
        month, square foot per year, tennis court hours, or a condominium
        for two weeks in January at a ski slope.
    2. To the space-time abstraction can be added special attributes
        to house some form of activity.
    3. Improvements from survey market to city layouts to structures
        define space.
    4. Legal contracts and precedents define time.
    5. Rights of use are defined by public values, court opinions.
    6. Private rights to use are those which remain after the public
        has exercised its rights to control, to tax, or to condemn.

B. A real estate project is cash cycle business enterprise which combines
    a space-time product with certain types of management services to
    meet the needs of a specific user. It is the process of converting
    space-time needs to money-time dimensions in a cash economy.

    1. A real estate business is any business which provides expertise
        necessary to relate space-time need to money-time requirements
        and inclues architects, brokers, city planners, mortgage bankers,
        and all other special skills.
    2. The true profit centers in real estate are in the delivery of
        services and cash capital. Money is an energy transfer system.
    3. Equity ownership is the degree to which one enterprise controls
        or diverts cash from another real estate enterprise.
    4. Public has direct ownership to the degree real estate taxes
        take a percentage of tenant income in excess of service cost.
    5. Consumer must view space as a total consumption system involving
        direct cost, surface cost, transportation cost and negative
        income of risk.
    6. The best real estate project is the one which has the lowest net
        present value of cost as the sum of cost to the consumer prod-
        uction sector and public sector.

C. The real estate process is the dynamic interaction of three groups, space users (consumers), space producers, and the various public agencies (infrastructures) which provide services and capital to support the consumer needs. (See Exhibit 1)

1. Each of these three decision groups represent an enterprise, an organized undertaking. All are cash cycle enterprises constrained by a need for cash solvency, both short and long term.
2. A desirable real estate solution occurs when the process permits maximum satisfaction to the consumer at a price that he can afford within the environmental limits of land while permitting the consumer, producer, and the government cash cycle to achieve solvency - cash break even at a minimum, after full payment for services rendered.
3. Solvency of the total process, not value, is the critical issue.
4. Land is an environmental constraint and not a profit center.
5. Land provides access to a real estate business opportunity and is not the opportunity itself. Real estate business wants to control land to create a captive market for services.

D. Land is the point where demand and supply forces find cash solvency. Location is a manufactured attribute. Site attributes are exploited to reduce outlays and to increase receipts and include:
1. Physical attributes
2. Legal-political attributes
3. Linkage attributes
4. Dynamic attributes
5. Environmental attributes

E. Recognition of the fact that profit maximization must be limited by concerns for physical environment and community priorities for land use has resulted in redefinition of the most basic concept in appraisal; i.e. highest and best use, in the authorized terminology handbook sponsored by the American Institute of Real Estate Appraisers and the Society of Real Estate Appraisers. Compare the 1971 definition with that for 1975:

> Highest and best use concept-
> "A valuation concept that can be applied to either the land or improvements. It normally is used to mean that use of a parcel of land (without regard to any improvements upon it) that will maximize the owner's wealth by being the most profitable use of the land. The concept of highest and best use can also be applied to a property which has some improvements upon it that have a remaining economic life. In this context, highest and best use can refer to that use of the existing improvements which is most profitable to the owner. It is possible to have two different highest and best uses for the same property: one for the land ignoring the improvements; and another that recognizes the presence of the improvements.:
> p. 57, Real Estate Appraisal Principles and Terminology, Second Edition, Society of Real Estate Appraisers 1971.

Exhibit 1

THE REAL ESTATE PROCESS

"Highest and Best Use: That reasonable and probable use that will support the highest present value, as defined, as of the effective date of the appraisal. Alternatively, that use, from among reasonably probable and legal alternative uses, found to be physically possible, appropriately supported, financially feasible, and which results in highest land value. The definition immediately above applies specifically to the highest and best use of land. It is to be recognized that in cases where a site has existing improvements on it, the highest and best use may very well be determined to be different from the existing use. The existing use will continue, however, unless and until land value in its highest and best use exceeds the total value of the property in its existing use. Implied within these definitions is recognition of the contribution of that specific use to community environment or to community development goals in addition to wealth maximization of individual property owners. Also implied is that the determination of highest and best use results from the appraisers judgement and analytical skill, i.e., that the determined from analysis represents an opinion, not a fact to be found. In appraisal practice, the concept of highest and best use represents the premise upon which value is based. In the context of most probable selling price (market value) another appropriate term to reflect highest and best use would be most probable use. In the context of investment value an alternative term would be most profitable use."
Real Estate Appraisal Terminology, Edited by Byrl II. Boyce,
Ph.D. SRPA, Ballinger Publishing Co., Cambridge, Mass. 1975

F. The purchase of a piece of real estate today involves the acceptance of a great many assumptions about the future. Those who take care to validate these assumptions in a period of transition as to public land use control tend to have the most successful investment.

1. Business decisions today make explicit recognition of their assumptions and the need to act under conditions of uncertainty.
2. Business risk is the difference between assumptions about the future and realizations, the proforma budget and the end of the year income statement.
3. Risk management is the control of variance between key assumptions and realizations.
4. An appraisal is a set of assumptions about the future productivity of a property under conditions of uncertainty.

G. The concept of highest and best use of land was a commodity concept which did not consider externalities adequately. It is being replaced be concepts of most fitting use and the concept of most probable use.

1. The most fitting use is that use which is the optimal reconciliation of effective consumer demand, the cost of production, and the fiscal and environmental impact on third parties.
2. Reconciliation involves financial impact analysis on "who pays" and "who benefits" - thus the rash of debate on how to do impact studies.

3. The most probable use will be something less than the most fitting use depending on topical constraints imposed by current political factors, the state of real estate technology, and short term solvency pressures on consumer, producer, or public agency.

4. Most probable use means that an appraisal is first a feasibility study of alternative uses for a site in search of a user, an investor, and in need of public consent.

H. In seeking the most fitting and most probable use, the inner city planner and private property appraiser must interact to determine how community objectives and consumer - production sector solvency can be achieved simultaneously.

1. A real estate decision has only two basic forms. Either a site is in search of a use and consumer with the ability to pay, or a consumer, need or use with a defined ability to pay is seeking some combination of space-time attributes he can afford.

2. The individual consumer with needs and a budget is the drive wheel.

3. The public sector represents the community owned consumer service delivery system, seeking to minimize marginal cost to the consumer and average cost to the community at large.

4. The production sector responds to a derivative demand for engineering and management expertise.

I. Critiquing the form and adequacy of a real estate solution is analogous to the artistic concept of judging the success of an art object by relating form of the solution to the context to which it was created.

1. Context includes those elements which are fixed, given, or objectives and to which any solution must adapt.

2. Form giving elements are those variables within the artists control, i.e. options or alternatives at a particular time.

3. A solution is judged for its correctness or success in terms of the degree of fit of the form proposed to the context.

4. Feasibility analysis is concerned with the degree of fit or the extent of misfit between a proposed course of action and the context within which it must operate or fit.

5. Success therefore depends on how appropriately the problem is defined; testing feasibility depends primarily upon accurate and comprehensive definition of the context.

J. An enterprise is any organized undertaking, and a real estate problem or project always begins from the viewpoint of some enterprise relative to its environment.

1. The systems engineer sees the eventual form of an enterprise, in terms of both its configuration and behavior, as representing a negotiated consensus between two general sources of power--the power of the environment to dictate form and behavior of the organization on one hand and the power of the organization to decide for itself what its characteristics and behavior will be on the other.

2. The system engineer uses "power of the environment" as a dynamic alternative to the static implications of context and adds dynamic element of behavior to the elective responses of the form giver.

II. Financial Management and Risk Management

Investment is a real estate enterprise as mortgage lender or equity investor is simply buying a set of financial assumptions about the interaction of the project to its context, of the firm to its environment. Real estate analysis is to control the variance between expectations and realizations, between proforma prospects and historical balance sheets and profit and loss statements.

A. Analysis is risk management, control of variance.
B. There are essentially two types of risk exposures:

    1. Static risks (uncontrollable, or external events) are those which can only cause a loss due to surprise upset of a plan.

    2. Dynamic risks (partially controllable internal events) can produce profit or loss and are best controlled by the finesse of management execution of a plan.

C. Risk evaluation or comparison grows out of the function of risk management for an enterprise.

    1. Risk management has two objectives:

        a. First priority - conservation of existing enterprise assets despite surprise events.
        b. Second priority - realization of budgeted expectations despite surprise events.

    2. The process of risk management involves systematic and continuous:

        a. Identification of significant exposures to loss
        b. Estimation of potential loss frequency and severity
        c. Identification of alternative methods to avoid loss
        d. Selection of a risk management method
        e. Monitoring execution of risk management plan

    3. The risk management process is both a philosophy of inquiry or analysis and a checklist of management concern, which is attempting to answer systematically "WHAT IF...?" questions, to antici-pate surprise and to provide for a response or adjustment in advance of the contingency.

D. Identification of significant exposures to loss can begin by using standard business documents as reminders, such as:

    1. Review of balance sheet accounts
    2. Review of profit and loss statement accounts
    3. Review of business organization or function chart
    4. Review of elements of financial feasibility analysis

E. Significant has to do with potential loss frequency, loss severity, and degree of uncertainty.

    1. Very frequent and minor become expense accounts
    2. Less frequent but predicatable and major become reserves or budget allowances.

3. Infrequent, uncertain but very severe become issues of risk management.
4. A 50/50 probability is the most uncertain outcome.

F. The alternative methods of avoiding loss which everyone sub-consciously uses include:

1. Eliminate risk exposure
2. Reduce frequency or severity of loss (diversification or mortgage loan closing process)
3. Combine risks to increase predictability (reserves for expense)
4. Shift risk by contract (subcontracts or escalator clauses)
5. Shift risk by combination (diversification) by contract (insurance)
6. Limit maximum loss (corporate shell or limited partnership)
7. Hedging (sale and leaseback, options, contingent sales)

G. Risk management concepts leads to understanding of the true essence of a mortgage contract and an equity commitment

1. A mortgage is a classic straddle in two markets for the borrower; it is a call on a space-time commodity in a rising market and a put to the lender in a falling market. It is also a straddle in the money market. The mortgage contract is a risk management agreement to provide coverage of static risks and an imperfect straddle on the dynamic risks. Protection for the lender is revenue to the borrower, negative incentives, and salvage.

2. Equity ownership is the degree to which you can divert cash flow and maintain control within an acceptable level of risk avoidance.

III. Feasibility Analysis

A. The concept of feasibility is elusive and much abused. Combining the systems concept of enterprise under conditions of uncertainty and the physical design concept of fit leads to the following definition:

"A real estate project is 'feasible' when the real estate analyst determines that there is a reasonable likelihood of satisfying explicit objectives when a selected course of action is tested for fit to a context of specific constraints and limited resources.

B. The problem of defining objectives and measuring success depends almost entirely on correctly defining the problem and values of the client.

The majority of enterprises are not solely interested in rate of return on investment or lowest cost.

Most decisions must fit a combination of success "measures" with each decision maker weighting the overall importance of each item differently. Examples of such measures would be:

1. A check list of physical attributes
2. A check list of critical linkage attributes
3. A check list of dynamic behavioral attributes

4. A check list of attributes or services (given weighted point scores)
5. Financial ratios measuring risk, such as cash break-even, rate of capital recapture, loan ratios or sensitivity to specified contingencies
6. Probability distributions of alternative outcomes and standard error of the estimate
7. Pshychological gratifications
8. Specified legal attributes
9. Measures of impact on environment

C. The definition also implies uncertainty - a reasonable likelihood of succeeding. That statement is deliberately short of a statistical probability statement. However, analystical judgments can produce some verbal probability statements (that horse is a nag while the black stallion is an odds on favorite) so that the measures of success should lend themselves to explicit recognition of the degree of uncertainty with which success might be achieved.

D. The general theory of the management process for any enterprise can be converted to real estate semantics for feasibility:

Values, objectives, policy	Strategic format
Search for opportunity alternatives	Market trend analysis
Selection of an opportunity	Merchandising target with monopoly character
Program to capture opportunity	Legal-political constraints
	Ethical-aesthetic constraints
	Physical-technical constraints
	Financial constraints
Construction of program	Project development
Operation of program	Property management
Monitoring and feedback	Real estate research

E. The analyst must also identify and measure or define the limited resources of the client in terms of personnel, expertise, available cash resources, and the time line of expectations and commitment since time available to achieve the solution is often a critical resource and constraint relative to alternative choices.

F. These basic elements and definitions then lead to a correct title for the report required. Most feasibility reports go wrong on the title page because the analyst did not clearly understand to which elements of context and form his report was to be addressed. Seldom does the analyst do a complete feasibility study as a single report on his own. Components may be provided by others and the sequence of sets may differ in each case depending on how the consultant understands the client. Therefore, a report should be entitled as one of the following:

1. Strategy study: selection of objectives, tactics, and decision criteria.
2. Market analysis: economic base studies or other related aggregate data review.
3. Merchandising studies: consumer surveys, competitive property analysis, marketability evaluation, etc.
4. Legal studies: opinion on potential legal constraints, model contracts or forms of organization, and political briefs.

5. Compatability studies of project to community planning, conservation standards, or other public policies.

6. Engineering, land planning, and architectural studies.

7. Financial studies: economic modeling, capital budgets, present value and discounted cash flow forecasts, rate of return analysis, financial packages.

G. Correctly defining the context in all its basic dimensions requires a _generalist_; an appraiser is a generalist. A feasibility study produces a set of paramters, a set of predesigned or preoperational specifications within which a program proposal _should_ work. The analyst and his client should always remember that the second stage of the feasibility study will be _confirmation_ of the feasibility assumptions and parameters by technical analysis and planning by the _specialists_.

H. An appraisal is a forecast of productivity of a property relative to the needs of a certain buyer group and a prediction of the price at which it would sell to the most probable buyer.

1. Anticipation of an economic behavior by the buyer leads to the highest price he would be willing to pay.

2. Anticiaption of the behavior of the seller leads to an estimate of the least he would be willing to accept.

3. Analysis of the influence of outside factors affecting price supply and demand leads to an estimate control tendency between buyer and seller maximum.

4. The upper and lower ranges specify a transaction zone within which a most probable price will occur. The most probable sales price does not need to be at the center of the zone nor do the alternatives need to follow a normal distribution curve. The zone and the distribution most typically are statements of verbal probability.

I. An appraisal is therefore a feasibility study of alternative courses of action and these alternatives are matched to the most probable user/investment group to be seeking such a property opportunity at that time.

The appraisal process as a feasibility study lends itself to the following logical process:

1. What is the problem for which the appraisal is to serve as a benchmark?

2. Which definition of value would best serve the decision process?

3. What does an inventory of site attributes reveal as to the positive and negative contributions of the site to alternative uses?

4. What does an inventory of improvement attributes existing on the site reveal as to the positive and negative contributions of the improvements to alternative uses?

5. What basic alternative use programs or scenarios may be considered as plausible alternatives motivating buyers as of the date of the appraisal?

6. Which alternative use appears to be the most probable use when screened by external factors including effective market demand, political controls, forecasting risk, and potential profitability as perceived by investor/buyers.

7. What is the profile of the most probable buyer/investor for the most probable use to the degree that the profile can define the search for comparable transactions?

8. Could the appraiser simulate the purchase guidelines of a most probable buyer group if there were no sales which were thought to be comparable and appropriate to the subject situation?

9. What is the value to be justified by the appraiser using normative, traditional measures of what a buyer should do, such as the cost approach or conventional income approach?

IV. Introduction to Financial Analysis

Review of property attributes and identification of alternative uses which have potential for effective demand typically narrows the alternative for further consideration to those where potential revenue can support reasonable capital budget parameters. Initial financial analysis does not involve present value theory but rather progressive refinement of ratios and risk characterisitcs for consumers, producers, and the public infrastructure. Analysis which follows is concerned with only the private production and finance side of the equation.

A. There are two points of departure for analysis:

1. Given the capital budget, it is necessary to convert to the required rents necessary to support the project and cash return objectives. Specified budgets converted to required rents is often called the front door approach.
2. Given market rent per unit, it is necessary to establish themaximum justified capital budget. Targeted market rents converted to justified investment can be allocated to various development budgets and is called the back door approach.

B. Refer to the front door approach exhibit and example, oversimplified for purposes of illustration.

C. Refer to the back door approach exhibit and example

1. The back door approach is the preferred response to the market although lenders typically enter the scene after the capital budget is set.
2. Note that the back door approach can be driven by a default ratio or a debt cover ratio which are dynamic risk concepts rather than loan to value ratio which is a static regulatory concept.

C. The back door approach is the essence of the FHA 2013 form, state housing finance approach to projects where revenue is defined by the FMR rules, or even purchase of an existing property subject to long term rents, renovation, etc.

1. It is possible to detail the back door approach for any type of project by simply setting up tabs in a flow chart fashion as suggested by the example for a 236 project.
2. Another way to view the flow charts is in the nature of two basic programmable formulas:

$$\text{Gross rent} = \frac{TRC * ((LTV * MC) + (1 - LTV * CC))}{1 - (ER + RET + VR + RR)}$$

$$\text{Justified project budget} = \frac{GR}{\left(\frac{(LTV * MC) + (1 - LTV * CC)}{1 - (ER + RET + VR + RR)} \right)}$$

Where:
TRC = Total replacement cost; LTV = loan to value ratio
MC = mortgage constant; CC = Cash on cash for equity cash
ER = expense ratio; RET = real estate tax ratio
VR = Vacancy ratio; RR = reserve ratio

REVENUE REQUIRED BY CAPITAL BUDGET
LOAN TO COST RATIO APPROACH

SITE ACQUISTION COST

+

CONSTRUCTION BUDGET

+

INDIRECT COST AND
DEVELOPMENT FEES

=

TOTAL CAPITAL BUDGET

x		x
1- LOAN TO COST RATIO		LOAN TO COST RATIO
=		=
CASH EQUITY REQUIRED		MORTGAGE LOAN
x		x
REQUIRED PRE-TAX CASH DISTRIBUTION RATE		DEBT SERVICE CONSTANT
=		=
CASH THROW OFF REQUIRED FOR EQUITY		CASH REQUIRED FOR MORTGAGE LENDER

+

NET OPERATING INCOME

+

OPERATING EXPENSES

+

REAL ESTATE TAXES

+

CASH REPLACEMENTS

=

EFFECTIVE GROSS REVENUE
REQUIRED

+

VACANCY LOSS

=

GROSS POTENTIAL REVENUE

÷

NET LEASABLE UNITS

=

RENT REQUIRED PER UNIT

REVENUE JUSTIFIED CAPITAL BUDGET
DEBT COVER RATIO APPROACH

GROSS RENT POTENTIAL

−

VACANCY LOSS

=

EFFECTIVE GROSS REVENUE

−

OPERATING EXPENSES

−

REAL ESTATE TAXES

−

CASH REPLACEMENTS

=

NET OPERATING INCOME AVAILABLE

FOR DEBT PAYMENT, INCOME TAX, CASH DIVIDENDS

−	÷
DEBT SERVICE CASH	DEBT COVER RATIO
	REQUIRED BY LENDERS
=	=
CASH AVAILABLE FOR	CASH AVAILABLE FOR
INCOME TAX AND INVESTORS	DEBT SERVICE
÷	÷
REQUIRED PRE-TAX CASH	
DISTRIBUTION RATE	DEBT SERVICE CONSTANT
=	=
JUSTIFIED CASH	JUSTIFIED MORTGAGE
EQUITY INVESTMENT	LOAN

+

TOTAL JUSTIFIED INVESTMENT

−

EXISTING CLAIMS OR PLANNED

IMPROVEMENT BUDGET

=

PROCEEDS AVAILABLE FOR

PROPERTY PURCHASE AS IS

REVENUE JUSTIFIED CAPITAL BUDGET
DEFAULT RATIO APPROACH

GROSS RENT POTENTIAL

x

x

1- DEFAULT RATIO		DEFAULT RATIO
=		=
RISK VARIABLES AND EQUITY CASH		CASH BUDGET OUTLAYS
-		-
VACANCY LOSS		OPERATING EXPENSES
-		-
RISK RESERVE		REAL ESTATE TAXES
=		-
CASH AVAILABLE FOR INVESTORS		CASH REPLACEMENTS
÷		=
REQUIRED PRE-TAX CASH DISTRIBUTION RATE		CASH AVAILABLE FOR DEBT SERVICE
=		÷
JUSTIFIED CASH EQUITY INVESTMENTS		DEBT SERVICE CONSTANT
		=
		JUSTIFIED MORTGAGE LOAN

+

TOTAL JUSTIFIED INVESTMENT

-

EXISTING CLAIMS OR PLANNED IMPROVEMENT BUDGET

=

PROCEEDS AVAILABLE FOR PROPERTY PURCHASE "AS IS"

I. Data

    A. Site
       1. 14,560 Sq. Ft. = Land Under Building
       2. 48,438 "   " = Parking Lot
       3.   4,159 "   " = Open Space
          67,157 "   " = Total Site Area

    B. Cost
       1. 67,157 * 1.30   =   87,304 Land Cost
       2. 14,560 * 20.415 = 297,236 Building Cost
       3. 14,560 * 1.238 =   18,031 Intangibles
       4. 48,438 *   .50   =   24,219 Parking Lot
       5. 48,438 *   .0597 =   2,890 Parking Lighting
                     429,680 Total Cost

    C. Cost Summary
       1.   87,304 = Land   = .2032
       2. 342,370 = Improvements = .7968
          429,680 = Total   = 1.000

    D. Financial
       1. Mortgage
          a. .75   = Maximum Loan To Value Ratio
          b. .09625   = Annual Interest Rate
          c. 27   = Term
          d. .1040699 = Constant
       2. Equity
          a. .085   = Land Component   * .2032 = .017272
          b. .100   = Improvement Component * .7968 = .079680
          c.   Total   1.0000   .09695

    E. Income Allocation
       1. 2,688 S.F. * 5.60/S.F. = Financial   = 13,404 = .1807
       2. 1,344 "   * 6.25 "   = Liquor   = 8,400 = .1130
       3. 1,000 "   * 4.05 "   = Cleaners   = 4,050 = .0544
       4. 1,000 "   * 5.00 "   = Beauty Shop   = 5,000 = .0672
       5.   670 "   * 6.25 "   = Barber   = 4,188 = .0563
       6. 7,858 "   * 5.00 "   = Miscellaneous = 39,290 = .5283
                           Total   74,368   1.0000

F. Vacancy Allocation
    1. 13,404 * .03 =   403.20   Financial   = .0788
    2.   8,400 * .03 =   252.00   Liquor   = .0493
    3.   4,050 * .04 =   162   Cleaners   = .0317
    4.   5,000 * .04 =   200   Beauty Shop   = .0391
    5.   4,188 * .04 =   168   Barber   = .0328
    6. 39,290 * .10 = 3,929   Miscellaneous = .7683
        74,368   5,114   1.0000

G. Net Operating Income
    1. 74,368 = Gross Income   = 1.0000
    2. -5,114 = Vacancy   = -.0688
    3. -5,868 = Real Estate Taxes   = -.0789
    4. -4,738 = Operating Expenses = -.0637
    5. - 730 = Cash Reserves   = -.0098
        57,918 = Net Operating Income = .7788

II. Parameter Estimate - Cost Basis (Cost = Value)

    A. Mortgage Estimate
       1. 429,680 = Total Cost
       2. * .75 = Maximum Loan To Value
       3. 322,260 = Mortgage Amount

    B. Estimated Annual Mortgage Payment
       1. 322,260 = Mortgage Amount
       2. *.1040699 = Annual Constant
       3. 33,538 = Annual Debt Payment

    C. Equity Estimate
       1. 429,680 = Total Cost
       2. -322,260 = Mortgage Amount
       3. 107,420 = Equity Contribution

    D. Return On Equity Estimate
       1. 57,918 = Net Operating Income
       2. - 33,538 = Debt Payment
       3. 24,380 = Cash Throw-Off
       4. ÷ 107,420 = Equity Contribution
       5. .22696 = Return Rate On Equity

III. Parameter Estimate - Capitalized Basis (Improvement Residual)

    A. Capitalized Return
       1. .085 = Land
       2. .100 = Improvements

    B. Land Estimate
       1. 87,304 = Land Cost
       2. * .085 = Land Return
       3. 7,421 = Return On Land

    C. Improvement Estimate
       1. 57,918 = Net Operating Income
       2. - 7,421 = Return On Land
       3. 50,497 = Return On Improvements
       4. ÷ .10 = Rate On Improvements
       5. 504,970 = Improvement Estimate

    D. Project Estimate
       1. 87,304 = Land Cost
       2. 504,970 = Improvement Estimate
       3. 592,274 = Project Estimate

E. Mortgage Estimate
    1. 592,274 = Project Estimate
    2. *____.75 = Maximum Loan To Value
    3. 444,206 = Mortgage Amount

F. Estimated Annual Mortgage Payment
    1.   444,206 = Mortgage Amount
    2. *.1040699 = Annual Constant
    3.   46,228 = Annual Debt Payment

G. Equity Estimate
    1.   592,274 = Project Estimate
    2. -444,206 = Mortgage Amount
    3.   148,068 = Equity Contribution

H. Return On Equity Estimate
    1.   57,918 = Net Operating Income
    2. - 46,228 = Debt Payment
    3.   11,690 = Cash Throw-Off
    4. ÷ 148,068 = Equity Contribution
    5.   .07895 = Return Rate On Equity Contribution

IV. Parameter Estimate - Band Of Investment

    A. Mortgage Factor
       1.   .75 = Maximum Loan To Value Ratio
       2. * .1040699 = Annual Mortgage Constant
       3.   .078052425 = Annual Mortgage Payment As A Function Of
                     Project Estimate

    B. Equity Factor
       1. Land Component
           a.   .25 = Indicated Equity Contribution
           b. * .2032 = Percent of Project Cost Attributed To Land
           c.   .05080 = Percent of Equity Return From Land
           d. *   .085 = Desired Return On Land
           e.   .004318 = Annual Equity Return On Land As A Function
                      Of Project Estimate
       2. Improvement Component
           a.   .25 = Indicated Equity Contribution
           b. * .7968 = Percent Of Project Cost Attributed To Improvements
           c.   .1992 = Percent Equity From Improvements
           d. *   .10 = Desired Return On Improvements
           e.   .01992 = Annual Equity Return On Improvements As A
                      Function of Project Estimate
       3. Total Land And Improvements
           a. .004318 = Land Component
           b. .019920 = Improvement Component
           c. .024238 = Annual Equity Payment As A Function Of
                     Investment Estimate

    C. Total Factor - Mortgage + Equity
       1. .078052425 = Mortgage Factor
       2. .024238000 = Equity Factor
       3. .102290425 = Composit Capitalization Rate

    D. Project Estimate
       1.   57,918 = Net Operating Income
       2. ÷.102290425 = Composit Capitalization Rate
       3.   566,211 = Project Estimate

    E. Mortgage Estimate
       1. 566,211 = Project Estimate
       2. *   .75 = Maximum Loan To Value Ratio
       3. 424,658 = Mortgage Amount

    F. Mortgage Payment Estimate
       1.   424,658 = Mortgage Amount
       2. *.1040699 = Annual Constant
       3.   44,194 = Payment Estimate

G. Check Of A-3 Above
1.   44,194 = Annual Payment
2. ÷566,211 = Project Estimate
3. .0780524 = Approx. Same As A-3 Above

H. Equity Estimate
1. 566,211 = Project Estimate
2. *   .25 = Indicated Equity Contribution Ratio
3. 141,553 = Indicated Equity Contribution Amount

I. Equity Payment Estimate
1.   57,918 = Net Operating Income
2. -44,194 = Annual Debt Payment
3.   13,724 = Cash Throw-Off

J. Check Of B-3-c
1.   13,724 = Equity Payment (Cash Throw-Off)
2. ÷566,211 = Project Estimate
3.   .024238 = Same As B-3-c

K. Check Of I-D-2-c
1.   13,724 = Cash Throw-Off
2. ÷141,553 = Equity Contribution
3.   .09695 = Cash-On-Cash Rate Check

V. Summary

Method	Project	Mortgage Amount	Equity Amount	Cash-On-Cash
Cost	429,680	322.260	107,420	.2269
Capitalized Net Operating Income	592,274	444,206	148,068	.07895
Band Of Investment	566,211	424,658	141,553	.09695

Demo Problem

Parameter Development - Itemized

I. Default Ratio = Cash Breakeven (DF)

$$DF = \frac{Real\ Estate\ Taxes+Operating\ Expenses+Cash\ Reserves+Debt}{Gross\ Income}$$

$$DF = \frac{5,868 + 4,738 + 730 + 33,538}{74,368}$$

$$DF = \frac{44,874}{74,368}$$

$$DF = .6034$$

II. Loan To Cost Ratio (L/C)

$$L/C = \frac{322,260}{429,680} = \frac{Mortgage\ Amount}{Project\ Cost}$$

$$L/C = .7500$$

III. Debt Coverage Ratio (DC)

$$DC = \frac{57,918}{33,538} = \frac{Net\ Income}{Annual\ Debt\ Payment}$$

$$DC = 1.7269$$

Analysis of Default Ratio

Utilizing Band Of Investment Project Estimates

I. Default Ratio

$$DF^- = \frac{5,868 + 4,738 + 730 + 44,194}{74,368}$$

$$DF = \frac{55,530}{74,368}$$

$$DF = .7467$$

II. Effective Cash Cushion

   A.   1.0000 = Potential Gross Income
        -.7467 = Default Ratio
         .2533 = Potential Cash Surplus
        -.0688 = Vacancy
         .1845 = Effective Cushion

   B.   74,368 = Potential Gross Income
        *.1845 = Cushion
        13,721 = Effective Cash Cushion

III. Variation Estimate

   A.   74,368 = Potential Gross Income - .1845

   B.   -5,114 = Vacancy   + 2.6831

   C.   -5,868 = Real Estate Taxes   + 2.3383

   D.   -4,738 = Operating Expenses   + 2.8960

What Is A Good Default Ratio?

The default ratio as a risk index can and does vary for a variety of reasons; as does the preception of risk associated with a project. As the preception of risk increases the default ratio should decrease. It is inconsistent to refer to a project as being "risky" and then allow a default ratio of 90%.

Ideally the analyst would prefer to derive a default ratio depending on the relationships of Use, Lease Type, Lease Term and Space Rented. For example the Demo Problem indicates that the subject property in-cludes a Financial Use, Liquor Store and a Barber Shop. On a scale of 1 to 5, 1 being good and 5 being bad, an analyst could evaluate each use relative to its market potential and develop the following table:

```
Financial = 1
Liquor    = 3
Barber    = 4
```

But further analysis might indicate the following lease structures:

```
Financial = Net Net Net Lease, Market Rent, 5 year term
Liquor    = Net Net Lease, Market Rent, 5 year term
Barber    = Gross Lease, Market Rent, 1 year term
```

With this additional information the risk estimates might result in the following:

```
Financial = 1
Liquor    = 3
Barber    = 4
```

Finally a comparison between space allocation and regional averages may show the following:

Use	Allocated	Average	Difference	% Difference
Financial	2,688	2,594	94	.0350
Liquor	1,344	2,400	-1,056	-.7857
Barber	670	620	50	.075

With this information and no supportive data to the contrary, the risk estimates might result in the following:

```
Financial = 1
Liquor    = 4
Barber    = 4
```

Note that this entire analysis is centered around the Property component
of the analysis process. The People and the Financing will be dealt
with later. The emphasis here is the relationship between the Space
User and its possibility of default. Without the Space User any pro-
ject will eventually default regardless of how strong the investor or
how sweet the financing.

<div align="center">Default Ratio Index - Suggested Only</div>

		Low	Avg.	High
I.	By Use			
	A. Good Strong - Major National Chain	.85	.90	.93
	B. Local User - Established Trade	.75	.80	.85
	C. New Local User - New Location	.65	.70	.75
	D. Miscellaneous - Undefined	.45	.50	.65
II.	By Lease Type			

	A. Gross Lease
	Lessor Pays
	    Property Tax
	    Insurance
	    Maintenance
		.65	.70	.75

	B. Net Lease
	Lessor Pays
	    Insurance
	    Maintenance
		.75	.80	.85

	C. Net Net Lease Lessor Pays Maintenance	.80	.85	.90
	D. Net Net Net Lease Lessor Pays	.85	.90	.93

Default Ratio Weighted - By Use Category

I. Local Use Established Trade

Financial	2,688	= .1846	*	.87	=	.1606
Liquor	1,344	= .0923	*	.80	=	.0738
Cleaners	1,000	= .0687	*	.80	=	.0550
Beauty Shop	1,000	= .0687	*	.80	=	.0550
Barber Shop	670	= .0460	*	.80	=	.0368
	6,702	.4603				.3812

Alternative To Above

```
    6,702 = Total Category 2
÷ 14,560 = Total Building Area
    .4603 = % Category 2
*    .80 = Average Category 2
    .3682 = Weighted Default Ratio - Category 2 Use
```

II. Miscellaneous Use

```
    7,858 = Total Category 4
÷ 14,560 = Total Building Rentable Area
    .5397 = % in Category 4
*    .50 = Average for Category 4
    .2699 = Weighted Default Ratio - Category 4 Use
```

III. Building Default Ratio

```
.3812 = Weight Category 2
.2699 = Weight Category 4
.6511 = Total Building
```

Alternative Method

```
.3682 = Weight Category 2
.2699 = Weight Category 4
.6381 = Total Building
```

REVENUE JUSTIFIED CAPITAL BUDGET
DEFAULT RATIO APPROACH

GROSS	74,368

.35   x   x   .65

1- .65		DEFAULT RATIO
=		=
RISK VARIABLES		48,421 OUTLAYS
25,947		-
-		4,738 EXPENSES
5,114		-
-		5,868 TAXES
0		-
=		730
CASH AVAILABLE		=
20,833		37,085
÷		DEBT SERVICE
.09695		÷
DISTRIBUTION RATE		.1040699 CONSTANT
=		=
JUSTIFIED CASH		JUSTIFIED MORTGAGE
214,884		356,347

+

TOTAL	571,231

-

0
IMPROVEMENT BUDGET

=

571,231
PROPERTY PURCHASE "AS IS"
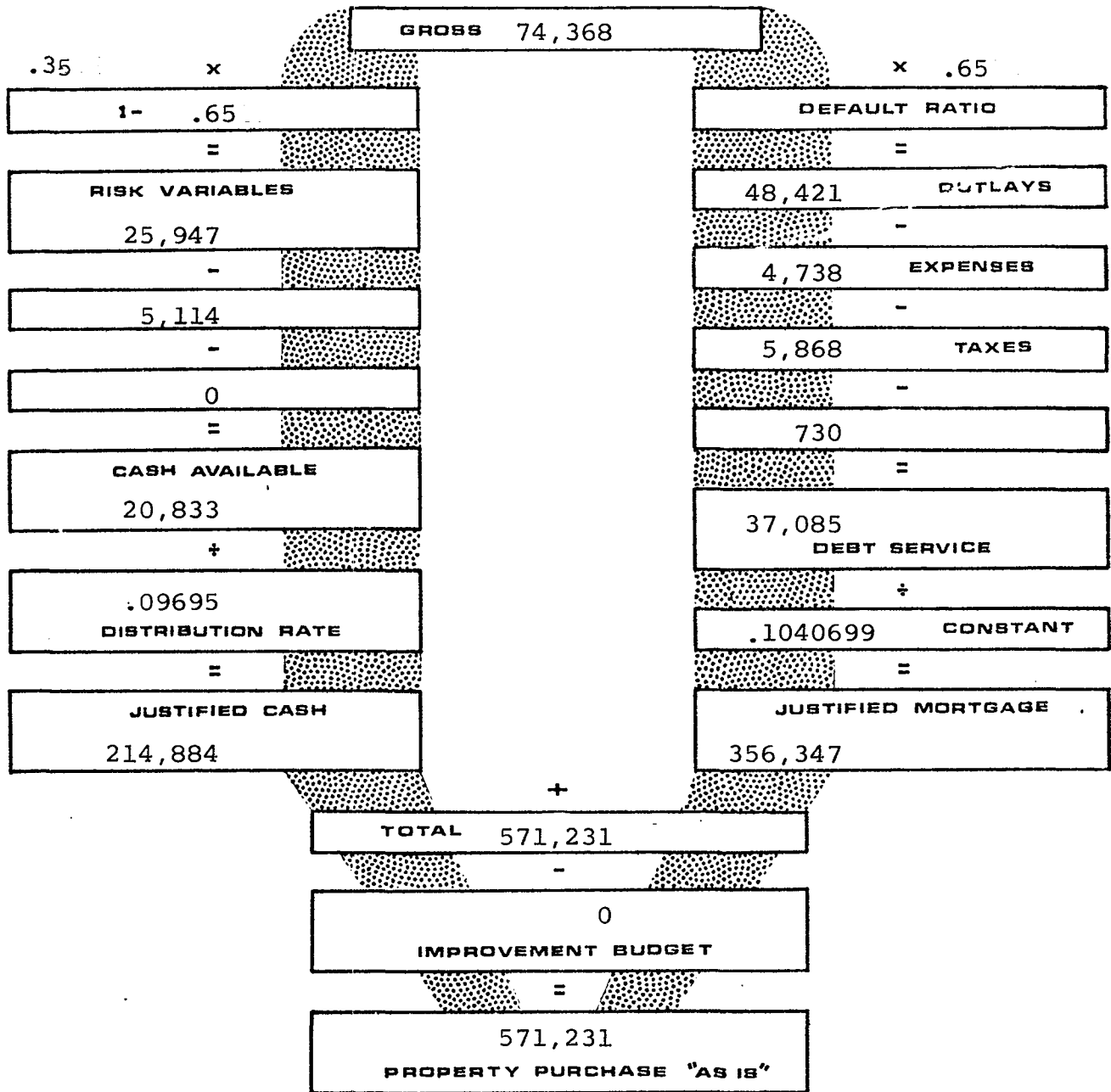
Loan To Value   =   .6238

Debt Coverage Ratio = 1.5618

REVENUE JUSTIFIED CAPITAL BUDGET
DEFAULT RATIO APPROACH

GROSS 74,368

.36   ×   ×   .64

1- .64	DEFAULT RATIO
=	=

RISK VARIABLES	47,454 OUTLAYS
26,914	-

-	4,738 EXPENSES
5,114	-

-	5,868 TAXES
0	-

=	730
CASH AVAILABLE	=
21,780	

÷	36,118 DEBT SERVICE
.09695 DISTRIBUTION RATE	÷
=	.1040699 CONSTANT
	=

JUSTIFIED CASH	JUSTIFIED MORTGAGE
224,856	347,057

+

TOTAL 571,913

-

0
IMPROVEMENT BUDGET

=

571,913
PROPERTY PURCHASE "AS IS"
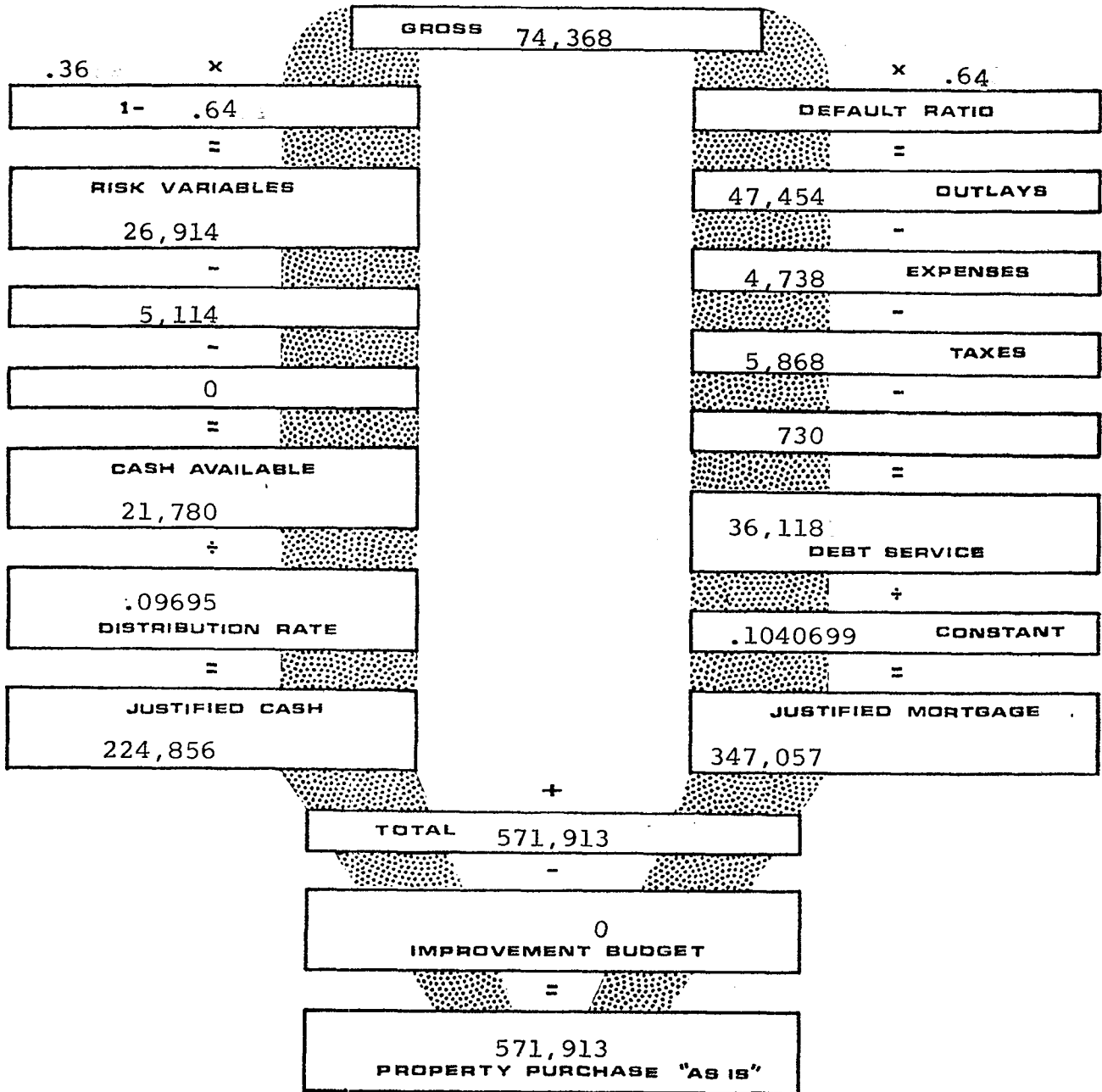
Loan To Value   =   .6068

Debt Coverage Ratio = 1.6036

Assignment

Solve for alternative Project Estimates by replacing the default ratio
of the miscellaneous space with:

A.   The average value for Category 2 - this means that the miscellaneous
      space will _eventually_ be leased to the same type of tenants as
      currently exist in the building.

B.   The average value for Category 3 - this means that the space will
      be rented to tenants somewhat different than existing tenants, i.e.
      new enterprises.

With the forms provided derive the Project Estimation and note the
shift occurring in the parameters.

REVENUE JUSTIFIED CAPITAL BUDGET
DEFAULT RATIO APPROACH

	GROSS	

| x | | x |

| 1- | | DEFAULT RATIO |

| = | | = |

| RISK VARIABLES | | OUTLAYS |

| - | | - |

| | | EXPENSES |

| - | | - |

| | | TAXES |

| = | | - |

| CASH AVAILABLE | | |

| | | = |

| ÷ | | DEBT SERVICE |

| DISTRIBUTION RATE | | ÷ |

| | | CONSTANT |

| = | | = |

| JUSTIFIED CASH | | JUSTIFIED MORTGAGE |

+

| TOTAL |

-

| IMPROVEMENT BUDGET |

=

| PROPERTY PURCHASE "AS IS" |

REVENUE JUSTIFIED CAPITAL BUDGET
DEFAULT RATIO APPROACH

GROSS

x | x

1- | DEFAULT RATIO

= | =

RISK VARIABLES | OUTLAYS

- | -

| EXPENSES

- | -

| TAXES

= | -

CASH AVAILABLE |

÷ | =

DISTRIBUTION RATE | DEBT SERVICE

= | ÷

JUSTIFIED CASH | CONSTANT

| =

| JUSTIFIED MORTGAGE

+

TOTAL

-

IMPROVEMENT BUDGET

=

PROPERTY PURCHASE "AS IS"

REVENUE JUSTIFIED CAPITAL BUDGET
DEFAULT RATIO APPROACH

GROSS

x		x

1-		DEFAULT RATIO

=		=

RISK VARIABLES		OUTLAYS

		-

-		EXPENSES

		-

-		TAXES

		-

=		

CASH AVAILABLE		=

÷		DEBT SERVICE

		÷

DISTRIBUTION RATE		CONSTANT

=		=

JUSTIFIED CASH		JUSTIFIED MORTGAGE

+

TOTAL

-

IMPROVEMENT BUDGET

=

PROPERTY PURCHASE "AS IS"

Exhibit 16

I. Elements of After Tax Synthesis

   A. Identification of profit center trade level

   B. Specification of the time line for outlays and receipts

   C. The capital budget (source & application)
      1. Construction costs
      2. Carrying costs

   D. Operating budgets (source & application)
      1. Pattern of sales revenues
      2. Fixed management costs
      3. General sales costs and investment

   E. Financing plan
      1. Credit amounts and terms
      2. Equity amounts and terms
      3. Holding power

   F. Profits classified as to type and tax
      1. Cash from operations
      2. Cash from capital gains
      3. Cash surplus from financing
      4. Cash from tax savings on other income
      5. Cash from reduction or shift of fixed outlays
      6. Indirect non-cash benefits

   G. Selected measures of profitability
      1. Measures of spendable cash
      2. Measures of change in net worth without sale
      3. Measures of change in net worth after sale

Exhibit 15

SYSTEMATIC ESTIMATION OF FORECAST ANNUAL INCOME FOR AN INCOME-PRODUCING PROPERTY

PART I.   ANNUAL RETURNS TO INVESTOR

BASIC APPRAISAL A LA SRA 201

A. ESTIMATE POTENTIAL GROSS CASH INCOME: CASH INCOME FROM SPACE SALES

B. DEDUCTIONS FROM POTENTIAL GROSS
   1. NORMAL VACANCY
   2. SEASONAL INCOME LOSS
   3. COLLECTION LOSSES
   4. FRANCHISE FEES, DEPOSITS RETURNED, ETC.

C. ADD "OTHER" INCOME FROM SERVICE SALES

D. DERIVE EFFECTIVE GROSS INCOME

E. DEDUCT OPERATING EXPENSES (ON EXPECTED CASH OUTLAY WITHOUT ACCRUAL RESERVES)
   1. FIXED EXPENSES
   2. VARIABLE EXPENSES
   3. REPAIRS AND MAINTENANCE
   4. REPLACEMENTS

F. DERIVE NET OPERATING INCOME

MORTGAGE EQUITY APPROACH

G. DEDUCT ANNUAL DEBT SERVICE
   1. CONTRACT INTEREST
   2. SUPPLEMENTARY VARIABLE INTEREST
   3. PRINCIPAL AMORTIZATION

H. DERIVE CASH THROW--OFF

PART I OF IMV INVESTMENT VALUE APPROACH

I. ADD BACK PRINCIPAL PAYMENTS AND REPLACEMENTS

J. DEDUCT TAX DEPRECIATION ALLOWANCE

K. DERIVE TAXABLE INCOME

L. DETERMINE MARGINAL INCOME TAX ON REAL ESTATE INCOME

M. DEDUCT INCOME TAX FROM CASH-THROW OFF (H)

N. DERIVE AFTER-TAX CASH FLOW

O. ADD TAX SAVINGS ON OTHER INCOME (IF K IS NEGATIVE)

P. ADD SURPLUS FROM REFINANCING

Q. DERIVE SPENDABLE AFTER-TAX CASH

PART II.   RESALE RETURNS TO INVESTOR (OVER)

J. Graaskamp

PART II.   RESALE RETURNS TO INVESTOR

    A.   ESTIMATED RESALE PRICE

    B.   DEDUCT BROKER'S COMMISSION AND OTHER TRANSACTION COSTS

    C.   DERIVE EFFECTIVE GROSS PROCEEDS FROM SALE

   .D.   DEDUCT ALL CREDIT CLAIMS
      1.   SHORT AND LONG TERM NOTE BALANCES DUE
      2.   PREPAYMENT PENALTIES
      3.   DEDUCT EQUITY SHARES TO NON-OWNER INTEREST

    E.   DERIVE PRE-TAX REVERSION TO EQUITY

    F.   DEDUCT TAX CLAIMS ON OWNERSHIP INTEREST
      1.   DEDUCT CAPITAL GAINS TAX
      2.   DEDUCT INCOME TAX ON DISALLOWED ACCELERATED
         DEPRECIATION
      3.   DEDUCT SURTAX ON TAXABLE PREFERENTIAL INCOME

    G.   DERIVE AFTER TAX RESALE PROCEEDS TO INVESTOR

CAPITAL BUDGET

Exhibit 7

FRONT DOOR
APPROACH

ARCHITECTURAL PROGRAM

CONSTRUCTION COST PER SQ. FT. ← BUILDING COMPLEXITY AND QUALITY

*

GROSS BUILDING AREA ← BUILDING DESIGN AND EFFICIENCY

=

BUILDING BUDGET

+

LAND VALUE, SITE WORK, FEES, CARRYING CHARGE, BUILDERS PROFIT

=

PROJECT BUDGET * MORTGAGE LOAN / COST

−

MORTGAGE LOAN * MORTGAGE CONSTANT = ANNUAL DEBT SERVICE

=

EQUITY * CASH ON CASH RATE = CASH THROW-OFF

MARKET CHECK

PROJECT VALUE

÷

NET INCOME MULTIPLIER

=

NET OPERATING INCOME

+

RESERVES

+

REAL ESTATE TAXES AND OPERATING EXP.

+

VACANCY & BAD DEBT

=

POTENTIAL GROSS INC.

÷

NET LEASEABLE AREA

=

RENT PER SQ. FT.

MARKET   TARGET

OPERATING BUDGET

DEPRECIATION − MORTGAGE INTEREST

=

TAXABLE INCOME

*

TAX RATE

=

− TAX LIABILITY OR + TAX CREDIT

+

CASH THROW-OFF

=

SPENDABLE CASH AFTER TAXES

TAX SUBSIDY

Exhibit 8
FRONT DOOR - MINIMUM RENT REQUIRED

$$\$20/\text{sq. ft.}$$
$$\times$$
$$20{,}000 \text{ sq. ft.}$$
$$=$$
$$\$400{,}000$$
$$\div$$
$$\$200{,}000$$
$$=$$
$$\$600{,}000$$
$$-$$

		(80% LTV)		
$480,000	X	(.1025 constant)	=	$49,200

$$+$$

$120,000	X	.07	=	$8,400

$$=$$
$$\$57{,}600$$
$$+$$
$$\$2{,}400$$
$$+$$
$$\$50{,}000$$
$$+$$
$$\$6{,}000$$
$$=$$

$$\$116{,}000 \qquad \text{90\% NLA}$$
$$\div$$
$$\$18{,}000$$
$$=$$
$$\$6.44\text{-}6.50/\text{sq.ft.}$$

Default ratio:

$$\frac{\text{Debt service + expenses}}{\text{Gross rent}}$$

$$\frac{\$49{,}200 + 50{,}000}{\$116{,}000} = 86\%$$

Payback before taxes:

$$\frac{\text{Equity cash investment}}{\text{Equity dividend}}$$

$$\frac{120{,}000}{8{,}400} = 14+ \text{ yrs.}$$

Debt cover ratio:

$$\frac{\text{Net operating income*}}{\text{Debt service}}$$
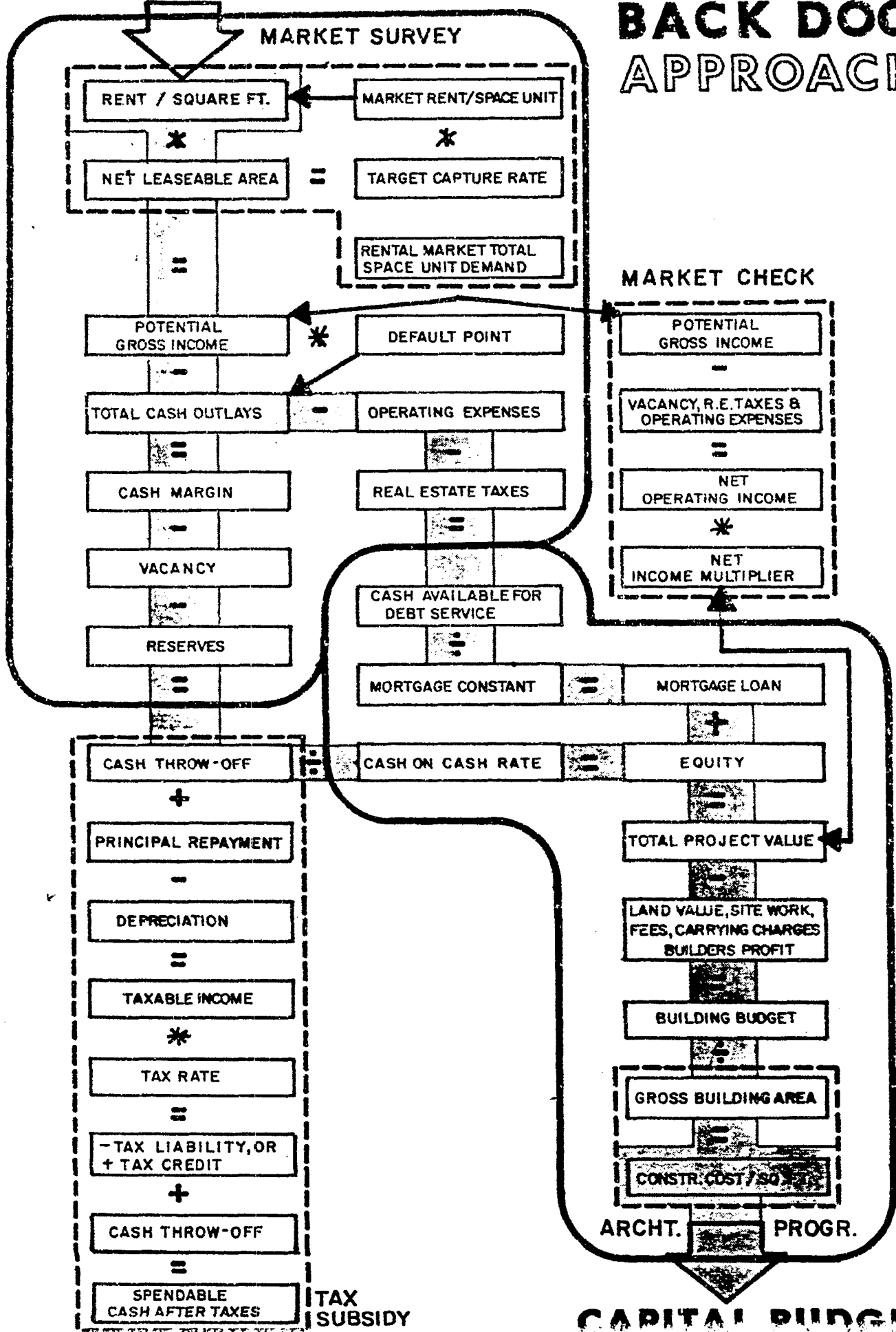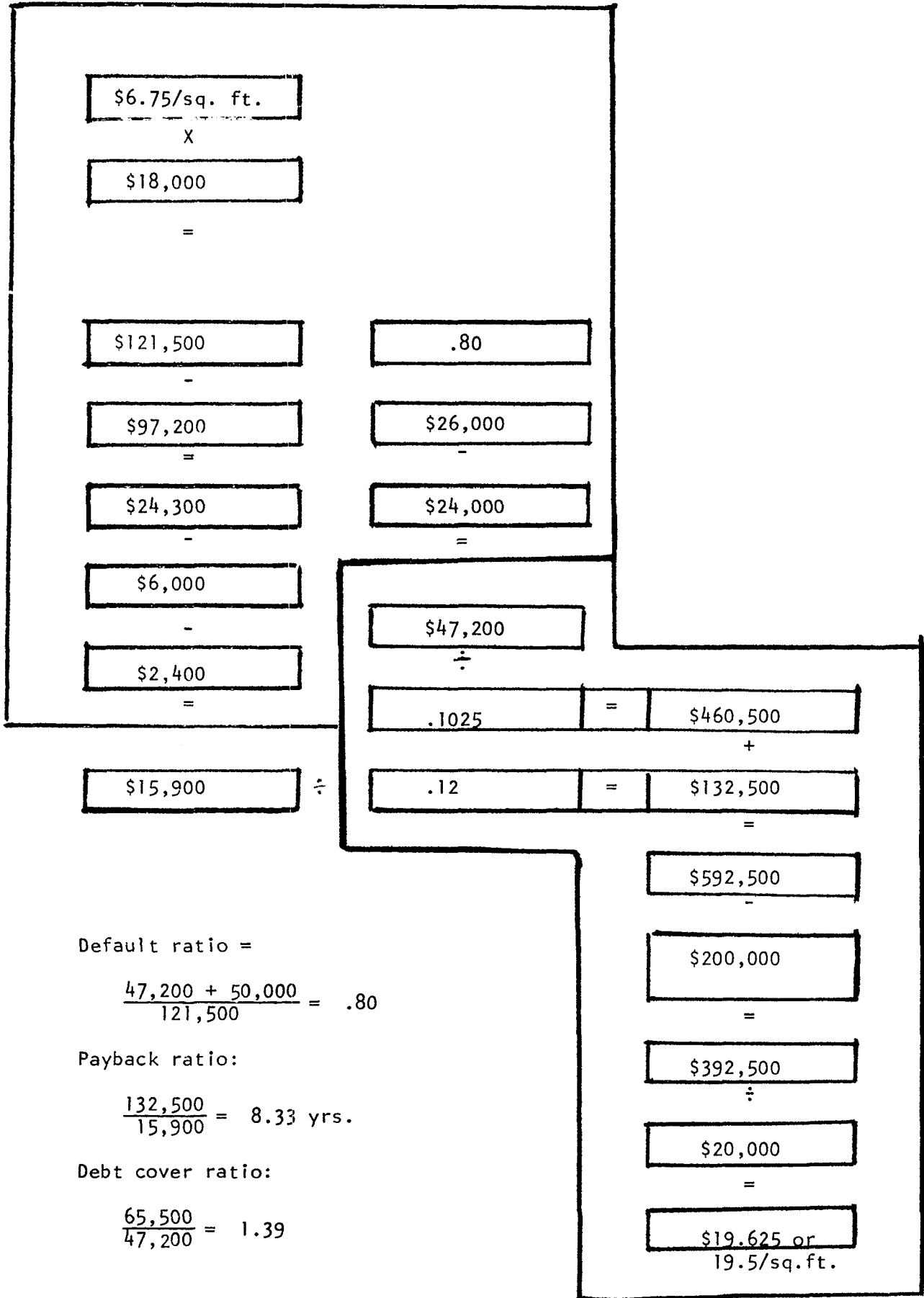
$$\frac{60{,}000}{49{,}200} = 1.22$$

* NOI = gross rent - vacancy - expenses

OPERATING BUDGET

Exhibit 9

BACK DOOR APPROACH

MARKET SURVEY

RENT / SQUARE FT.	←	MARKET RENT/SPACE UNIT
*		*
NET LEASEABLE AREA	=	TARGET CAPTURE RATE
		RENTAL MARKET TOTAL SPACE UNIT DEMAND

=

MARKET CHECK

POTENTIAL GROSS INCOME	*	DEFAULT POINT	POTENTIAL GROSS INCOME
—			—
TOTAL CASH OUTLAYS	—	OPERATING EXPENSES	VACANCY, R.E. TAXES & OPERATING EXPENSES
=			=
CASH MARGIN		REAL ESTATE TAXES	NET OPERATING INCOME
—		=	*
VACANCY		CASH AVAILABLE FOR DEBT SERVICE	NET INCOME MULTIPLIER
—		÷	
RESERVES		MORTGAGE CONSTANT = MORTGAGE LOAN	
=			+

CASH THROW-OFF	÷ CASH ON CASH RATE =	EQUITY
+		
PRINCIPAL REPAYMENT		TOTAL PROJECT VALUE ←
—		
DEPRECIATION		LAND VALUE, SITE WORK, FEES, CARRYING CHARGES BUILDERS PROFIT
=		
TAXABLE INCOME		BUILDING BUDGET
*		÷
TAX RATE		GROSS BUILDING AREA
=		=
— TAX LIABILITY, OR + TAX CREDIT		CONSTR. COST / SQ. FT.
+		
CASH THROW-OFF		ARCHT. PROGR.
=		
SPENDABLE CASH AFTER TAXES	TAX SUBSIDY	

CAPITAL BUDGET

$6.75/sq. ft.

X

$18,000

=

$121,500		.80
-		
$97,200		$26,000
=		-
$24,300		$24,000
		=
$6,000		
-		$47,200
$2,400		÷
=		

$15,900	÷	.1025	=	$460,500
				+
		.12	=	$132,500
				=

$592,500

-

$200,000

=

$392,500

÷

$20,000

=

$19.625 or
19.5/sq.ft.

Default ratio =

$$\frac{47,200 + 50,000}{121,500} = .80$$

Payback ratio:

$$\frac{132,500}{15,900} = 8.33 \text{ yrs.}$$

Debt cover ratio:

$$\frac{65,500}{47,200} = 1.39$$

```
HHHH
U#=WCE97120,
PASSWORD
█████████████
ID:MIKE
EDUCARE COMPUTER NETWORK 03/11/79 13:51CST


USED      .98 UNITS
TYPE 6
READY
```

page 41 not found

RUN ELLWOOD

ELLWOOD   13:51CST   03/11/79

REVISED 6/17/75

  1 EQ YLD? ?
EQUITY YIELD RATE DESIRED
  1 EQ YLD? .09695
  2 PROJ PD? ?
PROJECTION PERIOD OF FORECAST IN YEARS
  2 PROJ PD? 1
MORTGAGE 1 DATA
  4 MTG INTR? ?
MORTGAGE INTEREST RATE; IF ALL MTGS ENTD PRESS RETURN
  4 MTG INTR? .1040699
  5 MTG PD? ?
TERM OF MORTGAGE IN YEARS, IF UNKNOWN PRESS RETURN
  5 MTG PD?
  6 MTG CON? ?
MORTGAGE CONSTANT; RATIO TOT.ANN.PMTS TO ORIG.MTGE AMT.
  6 MTG CON? .1040699
  7 PMT PDS/YR? ?
NUM OF PAYMENT PERIODS PER YEAR, EG 4=QUARTERLY
  7 PMT PDS/YR? 1
  10 M? ?
MORTGAGE AMT AS A % OF VALUE, IF UNKNOWN PRESS RETURN
  10 M? .623823
MORTGAGE 2 DATA
  14 MTG INTR?
  52 %DEPR(-APPR)? ?
% DEPREC. OF CURRENT VALUE OVER PROJ. PD; ENTER APPR NEG
  52 %DEPR(-APPR)? 0
  55 INC? ?
NET ANNUAL INCOME BEFORE R.E. TAXES
  55 INC? 57918
  53 % INCR INCOME? ?
% INCR IN INCOME DURING PROJ PD, IF CONST ENTER ZERO
  53 % INCR INCOME? 0
  58 EF.R.E.TX.R.? ?
EFFECTIVE REAL ESTATE TAX RATE (PART OF OAR), OR USE 0
  58 EF.R.E.TX.R.? 0
 -.0071199 = MTG 1 C
  .1013916 = BASIC RATE
  .1013916 = OVERALL RATE
    571230 = VALUATION
MODE? P

```
MORTGAGE1  62%  356347 AT .1041    37084
    EQUITY  38%  214883 AT .0970    20833
            TOTAL   571230          57918 INCOME


571230 ORIGINAL PRICE
     0 LESS 0% DEPRECIATION
-------
571230 PROPERTY REVERSION, DEFERRED 1 YEARS
        356347 MORTGAGE 1
356347        0 LESS 1 YEAR AMORTIZA.ION; (0)
-------
214883 EQUITY REVERSION, DEFERRED 1 YEARS

PRESENT VALUE OF EQUITY INCOME AND REVERSION AT 9.695%

 18991 INCOME, 20833. X 0.911619
195892 REVERSION, 214884. X 0.911619
-------
214883 TOTAL
```

```
MODE? C
#,NEWVAL? 1,.0975
#,NEWVAL?
-.0065699 = MTG 1 C
 .1015985 = BASIC RATE
 .1015985 = OVERALL RATE
    570067 = VALUATION
MODE? C
#,NEWVAL? 1,.10
#,NEWVAL?
-.0040699 = MTG 1 C
 .1025389 = BASIC RATE
 .1025389 = OVERALL RATE
    564839 = VALUATION
MODE? C
#,NEWVAL? 1,.0950
#,NEWVAL?
-.0090699 = MTG 1 C
 .1006580 = BASIC RATE
 .1006580 = OVERALL RATE
    575393 = VALUATION
MODE? C
#,NEWVAL? 1,.0925
#,NEWVAL?
-.0115699 = MTG 1 C
 .0997176 = BASIC RATE
 .0997176 = OVERALL RATE
    580820 = VALUATION
MODE? C
#,NEWVAL? 1,.09695
#,NEWVAL? 10,.60
#,NEWVAL?
-.0071199 = MTG 1 C
 .1012219 = BASIC RATE
 .1012219 = OVERALL RATE
    572188 = VALUATION
MODE? C
#,NEWVAL? 10,.65
#,NEWVAL?
-.0071199 = MTG 1 C
 .1015779 = BASIC RATE
 .1015779 = OVERALL RATE
    570182 = VALUATION
MODE? C
#,NEWVAL? 10,.70
#,NEWVAL?
-.0071199 = MTG 1 C
 .1019339 = BASIC RATE
 .1019339 = OVERALL RATE
    568191 = VALUATION
MODE? C
#,NEWVAL? 10,.75
#,NEWVAL?
-.0071199 = MTG 1 C
 .1022899 = BASIC RATE
 .1022899 = OVERALL RATE
    566214 = VALUATION
MODE? Q
```

Summary Table

	Equity Yield	Mortgage %	Value
1.	.09695	.623823	571,230
2.	.0975	"	570,067
3.	.1000	"	564,839
4.	.0950	"	575,393
5.	.0925	"	580,820
6.	.09695	.60	572,188
7.	"	.65	570,182
8.	"	.70	568,191
9.	"	.75	566,214
10.			

```
USED    4.80 UNITS
/COST OFF

ACCRUED CHARGES SINCE SIGNIN
$  0.84 COMPUTER
   1.66 CONNECT
   0.41 CHARACTERS
  -1.03 EDU DISC
$  1.87 TOTAL
EFFICIENCY =  24.7
 00006.52  CRU     0000.12  TCH     0003.13  KC

OFF AT 13:58CST 03/11/79
```

1.	Chemical Bank	Demo Problem			
	Project Title	User Name			
10.	1979	0	1	1.0	5 . 14,560
	Starting Year	Data Sets	Classification	% Owned Yr. 1	Holding Period Units/Year
40.	74,368	*			
	Fixed Income	2	3	4	5
60.	5,114	*			
	Vacancy Rate	2	3	4	5
70.	5,868	*			
	Real Estate Tax	2	3	4	5
80.	4,738	*			
	Fixed Expenses	2	3	4	5
100.	.09695	.50	.07		
	Discount Rate	Income Tax Rate	Reinvestment Rate		
101.	0	0	5		
	Extraordinary Exp.	Project Growth Rate	Project Growth Type		
102.	.12	1	.065	0	
	Working Capital Loan	Ownership	Resale Cost Rate	Charge New Capital	

COMPONENT ENTRIES

200. 1.	Land			
	Title(20 character maximum)			
201. 1.	87,304	0	0	
	Original Cost	% Depreciable	Depreciation Method	
202. 1.	1	0	0	
	Starting Year	Useful Life	Switching	
200. 2.	Improvements			
	Title			
201. 2.	342,370	.90	4	
	Original Cost	% Depreciable	Depreciation Method	
202. 2.	1	33	0	
	Starting Year	Useful Life	Switching	
200. 3.				
	Title			
201. 3.				
	Original Cost	% Depreciable	Depreciation Method	
202. 3.				
	Starting Year	Useful Life	Switching	

MORTGAGE ENTRIES

300. 1.	First Mortgage			
	Title(20 character maximum)			
301. 1.	.75	.09625	0	27
	Principal Amount	Annual Interest	Payment Period	Term
302. 1.	12	1	27	0
	Payments/Year	Year Began	Year End	Refinanced by #
303. 1.				
	Bonus Interest	Base Amount	Base Type	Mortgage Factor
300. 2.				
	Title			
301. 2.				
	Principal Amount	Annual Interest	Payment Period	Term
302. 2.				
	Payments/Year	Year Began	Year End	Refinanced by #
303. 2.				
	Bonus Interest	Base Amount	Base Type	Mortgage Factor

400,	1	1	1	1	1					
	1	2	3	4	5	6	7	8	9	10
403,	1	2	3	4						

999,99

Pages 48-53 not found

20. _____ · _____ · _____ · _____ · _____ · _____
       Back-Door   Back-Door Loans   Investment Default   B/4 Tax   Beginning Year   End Year

= Back Door

   0 = Do <u>Not</u> process through Back Door
   1 = Derive value based on Default Ratio
   2 = Derive value based on Loan-to-Value Mortgage
   3 = Derive value based on Debt Coverage Ratio

30. _____ · _____ · _____ · _____ · _____ · _____
     Default Ratio   Cash-On-Cash   Year   % Change   Equity B/4 Tax   Reserve B/4 Tax

103.   730_____ · .0_____ · .0_____ · .0_____
     Reserves Witheld   Equity Reserves   Equity Reserve Rate   Reserve Maximum

                                Field #5 = Depreciation Method

                                0 = no depreciation
                                1 = sum of the years digits
                                2 = straight line
                                3 = 125% declining balance
                                4 = 150% declining balance
                                5 = 200% declining balance
= Bonus Basis Type   **6** = reverse sum of years digits
                                9 = equity modification

   1 = fixed income - base amount   **"-"** = remove equity
   2 = gross rent - base amount   **"+"** = add equity
   3 = effective gross rent - base amount
   4 = fixed income - fixed expense - base amount
   5 = net income - base amount
   6 = cash throw - base amount * bonus interest rate
   7 = market value - base amount * bonus interest rate
   8 = B/4 net worth - base amount * bonus interest rate
   9 = after tax net worth - base amount * bonus interest
       rate

               <u>Report Field Identifiers</u>

<u>Field #</u>	<u>Report Title</u>	<u>Field #</u>	<u>Report Title</u>
1.	Summary of Income & Expense	6.	After Tax Ratios
2.	Component Summary	7.	Modified Internal Rate of Return
3.	Cash Flow	8.	Mortgage Amortization
4.	Market Value	9.	Depreciation Schedules
5.	Before Tax Ratios	10.	Partnership Report

          * = Position #1 of Card 400

          5 = Auto 1, 2, 3, 4, 5, 6, 7, 10

          9 = Auto All

          3 = Select Specific Line #'s (10 maximum)

PRINT YEARS (Enter any year number 1-25, in any order)

403 _____ , _____ , _____ , _____ , _____ , _____ , _____ , _____ , _____ , _____

    99 = first entry line 403 means 10 year wide carriage output option.

```
1,CHEMICAL BANK,DEMO.PROBLEM
10,1979,0,1,1.0,5,14560
40,74368,*
60,5114,*
70,5868,*
80,4738,*
100,.09695,.50,.07
101,0,.0,5
102,.12,1,.065,0
103,730,.0,.0,.0
200,1,LAND
201,1,87304,.0,0
202,1,1,0,0
200,2,IMPROVEMENTS
201,2,342370,.90,4
202,2,1,33,0
300,1,FIRST MORTGAGE
301,1,.75,.09625,0,27
302,1,12,1,27,0
400,1,1,1,1,1,
403,1,2,3,4
999,99
#
```

INVESTMENT ANALYSIS OF

CHEMICAL BANK

FOR

DEMO.PROBLEM

R E P O R T   S E C T I O N   N U M B E R   1   PAGE 1
==

```
* GROSS RENT      $  74368.  * RATE OF GROWTH OF GROSS RENT  0.0000
* EXPENSES        $   4738.  * RATE OF GROWTH OF EXPENSES    0.0000
* R E TAXES       $   5868.  * RATE OF GROWTH OF R E TAXES   0.0000
* INCOME TAX RATE  0.5000      PROJECT VALUE GROWTH OF        5.0000
* VACANCY RATE     0.0688      WORKING CAPITAL LOAN RATE      0.1200
  EQUITY DISCOUNT  0.0970      EXTRAORDINARY EXPENSES    $       0.
  RESALE COST      0.0650      REINVESTMENT RATE              0.0700
  WKG CAPITAL RS $     0.      CAPITAL RESER INTEREST RATE    0.0000
  INITIAL COST $  429674.      INITIAL EQUITY REQUIRED   $ 107419.
```

ALL '*' VALUES ARE AVERAGE AMOUNTS FOR HOLDING PERIOD. OF 5 YRS.

R E P O R T   S E C T I O N   N U M B E R   2   PAGE 1
==

C O M P O N E N T   S U M M A R Y

TITLE	PCT. DEPR	BEGIN USE	USEFUL LIFE	DEPR METHOD	COST	SCH
LAND	0.00	1	0.	0	$ 87304.	0
IMPROVEMENTS	0.90	1	33.	4	$ 342370.	0

M O R T G A G E   S U M M A R Y

TITLE	INTR RATE	BEGIN YR.	END YR.	TERM	ORIG BALC	PCT VALUE
FIRST MORTGAGE	0.0962	1	27	27	$ 322256.	0.750

P R O   F O R M A

INVESTMENT ANALYSIS OF

CHEMICAL BANK

FOR

DEMO.PROBLEM

R E P O R T   S E C T I O N   N U M B E R   3   PAGE 1
==

CASH FLOW ANALYSIS

==================	1979	1980	1981	1982
1 GROSS RENT	74368.	74368.	74368.	74368.
2 LESS VACANCY	5114.	5114.	5114.	5114.
3 LESS REAL ESTATE TAXES	5868.	5868.	5868.	5868.
4 LESS EXPENSES	4738.	4738.	4738.	4738.
5 NET INCOME	58648.	58648.	58648.	58648.
6 LESS DEPRECIATION	15562.	14855.	14180.	13535.
7 LESS INTEREST	30903.	30638.	30346.	30025.
8 TAXABLE INCOME	12183.	13155.	14122.	15088.
9 PLUS DEPRECIATION	15562.	14855.	14180.	13535.
10 LESS PRINCIPAL PAYMENTS	2634.	2899.	3191.	3512.
11 CASH THROW-OFF	25111.	25111.	25111.	25111.
12 LESS TAXES	6091.	6578.	7061.	7544.
13 LESS RESERVES AT 730.000	730.	730.	730.	730.
14 CASH FROM OPERATIONS	18290.	17803.	17320.	16837.
15 WORKING CAPITAL LOAN(CUM B)	0.	0.	0.	0.
16 DISTRIBUTABLE CASH AFR TAX	18290.	17803.	17320.	16837.
17 TAX SAVING ON OTHER INCOME	0.	0.	0.	0.
18 SPENDABLE CASH AFTER TAXES	18290.	17803.	17320.	16837.

CASH FLOW ANALYSIS
=====================   1979   1980   1981   1982
MARKET VALUE
19 BY METHOD - 5 - AT 0.0000 429674.   429674.   429674.   429674.
20 LESS RESALE COST   27929.   27929.   27929.   27929.
21 LESS LOAN BALANCES   319621.   316722.   313531.   310019.
22 PLUS CUM. CASH RESERVES   730.   1460.   2190.   2920.

23 B/4 TAX NET WORTH   82854.   86483.   90404.   94646.

24 CAPITAL GAIN (IF SOLD)   -18591.   -9254.   83.   9421.
25   CAPITAL GAINS TAX   -3718.   -1851.   17.   1884.
26   TAX PREFERENCE TAX   0.   0.   0.   0.
27   INCOME TAX ON EXCESS DEP   3112.   5871.   8292.   10391.
28   TOTAL TAX ON SALE   1253.   4946.   8309.   12275.

29 AFTER TAX NET WORTH   81601.   81537.   82095.   82370.

YEAR OF ANALYSIS
===================   1979   1980   1981   1982

BEFORE TAX RATIO ANALYSIS
=========================
30 RETURN ON NET WORTH B/4 TAX   0.0051   0.3469   0.3357   0.3247
31 CHANGE IN NET WORTH B/4 TAX -24565.   3629.   3921.   4242.
32 CASH RTN ON ORIG CASH EQUITY 0.2338   0.2338   0.2338   0.2338
33 PERCENT ORIG EQUITY PAYBACK   0.1703   0.3360   0.4972   0.6540
34 PRESENT VALUE OF PROJECT   420678.   437887.   453529.   467748.

YEAR OF ANALYSIS

========================   1979   1980   1981   1982

AFTER TAX RATIO ANALYSIS
========================
35	RETURN ON NEW WORTH AFT TAX	-0.0701	0.2174	0.2193	0.2084
36	CHANGE IN NET WORTH AFT TAX	-25818.	-63.	558.	276.
37	CASH RTN ON ORIG CASH EQUIY	0.1703	0.1657	0.1612	0.1567
38	PERCENT ORIG EQUITY PAYBACK	0.1703	0.3360	0.4972	0.6540
39	PRESENT VALUE OF PROJECT	413317.	421485.	429041.	435362.

40	NET INCOME-MARKET VALUE RTO	0.1365	0.1365	0.1365	0.1365
41	LENDER BONUS INTEREST RATE	0.0000	0.0000	0.0000	0.0000
42	DEFAULT RATIO	0.5936	0.5936	0.5936	0.5936

YEAR OF ANALYSIS

==================   1979   1980   1981   1982

MODIFIED INTERNAL RATE OF RETURN ANALYSIS
===

RETURN ANALYSIS WITHOUT SALE
============================

41	CUM. AFT TAX SPENDABLE CASH	18290.	37373.	57309.	78158.
44	MOD. I.R.R. ON ORIG EQUITY	-0.8297	-0.4102	-0.1889	-0.0764
45	MOD. I.R.R. ON CUM. EQUITY	-0.8297	-0.4102	-0.1889	-0.0764

RETURN ANALYSIS WITH SALE
=========================

46	CUM. CASH LESS ORIG EQUITY	-7528.	11492.	31985.	53110.
47	CUM. CASH LESS CUM. EQUITY	-7528.	11492.	31985.	53110.
48	MOD I.R.R. ON ORIG EQUITY	-0.0701	0.0521	0.0908	0.1057
49	MOD I.R.R. ON CUM. EQUITY	-0.0701	0.0521	0.0908	0.1057

VI. <u>Property analysis to determine alternative uses</u>

A. Elements of analysis are approached as an inductive research problem moving progressively from on-site facts to external conditions. The appraiser needs to examine the following elements in sequence: (See Exhibit 3)

1. Physical attributes of site and improvement.

2. Legal-political constraints on alternative uses.

3. Basic financial parameters of alternative uses.

4. Existence of effective market demand for remaining alternatives.

5. Comparative risk and return evaluation of alternatives for which there may be demand.

B. A physical analysis of inventory of site and improvement attributes should include the five following subsets:

1. Physical attributes (static) include site dimensions, soils, geology, topography, site improvements and capacity, and on-site flora and fauna.

2. Legal-political attributes include not only zoning and sub-dividing codes at the local level but also relevent federal, state, or private controls which might direct or restrict site use. As appropriate, the appraiser should note administrative patterns relevant to application of law to use of subject site.

3. Linkage attributes identify relationships of site to networks, populations or activities centers that might generate potential demand for the subject property.

4. Dynamic attributes are those attributes which exist in the mind of others in terms of status, anxiety, beauty, imagery, sentimentality or other perceptions which attach to the subject property to the degree that these are economically significant.

5. Environmental attributes of the site concern with off-site natural systems of which the subject property may be a part such as riparian rights, pollution down wind, storm water runoff, etc. Even the shadow cast by the structure off-site may become significant in the era of solar energy. Impacts on others may be perceptual (i.e. dynamic) or fiscal (legal-political) as well.

C. Static site attributes which begin to narrow the potential market to alternative uses should include both the facts and their implications for productive use in such topic areas as:

   1. Size, shape, and lot area

   2. Topography, soils, geology, slope stability, bearing capacity, septic suitability, potential for subsidance, etc.

   3. Water table, wells, streams, ponds, storm water swales, shoreland edges, and bulkhead lines, flood plain designations, etc.

   4. Flora and fauna which enhance marketability or which might cause environmental impact litigation

   5. Concealed utility easements, old foundations, etc.

   6. Existing on-site utility services and capacity

   7. Access points to public thoroughfares or private right-of-ways

   8. Site improvements such as paving, retaining walls, pedestrian paths, culverts, etc.

   9. Landmark attributes or historical site features

D. An inventory of legal attributes should move from specific site controls imposed by local zoning ordinances to state and federal regulations as well as private controls which may intervene. The appraiser has an obligation to report foreseeable attitues or future legislation which will affect administration of these ordinances relative to future uses of the site.

   1. All alternative setback lines and building envelope interpretations relative to site

   2. Legal uses under applicable zoning and critical limitations of each relative to FAR, bulk, parking requirements, DU count, etc.

3. Special zoning options which may be available at owners option such as rezoning, downzoning, PUD zoning, etc.

4. Special controls imposed by extra-territorial zoning, tax conservancy commitments, subdivision process, urban renewal districts, tax increment districts, etc.

5. Special state or federal constraints under airport approach zone districts, harbor commissions, coastal zones, Office of Environmental Protection Agency, etc.

6. Public attitudes of public commissions for sewer, water, highway, planning, or building administration

7. Public and planning premises of community master plans relative to sprawl, restoration, redevelopment, and other land use priorities as these attitudes will affect administraion of the law

8. Existing or impending legislation relative to such matters as:

    a. Septic tank installation
    b. Water quality for ground water, water recharge areas, storm water runoff, salt water encroachment, etc.
    c. Air quality standards relative to use, HVAC performance, micro-climate interference, etc.
    d. Conservation of envrionmental edges, prime agricultural land, wet lands

9. Define physical system sub-systems

    a. Foundation system
    b. Structural system
    c. Floor system
    d. Ceiling system
    e. Roof system
    f. Exterior wall system
    g. Interior wall system
    h. Horizontal circulation sytsem (provacy, interaction, congestion, confusion)
    i. Vertical circulation system (handicapped code, cost, economy of scale and height)

10. Delineation of functional systems

    a. Bay spaces
    b. Module unit
    c. Ceiling heights
    d. Visual codes - such as mass, entrance, claustrophobic signals

11. Public controls on possible alternative special uses such as restaurants, places of public assembly, schools, etc.

Static Attributes

Physical

Legal

Linkage

Environmental

Building Envelope
& Orientation of
Technical Alternatives

Market Attributes

General Market
Patterns

Micro Markets

Neighborhood
Expectations

Future Markets

Possible Alternative
Use Scenarios

Consumer profiles, price range, and product description

Alternative revenue justified capital budgets and source and application financing structure

Preliminary environmental, political, and fiscal constraints

After-tax cash flows, financial ratios, and qualitative screens

Solvency Tests

Justified Private Capital
- Required Capital
  Investment
+ Public Capital Subsidy
= Net Private Capital
  Exposure

Acceptable Alternative Uses

Infrastructure Tests

Environmental Tolerance

Public Service Capacity

Fiscal Impact

Public Priorities and
Subsidy

Financially Solvent
Most Fitting Use

Investment Tests

Investor Limitations
& Objectives

Acceptable Risk Sensitivity
Parameters

Most Probable Use of Site
In Search of Use

12/1/78

EXHIBIT 3

F. Analysis of the static and legal/political attributes of site and structure should be summarized in terms of competitive advantages and disadvantages of plausible alternative uses for costs, pricing, marketing, and political administration of compatibility.

1. Some static attributes may help identify most probable user types (Ex. special display window sizes may be suitable for antique or art display) while attributes will make certain uses unlikely (Ex. floor load limitations of fire proofing weights required of places of public assembly).

2. Some static or legal attributes can provide monopoly advantages because suitability is unique relative to lands all around it, because of exemption from certain regulations, or existing approvals of development plans, including licenses for dredging, building code variances, etc.

3. Some attributes lead to higher cost which the front door approach may reveal as leading to excessive rents or prices.

G. Linkage attributes relate to subject property to both networks of supporting infra-structure which contributes toward effective demand for the property as economic space time or the supply and demand impact of related activity centers which may interact with the subject property.

1. Analysis moves best from the borders of the subject property outward to expanding zones of potential demand or competitive supply.

2. Utility services are network linkages in terms of:

    a. Limitations on sewage processing, storm water retention or runoff constraints
    b. Community energy supplies, priorities, and capacity
    c. Water processing and chemistry as applicable
    d. Possible dependency on resources such as wild game and fish, underutilized labor pools, fire department coverage zones, etc.

3. Street, sidewalk, rail, and public transit systems including access points, traffic department controls, etc.

4. Relationship of subject site to contiguous properties, balance of city block, and neighborhood layout pattern.

5. Relationship of subject site to generators of potential needs and uses for the subject site, such as:

    a. Employment centers
    b. School system alternatives
    c. Retail services
    d. Complimentary existing nearby uses
    e. Recreational services
    f. Health care systems
    g. Security systems
    h. Waste disposal services

6. Neighborhood demographics (population, age, employment, income, etc.)

7. Relationship to competitive alternative and estimate of supply of available space, competitive ranking, and exposure of subject site to competitive interception of potential demand.

H. Dynamic attributes are those characteristics which exist in the minds of the beholder, which are mental or emotional responses which a site or project stimulates and which affect decision making behavior.

1. Image conditioning of the approach zone

2. Visual factors in terms of prominence of the site, views from the site, potential for controlled sight lines, etc.

3. Prestige and status

4. Anxiety factors of access and security

5. Noise as a function of traffic count (FHA noise pollution manual)

6. Prevailing air currents and airborne pollution (phosphate plants or sulphite paper mills, for example).

7. Political images established for a site by the public positions of local politicians or vested interest groups.

8. Historical community reputation and values attached to the project site and structures.

I. Environmental attributes of the site recognize that the real estate product today must respond not only to the needs of the individual consumer in the marketplace but to the collective community of consumers represented by the community political administrators. Land use must be sold to both "markets." If the proposal won't sell at City Hall, there will be little opportunity to market the product individually. Pre-architectural programs must not only consider physical factors of environmental impact off-site, but in addition:

1. Silhouette of social impact in terms of public perceptions of:

   a. Displacement of existing residents and neighborhood units
   b. Contribution to social integration or mobility barriers
   c. Contribution to land use heterogeneity
   d. Contribution to regional and community master plans

2. Fiscal impact on the community where appropriate:

   a. Direct impact on real estate tax revenues
   b. Direct impact on other governmental revenue
   c. Direct impact on incremental government
   d. Secondary contributions to local government revenues
   e. Secondary cost burdens created for local communities

3. Social factors in the ethical environment:

    a. Impact on supply/demand equilibrium

    b. Stamina of project sponsor in the face of public pressure

    c. Vulnerability of potential project buyers to secondary political pressures and counter attack

    d. Potential uses requiring unique political resources or private/public consortiums

J. For the experienced real estate analyst systamatic narrowing of alternative uses from study of the attributes leads to a limited series of alternatives which can then be given a final screening in terms of preliminary financial analysis and effective demand. The analyst may review these attributes to identify alternative uses by emphasizing one or more of the following angles of inquiry.

    1. Does any site of site attributes suggest a special space/time - to money/time configuration? For example, a high floor area ratio but little parking may suggest a building with a low person occupancy, such as a switchboard building or luxury apartment with minimum number of dwelling units.

    2. What attributes of the subject site provide monopoly characteristics or are inferior to alternative sites?

    3. What patterns in adjacent or competitive structure represent a trend to which the subject property should adapt?

    4. What patterns of use is revealed by transactions in similar properties on nearby locations?

K. A program of use or reuse can be called a scenario and may be suggested by physical characteristics of the property, contiguous property trends and conditions, or known supply shortages with which the appraiser is familiar.

L. Ranking of these scenarios for economic power is accomplished by means of the Back Door approach, i.e., the revenue justified investment for the property, as is alternative whrksheets for this approach using the default point and the debt cover ratio as the critical conversion of income to capital.

M. Economic power has to be qualified in terms of marketing risks and capital budgeting risks of each of the alternative uses before alternative uses can be ranked in summary fashion as in Exhibit 6.

    1. Note that Exhibit 6 integrates the basic elements of preliminary feasibility analysis.

    2. Remaining disucssion will emphasize market risk which is the primary cause of misleading appraisal conclusions

Case Study

Neighborhood Shopping Center

Preliminary Analysis

REVISED 6/17/75


```
 1 EQ YLD? .09695
 2 PROJ PD? 5
MORTGAGE 1 DATA
 4 MTG INTR? .1040699
 5 MTG PD?
 6 MTG CON? .1040699
 7 PMT PDS/YR? 1
10 M? .75
MORTGAGE 2 DATA
14 MTG INTR?
52 %DEPR(-APPR)? 0
55 INC? 166000
53 % INCR INCOME? 0
58 EF.R.E.TX.R.? 0
-.0071199 = MTG 1 C
 .1022899 = BASIC RATE
 .1022899 = OVERALL RATE
 1622838 = VALUATION
MODE? P
```


```
MORTGAGE1  75% 1217129 AT .1041  126666
    EQUITY  25%  405709 AT .0969   39333
           TOTAL 1622838          166000 INCOME

1622838 ORIGINAL PRICE
      0 LESS 0% DEPRECIATION
-------
1622838 PROPERTY REVERSION, DEFERRED 5 YEARS
        1217129 MORTGAGE 1
1217129        0 LESS 5 YEAR AMORTIZATION; (0)
-------
 405709 EQUITY REVERSION, DEFERRED 5 YEARS

PRESENT VALUE OF EQUITY INCOME AND REVERSION AT 9.695%

 150274 INCOME, 39333.5 X 3.82051
 255435 REVERSION, 405709. X 0.629602
-------
 405709 TOTAL
```

Under What Conditions Will Appraised Value Be Justified

	A	B	C	D
Equity Yield	.09695	.078378	.10159	.09695
Projection Period	5	5	5	5
Mortgage Interest	.1040699	.1040699	.09625	.09695
Mortgage Constant	.1040699	.1040699	.1040699	.1040699
Loan To Value	.75	.75	.75	.75
-Appreciation or Depreciation	.0	.0	.0	.007365
Income	166,000	166,000	166,000	166,000
Value	1,622,838	1,700,002	1,700,000	1,700,003

A. Project "As Is", No Mortgage Amortization, No Appreciation.

B. No Mortgage Amortization, No Appreciation, Reduce Equity Rate
    to achieve Appraised Value.

C. Amortizing Mortgage, No Appreciation, Raise Equity Rate to
    achieve Appraised Value.

D. Amortizing Mortgage, Stated Equity Rate, Depreciate approximately
    .75% to achieve Appraised Value.

```
MODE? T
IS INCOME CONSTANT? YES
ENTER OVERALL RATE FOR ANAL.? .09695
ENTER 1 TO 4 PROJ. PDS? 1,2,4,5
ENTER 1 TO 6 EQ. YLDS? .06,.08,.10,.12,.15,.20




YIELD ANALYSIS WITH
CONSTANT INCOME,  0.0969500 = R
     YRS        1        2        4        5
YIELD
   0.0600 -0.0098 -0.0203 -0.0441 -0.0575
   0.0800 -0.0048 -0.0100 -0.0221 -0.0291
   0.1000  0.0002  0.0005  0.0013  0.0017
   0.1200  0.0052  0.0112  0.0260  0.0350
   0.1500  0.0127  0.0277  0.0658  0.0899
   0.2000  0.0252  0.0561  0.1399  0.1959




MODE? Q
```

```
MODE? C
#,NEWVAL? 52,.04
#,NEWVAL?
 .0006891 = MTG 1 C
 .0964332 = BASIC RATE
 .1030250 = OVERALL RATE
  1611259 = VALUATION
MODE? P


                        .



   MORTGAGE1  75% 1208445 AT .1041   125762
      EQUITY  25%  402814 AT .0999    40237
             TOTAL 1611259           166000 INCOME

  1611259 ORIGINAL PRICE
    64450 LESS 4.% DEPRECIATION
  -------
  1546809 PROPERTY REVERSION, DEFERRED 5 YEARS
          1208445 MORTGAGE 1
  1151181   57264 LESS 5 YEAR AMORTIZATION; (4.73861E-2)
  -------
   395628 EQUITY REVERSION, DEFERRED 5 YEARS

  PRESENT VALUE OF EQUITY INCOME AND REVERSION AT 9.695%

   153726 INCOME, 40237.2 X 3.82051
   249088 REVERSION, 395628. X 0.629602
   -------
   402815 TOTAL
```

```
MODE? C
#,NEWVAL? 52,.193
#,NEWVAL?
 .0006891 = MTG 1 C
 .0964332 = BASIC RATE
 .1282386 = OVERALL RATE
 1294461 = VALUATION
MODE? P




  MORTGAGE1  75%  970846 AT .1041  101035
     EQUITY  25%  323615 AT .2007   64964
           TOTAL 1294461            166000 INCOME

1294461 ORIGINAL PRICE
 249831 LESS 19.3% DEPRECIATION
-------
1044630 PROPERTY REVERSION, DEFERRED 5 YEARS
        970846 MORTGAGE 1
 924841   46005 LESS 5 YEAR AMORTIZATION; (4.73861E-2)
-------
 119789 EQUITY REVERSION, DEFERRED 5 YEARS

PRESENT VALUE OF EQUITY INCOME AND REVERSION AT 9.695%

 248196 INCOME, 64964.2 X 3.82051
  75419 REVERSION, 119790. X 0.629602
-------
 323615 TOTAL
```

```
MODE? C
#,NEWVAL? 52,-.02
#,NEWVAL?
 .0006891 = MTG 1 C
 .0964332 = BASIC RATE
 .0931373 = OVERALL RATE
  1782315 = VALUATION
MODE? P




   MORTGAGE1  75% 1336737 AT .1041  139114
      EQUITY  25%  445578 AT .0603   26885
              TOTAL 1782315          166000 INCOME

 1782315 ORIGINAL PRICE
  -35646 LESS -2.% DEPRECIATION
 -------
 1817961 PROPERTY REVERSION, DEFERRED 5 YEARS
         1336737 MORTGAGE 1
 1273394   63343 LESS 5 YEAR AMORTIZATION; (4.73861E-2)
 -------
  544567 EQUITY REVERSION, DEFERRED 5 YEARS

 PRESENT VALUE OF EQUITY INCOME AND REVERSION AT 9.695%

  102717 INCOME, 26885.9 X 3.82051
  342860 REVERSION, 544568. X 0.629602
 -------
  445578 TOTAL




 MODE? Q
```

```
LIST

RATES1        16:18CST     03/11/79

100 1,1,79,-425000
110 12,30,79,33311
120 12,30,80,33311
130 12,30,81,33311
140 12,30,82,33311
150 12,30,83,33311
160 12,30,83,384530


READY
REP

READY
```

```
LIST

RATES2      16:19CST    03/11/79

100 1,1,79,-142000
105 1,1,80,-141000
110 12,30,79,33311
115 1,1,81,-142000
120 12,30,80,33311
130 12,30,81,33311
140 12,30,82,33311
150 12,30,83,33311
160 12,30,83,384530


READY
REPLACE

READY
```

```
OLD RATES

READY
RUN


RATES        16:19CST     03/11/79

NUMBER OF COMPOUNDING PERIODS PER YEAR? 1




IF FILE INPUT, TYPE NAME; ELSE TYPE 'TERM'
? RATES1




FILE INPUT:
 1,1,79,-425000
 12,30,79,33311
 12,30,80,33311
 12,30,81,33311
 12,30,82,33311
 12,30,83,33311
 12,30,83,384530
PERIOD OF 4 YEARS, 11 MONTHS, 30 DAYS
FROM 1  1  79 TO 12  30  83
TOTAL OUTLAYS 425000
TOTAL RECEIPTS 551085
INTERNAL RATE IS 6.15793




ENTER COST OF CAP RATE? .09
NET PRESENT VALUE AT  9.00% IS *-45422.867
ADJUSTED RATE IS  6.56%
ENTER COST OF CAP RATE? .10
NET PRESENT VALUE AT 10.00% IS *-59865.559
ADJUSTED RATE IS  6.71%
ENTER COST OF CAP RATE? .11
NET PRESENT VALUE AT 11.00% IS *-73584.285
ADJUSTED RATE IS  6.86%
ENTER COST OF CAP RATE? .12
NET PRESENT VALUE AT 12.00% IS *-86622.152
ADJUSTED RATE IS  7.01%
ENTER COST OF CAP RATE?
```

```
IF FILE INPUT, TYPE NAME; ELSE TYPE 'TERM'
? RATES2




FILE INPUT:
 1,1,79,-142000
 1,1,80,-141000
 12,30,79,33311
 1,1,81,-142000
 12,30,80,33311
 12,30,81,33311
 12,30,82,33311
 12,30,83,33311
 12,30,83,384530
PERIOD OF 4 YEARS, 11 MONTHS, 30 DAYS
FROM 1  1  79 TO 12  30  83
TOTAL OUTLAYS 425000
TOTAL RECEIPTS 551085
INTERNAL RATE IS 8.04058




ENTER COST OF CAP RATE? .09
NET PRESENT VALUE AT  9.00% IS *-11299.223
ADJUSTED RATE IS  8.36%
ENTER COST OF CAP RATE? .10
NET PRESENT VALUE AT 10.00% IS *-22402.752
ADJUSTED RATE IS  8.70%
ENTER COST OF CAP RATE? .11
NET PRESENT VALUE AT 11.00% IS *-32861.699
ADJUSTED RATE IS  9.03%
ENTER COST OF CAP RATE? .12
NET PRESENT VALUE AT 12.00% IS *-42716.541
ADJUSTED RATE IS  9.37%
ENTER COST OF CAP RATE? .09,.10
NET PRESENT VALUE AT  9.00% IS *-11299.223
USING DISCOUNT PCTS 9. FOR OUTLAYS, AND 10. FOR RECIEPTS
ADJUSTED RATE IS  8.51%
ENTER COST OF CAP RATE?
```

```
IF FILE INPUT, TYPE NAME; ELSE TYPE ´TERM´
?

NOT ENOUGH INPUT--ADD MORE
?

USED     6.03 UNITS
/COST OFF

ACCRUED CHARGES SINCE SIGNIN
$  1.30 COMPUTER
   1.24 CONNECT
   0.44 CHARACTERS
  -0.84 EDU DISC
$  2.14 TOTAL
EFFICIENCY =  35.2
 00009.83  CRU    0000.09  TCH    0003.33  KC

OFF AT 16:22CST 03/11/79
```

INPUT FORM   DAPCST

CONSTRUCTION ANALYSIS

PROGRAM DAP

```
100    1  ,  3 ,  11  ,  79   Bldg ID#, Mo, Day, Year
101    Chemical Bank_____    title (60 char.)
102    Shopping Center Case Study____    title (centered)
103    255698____ Gross sq ft or Acreage in tract
104    1_____ Run Number
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
201    0  ,      0____ Shell -Sq Ft, $/Sq Ft
202    0  ,      0____ Interior - Sq Ft, $/Sq Ft
203    60242 ,  19.69   Building - Sq Ft, $/Sq Ft
204    654.55, 275 , .50  Grade Parking-Sq Ft/space, spaces, $/sq ft
205    0 ,  0 ,  0____Structured Parking-   Ditto
206    0_____Landscaping/Lighting Costs-$ or $/sq ft
207    0_____ Furniture, Fixtures & Equipment-$ or $/sq ft
208    0  ,      0____ Sq ft,, $/sq ft or 0
(209)  _____ Title (enter only if 208 is not 0, 0)
210    0  ,      0____ Sq ft, $/sq ft or 0
(211)  _____ Title (enter only if 210 is not 0, 0)
212    0  ,      0____ Sq Ft, $/sq ft or 0
(213)  _____ Title (enter only if 212 is not 0,.0)
214    74538, 0  ,      0____ Other Costs:0,$, or % of lines 201+202+203
(215)  Restaurant_____ Title (if line 214, first value not =0)
(216)  _____ Title (if line 214, 2nd value not = 0)
(217)  _____ Title (if line 214, 3rd value not = 0)
218    0_____Construction Contingency=0,$, or % of lines 201, or
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - 202 + 203
301    0_____ Architecture Fees     ⎞  Enter 0, $ or
302    0_____ Engineering Fees      ⎟  % of Subtotal
303    20000____ Loan Origination Fees ⎬  of lines
304    0_____ Legal & Closing Fees  ⎟  201-218
305    0_____ Taxes & Insurance     ⎠
       (A)        (B)        (C)
309    10640 ,    0  ,     0     ⎞ Optionally titled
(310)  Leasing Fees____ Title for Cost A ⎬ fees and costs: 0, $,
(311)  _____ Title for Cost B ⎟ or % of subtotal
(312)  _____ Title for Cost C ⎠ of line 201-218
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
401    10  ,    8____ Construction Interim Int.Rate(%)Constr.Period(Mo)
       (D)        (E)
402    0  ,      0____ Other expenses 0, $, or % of subtotal
(403)  _____ Title for Cost D    (not interim
(404)  _____ Title for Cost E    financed)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
500    0_____(0 or $) Cost of Land (or use line 501)
501    255698 ,  1.30   Cost of Land--square feet(or acres),$/sq ft(acre)
502    0  ,      0____ Interim Interest: Rate (%), months
504    0  ,      0____ Interim Land Cost - $/month, months
505    0_____ Other land costs-$ or % of Land Cost
```

```
LIST DAPCST

DAPCST       16:38CST       03/12/79

100 1,3,11,79
101                          CHEMICAL BANK
102                  SHOPPING CENTER CASE STUDY
103 255698
104 1
201 0,0
202 0,0
203 60242,19.690
204 654.55,275,.50
205 0,0,0
206 0
207 0
208 0,0
210 0,0
212 0,0
214 74538,0,0
215 RESTAURANT
218 0
301 0
302 0
303 20000
304 0
305 0
309 10640,0,0
310 LEASING FEES
401 10,8
402 0,0
500 0
501 255698,1.30
502 0,0
504 0,0
505 0


READY
```

INPUT FORM DAPIN

CASH FLOW ANALYSIS

100 ___1___ 0 or 1 (0=lines 101-107 required; 1=use construction data)
(101) _____,_____,_____,_____ Building ID#, Mon, Day, Year
(102) _____ Title Line 1
(103) _____ Title Line 2
    Title Lines 1 and 2: up to 60 characters (centered).
(104) _____Gross square footage in tract
(105) _____Gross square footage in building
(106) _____Total construction cost
(107) _____Run number
    Lines 101-107 are entered only if value is 0 on line 100!

- -

200 ___5___ Number of Rental Rates (1 to 5)
201 _3.67_,_3.75_,_4.00_,_3.5_,_3.25_ Rental Rates ($ or $/sq ft or $/unit)
202 ___5___ Number of Vacancy Rates (1 to 5)
203 _3.77_,_4.0_,_5.0_,_6.0_,_3.0_ Vacancy Rates in %(eg.10)
204 ___0___ Annual Parking Income (0 or $/year or $/unit)
205 ___0___ Other Income (0 or $/year or $/unit)
206 ___5___ Number of Operating Expenses (1 to 5)
207 _.77_,_.80_,_.90_,_1.0_,_.70_ Operating Expenses($ or $ sq ft or $/unit)

208 ___5___ Number of Financing Conditions (0 to 5)
(209)_9.625_,_9.75_,_10.0_,_10.25_,_9.50_ Interest Rates(annual % eg. 9.5)
(210) _27_,_27_,_27_,_30_,_25_ Term in years
212 ___5___ Number of Building Efficiency Rates (1 to 5)
213 _60242_,_62000_,_64000_,_66000_,_60000_ Efficiency Rates (% of gross footage)
214 ___10___ Number of Cash Flow Tables (0 to 15)
    Output Tables

			Enter parameters to be output
(215)	1	2	1 Rental rate
(216)	1	3	2 Vacancy rate
(217)	1	4	3 Operating expense rate
(218)	1	5	4 Financing conditions
(219)	1	6	5 Building efficiency
(220)	2	4	6 Loan to cost ratios
(221)	3	4	7 Land lease costs
(222)	3	5	2XX ___ROW___ , ___COLUMN___
(223)	3	6	
(224)	4	6	

230 ___5___ Number of loan to cost ratios (1 to 5)
231 _75_,_78_,_80_,_72_,_70_ Loan ratios in % (eg. 85)
240 ___1___ 1 or 2 (1=breakeven rental rates 2=return on equity)
250 _5000_ Equivalent Cash Flow Amount,(eg. 5000 or 20000 dollars)
260 ___1___ Number of units in project (1-9999)
270 _____ Number of land lease expenses (0-5)
(271)_____,_____,_____,_____,_____
    Land lease expenses (0, $, or $ per unit)
(280) _____ Land cost variable (omit, 0 or $)

Footnote: For explanation of use of lines 260-280, see Feb 1975 Newsletter.

```
LIST DAPIN

DAPIN        16:38CST      03/12/79

100 1
200 5
201 3.67,3.75,4.00,3.5,3.25
202 5
203 3.77,4.0,5.0,6.0,3.0
204 0
205 0
206 5
207 .77,.80,.90,1.0,.70
208 5
209 9.625,9.75,10.0,10.25,9.50
210 27,27,27,30,25
212 5
213 60242,62000,64000,66000,60000
214 10
215 1,2
216 1,3
217 1,4
218 1,5
219 1,6
220 2,4
221 3,4
222 3,5
223 3,6
224 4,6
230 5
231 75,78,80,72,70
240 1
250 5000
260 1
270 0


READY
```

RUN DAP

DAP   16:39CST   03/12/79

VERSION 5 APRIL 1, 1975

THE PROGRAM DAP IS THE PROPERTY OF:
    JOHN H. NABORS, JR.
    ROGERS & BABLER, INC.
    4607 E. TUDOR ROAD
    ANCHORAGE, ALASKA 99507
    (907) 333-5512

ROYALTY CHARGE IS $ 5 PER EXECUTION AFTER *GO*

 ANSWER YES OR NO OR GIVE DATA FILE NAME

QUESTION NO.   QUESTION

   Q1: IS THERE A CONSTRUCTION DATA FILE (YES OR NO)?YES

   Q2: NAME OF CONSTRUCTION DATA FILE?DAPCST

   Q3: LIST THE CONSTRUCTION INPUT DATA (YES OR NO)?YES

   Q4: OUTPUT THE CONSTRUCTION COST SCHEDULE (YES OR NO)?YES

   Q5: IS THERE A CASH FLOW DATA FILE (YES OR NO)?YES

   Q6: NAME OF CASH FLOW DATA FILE:?DAPIN

   Q7: LIST THE CASH FLOW INPUT DATA (YES OR NO)?YES

   Q8: OUTPUT DEBT SERVICE CALCULATIONS (YES OR NO)?YES

   Q9: OUTPUT THE CASH FLOW TABLES (YES OR NO)?YES

   Q10: OUTPUT THE SENSITIVITY TABLE (YES OR NO)?YES

BUILDING ID   1
DATE   3   11   79

TITLES   CHEMICAL BANK

TITLES   SHOPPING CENTER CASE STUDY

SQ FT IN TRACT 255698.00

RUN NO.   1

```
        CONSTRUCTION-SHELL          0. SQ FT AT $  0.          $
        CONSTRUCTION-INTERIOR       0. SQ FT AT $  0.          $
        TOTAL BUILDING COST     60242. SQ FT AT $ 19.69        $
GRADE PARKING     654.55SQFT     275.00SPACES @ $  0.50
```

STRUCT. PKING   0.   SQFT   0. SPACES @ $ 0.

LANDSCAPING   0.
FF AND E   0.

RESTAURANT   74538.00

 FEES
ARCHITECTURE   0.
ENGINEERING   0.
LOAN FEES   20000.00
CLOSING COSTS   0.
TAXES AND INS   0.
OPTIONAL TITLE OPTIONAL EXPENSES
LEASING FEES   10640.00

        CONSTRUCTION INTERIM RATE   10.000 PCT
        CONSTRUCTION PERIOD   8 MONTHS
        LAND INTERIM RATE IS 0.   PCT
   255698.00 SQUARE FEET AT $ 1.30

INTERIM RATE   0.   PCT FOR   0.   MONTHS

COST PER MONTH   0.   FOR   0.   MONTHS

OTHER LAND COSTS   0.

CONSTRUCTION COST ESTIMATE

CHEMICAL BANK

SHOPPING CENTER CASE STUDY

DATE: 3/11/ 79
BLDG: 1
RUN :   1

CONSTRUCTION COSTS		DOLLARS
TOTAL BUILDING COST 60242. SQ FT AT $ 19.69	$	1186165.
GRADE PARKING 275. SPACES AT $ 327.		90001.
RESTAURANT		74538.

SUBTOTAL CONSTRUCTION		1350704.
LOAN ORIGINATION FEES AT 1.5 PCT		20000.
LEASING FEES AT 0.8 PCT		10640.

CUMULATIVE SUBTOTAL		1381344.

INTERIM INTEREST-CONSTRUCTION
        $ 1381344. AT 10.0 PCT FOR 8 MONTHS COMPOUNDED   52820.

        TOTAL CONSTRUCTION COSTS   1434164.

LAND COSTS

        255698. SQ FT AT $ 1.30   332407.
        INTERIM INTEREST-LAND

        TOTAL LAND COST   332407.

        TOTAL LAND AND CONSTRUCTION COST   1766571.
                                                            ==========

BUILDING ID   1
DATE   3   11   79

   TITLES
                        CHEMICAL BANK

                   SHOPPING CENTER CASE STUDY

SQ FT IN TRACT 255698.0
SQ FT IN BLDG   60242.0

      CONSTRUCTION AND LAND COST 1766571.
BLDG. EFF. GREATER THAN 100% AND WILL BE INTERPRETED AS NET LEASEABLE
SQUARE FEET
BLDG. EFF. GREATER THAN 100% AND WILL BE INTERPRETED AS NET LEASEABLE
SQUARE FEET
BLDG. EFF. GREATER THAN 100% AND WILL BE INTERPRETED AS NET LEASEABLE
SQUARE FEET
BLDG. EFF. GREATER THAN 100% AND WILL BE INTERPRETED AS NET LEASEABLE
SQUARE FEET
BLDG. EFF. GREATER THAN 100% AND WILL BE INTERPRETED AS NET LEASEABLE
SQUARE FEET
   RUN NO.   1
RENTAL RATES   3.67   3.75   4.00   3.50   3.25

VACANCY RATES   3.77   4.00   5.00   6.00   3.00

PARKING INCOME   0.
OTHER INCOME   0.

OPERATING EXPENSES   0.77   0.80   0.90   1.00   0.70

INTEREST RATES   9.625 PCT 9.750 PCT10.000 PCT10.250 PCT 9.500 PCT
LOAN LENGTH (YRS)   27.   27.   27.   30.   25.

BLDG EFFICIENCIES   100.00   102.92   106.24   109.56   99.60

   OUTPUT TABLES
    1 = RENTAL RATES   2 = VACANCY RATES
    3 = EXPENSE RATES   4 = FINANCING CONDITIONS
    5 = BLDG EFFICIENCY 6 = LOAN RATIOS
    7 = LAND LEASE EXPENSE
    1   2
    1   3
    1   4
    1   5
    1   6
    2   4
    3   4
    3   5
    3   6
    4   6
LOAN TO COST RATIOS   75.00   78.00   80.00   72.00   70.00

IFX=1, BREAKEVEN RENTAL RATES WILL BE OUTPUT

EQUIVALENT CASH FLOW AMOUNT IS $ 5000.00

       UNITS   :   1.
LAND COST VARIABLE: 332407.

AMOUNT FINANCED $ 1324929.   EQUITY $ 441643.

LOAN RATIO 75.00 PCT

| INTEREST | TERM | CONSTANT | DEBT SERVICE | | |
			ANNUAL	PER SQ FT	PER UNIT
9.625	27.0	10.4070	137885.	2.2889	
9.750	27.0	10.5140	139303.	2.3124	
10.000	27.0	10.7292	142154.	2.3597	
10.250	30.0	10.7532	142472.	2.3650	
9.500	25.0	10.4844	138910.	2.3059	

AMOUNT FINANCED $ 1377926.   EQUITY $ 388646.

LOAN RATIO 78.00 PCT

| INTEREST | TERM | CONSTANT | DEBT SERVICE | | |
			ANNUAL	PER SQ FT	PER UNIT
9.625	27.0	10.4070	143401.	2.3804	
9.750	27.0	10.5140	144875.	2.4049	
10.000	27.0	10.7292	147840.	2.4541	
10.250	30.0	10.7532	148171.	2.4596	
9.500	25.0	10.4844	144467.	2.3981	

AMOUNT FINANCED $ 1413257.   EQUITY $ 353314.

LOAN RATIO 80.00 PCT

| INTEREST | TERM | CONSTANT | DEBT SERVICE | | |
			ANNUAL	PER SQ FT	PER UNIT
9.625	27.0	10.4070	147078.	2.4414	
9.750	27.0	10.5140	148590.	2.4666	
10.000	27.0	10.7292	151631.	2.5170	
10.250	30.0	10.7532	151971.	2.5227	
9.500	25.0	10.4844	148171.	2.4596	

AMOUNT FINANCED $ 1271931.   EQUITY $ 494640.

LOAN RATIO 72.00 PCT

| INTEREST | TERM | CONSTANT | DEBT SERVICE | | |
			ANNUAL	PER SQ FT	PER UNIT
9.625	27.0	10.4070	132370.	2.1973	
9.750	27.0	10.5140	133731.	2.2199	
10.000	27.0	10.7292	136468.	2.2653	
10.250	30.0	10.7532	136774.	2.2704	
9.500	25.0	10.4844	133354.	2.2136	

AMOUNT FINANCED $ 1236600.   EQUITY $ 529971.

LOAN RATIO 70.00 PCT

| INTEREST | TERM | CONSTANT | DEBT SERVICE | | |
			ANNUAL	PER SQ FT	PER UNIT
9.625	27.0	10.4070	128693.	2.1363	
9.750	27.0	10.5140	130016.	2.1582	
10.000	27.0	10.7292	132677.	2.2024	
10.250	30.0	10.7532	132974.	2.2073	
9.500	25.0	10.4844	129650.	2.1521	

PRO FORMA CASH FLOW TABLE

CHEMICAL BANK

SHOPPING CENTER CASE STUDY

```
SITE      :   255698. SQUARE FEET      DATE   3-11- 79
BUILDING  :    60242. SQUARE FEET      BLDG       1
EFFICIENCY:  100.00 PCT(  60242. SQ FT)
LOAN RATIO:   75.00 PCT OF $ 1766571.
LOAN      :  $ 1324929.
EQUITY    :  $  441643.
FINANCING :   27. YEARS 9.625 PCT
OTR INCOME:  $       0. ANNUALLY       RUN        1
EXPENSES  :  $ 0.77 PER SQ FT
```

ANNUAL CASH FLOWS

VACANCY ALLOWANCE

RENTAL RATES ANNUAL $/SQ FT	3.00 PCT	3.77 PCT	4.00 PCT	5.00 PCT	6.00 PCT
$ 3.25	5641.	4134.	3683.	1726.	-232.
$ 3.50	20250.	18626.	18142.	16033.	13925.
$ 3.67	30184.	28482.	27973.	25762.	23551.
$ 3.75	34859.	33119.	32600.	30341.	28081.
$ 4.00	49467.	47612.	47058.	44648.	42238.

BREAKEVEN RENTAL RATES

VACANCY ALLOWANCE

RENTAL RATES ANNUAL $/SQ FT	3.00 PCT	3.77 PCT	4.00 PCT	5.00 PCT	6.00 PCT
	3.15	3.18	3.19	3.22	3.25

PRO FORMA CASH FLOW TABLE

CHEMICAL BANK

SHOPPING CENTER CASE STUDY

```
SITE      :  255698. SQUARE FEET        DATE   3-11- 79
BUILDING  :   60242. SQUARE FEET        BLDG        1
EFFICIENCY:  100.00 PCT(  60242. SQ FT)
LOAN RATIO:   75.00 PCT OF $  1766571.
LOAN      :  $ 1324929.
EQUITY    :  $  441643.
FINANCING :   27. YEARS  9.625 PCT
VACANCY   :    3.77 PCT OF LEASEABLE
OTR INCOME:  $      0. ANNUALLY         RUN         1
```

ANNUAL CASH FLOWS

ANNUAL EXPENSE RATES PER SQ FT

RENTAL RATES ANNUAL $/SQ FT	$ 0.70	$ 0.77	$ 0.80	$ 0.90	$ 1.00
$ 3.25	8351.	4134.	2326.	-3698.	-9722.
$ 3.50	22843.	18626.	16819.	10795.	4771.
$ 3.67	32698.	28482.	26674.	20650.	14626.
$ 3.75	37336.	33119.	31312.	25288.	19264.
$ 4.00	51829.	47612.	45805.	39780.	33756.

BREAKEVEN RENTAL RATES

ANNUAL EXPENSE RATES PER SQ FT

RENTAL RATES ANNUAL $/SQ FT	$ 0.70	$ 0.77	$ 0.80	$ 0.90	$ 1.00
	3.11	3.18	3.21	3.31	3.42

PRO FORMA CASH FLOW TABLE

CHEMICAL BANK

SHOPPING CENTER CASE STUDY

SITE   :   255698. SQUARE FEET   DATE   3-11- 79
BUILDING :   60242. SQUARE FEET   BLDG   1
EFFICIENCY: 100.00 PCT(60242. SQ FT)
LOAN RATIO: 75.00 PCT OF $ 1766571.
LOAN   : $ 1324929.
EQUITY   : $ 441643.
VACANCY   :   3.77 PCT OF LEASEABLE
OTR INCOME: $ 0. ANNUALLY   RUN   1
EXPENSES : $ 0.77 PER SQ FT

ANNUAL CASH FLOWS

FINANCING PARAMETERS

	27. YEARS 9.62 PCT	27. YEARS 9.75 PCT	27. YEARS 10.00 PCT	30. YEARS 10.25 PCT	25. YEARS 9.50 PCT
RENTAL RATES ANNUAL $/SQ FT					
$ 3.25	4134.	2716.	-135.	-453.	3109.
$ 3.50	18626.	17208.	14358.	14039.	17601.
$ 3.67	28482.	27063.	24213.	23894.	27456.
$ 3.75	33119.	31701.	28851.	28532.	32094.
$ 4.00	47612.	46194.	43343.	43025.	46587.

BREAKEVEN RENTAL RATES

FINANCING PARAMETERS

	27. YEARS 9.62 PCT	27. YEARS 9.75 PCT	27. YEARS 10.00 PCT	30. YEARS 10.25 PCT	25. YEARS 9.50 PCT
RENTAL RATES ANNUAL $/SQ FT					
	3.18	3.20	3.25	3.26	3.20

PRO FORMA CASH FLOW TABLE

CHEMICAL BANK

SHOPPING CENTER CASE STUDY

SITE :	255698. SQUARE FEET	DATE 3-11- 79
BUILDING :	60242. SQUARE FEET	BLDG 1
LOAN RATIO:	75.00 PCT OF $ 1766571.	
LOAN :	$ 1324929.	
EQUITY :	$ 441643.	
FINANCING :	27. YEARS 9.625 PCT	
VACANCY :	3.77 PCT OF LEASEABLE	
OTR INCOME:	$ 0. ANNUALLY	RUN 1
EXPENSES :	$ 0.77 PER SQ FT	

ANNUAL CASH FLOWS

BUILDING EFFICIENCY (PCT OF GROSS)

99.60 PCT100.00 PCT102.92 PCT106.24 PCT109.56 PCT
LOAN TO COST RATIO

70.00 PCT 72.00 PCT 75.00 PCT 78.00 PCT 80.00 PCT

RENTAL RATES
ANNUAL $/SQ FT

	70.00 PCT	72.00 PCT	75.00 PCT	78.00 PCT	80.00 PCT
$ 3.25	17708.	12993.	3563.	4134.	8278.
$ 3.50	33586.	28390.	17998.	18626.	23194.
$ 3.67	44383.	38860.	27813.	28482.	33336.
$ 3.75	49464.	43787.	32432.	33119.	38109.
$ 4.00	65342.	59184.	46867.	47612.	53025.

BREAKEVEN RENTAL RATES

BUILDING EFFICIENCY (PCT OF GROSS)

99.60 PCT100.00 PCT102.92 PCT106.24 PCT109.56 PCT
LOAN TO COST RATIO

70.00 PCT 72.00 PCT 75.00 PCT 78.00 PCT 80.00 PCT

RENTAL RATES
ANNUAL $/SQ FT

2.97	3.04	3.19	3.18	3.11

PRO FORMA CASH FLOW TABLE

CHEMICAL BANK

SHOPPING CENTER CASE STUDY

SITE   : 255698. SQUARE FEET   DATE   3-11- 79
BUILDING :   60242. SQUARE FEET   BLDG   1
EFFICIENCY: 100.00 PCT(60242. SQ FT)
FINANCING :   27. YEARS 9.625 PCT
VACANCY   :   3.77 PCT OF LEASEABLE
OTR INCOME: $ 0. ANNUALLY   RUN   1
EXPENSES : $ 0.77 PER SQ FT

ANNUAL CASH FLOWS

LOAN TO COST RATIO

	70.00 PCT	72.00 PCT	75.00 PCT	78.00 PCT	80.00 PCT
RENTAL RATES ANNUAL $/SQ FT					
$ 3.25	13326.	9649.	4134.	-1382.	-5059.
$ 3.50	27819.	24142.	18626.	13111.	9434.
$ 3.67	37674.	33997.	28482.	22966.	19289.
$ 3.75	42312.	38635.	33119.	27604.	23927.
$ 4.00	56804.	53127.	47612.	42096.	38420.

BREAKEVEN RENTAL RATES

LOAN TO COST RATIO

	70.00 PCT	72.00 PCT	75.00 PCT	78.00 PCT	80.00 PCT
RENTAL RATES ANNUAL $/SQ FT					
	3.02	3.08	3.18	3.27	3.34

PRO FORMA CASH FLOW TABLE

CHEMICAL BANK

SHOPPING CENTER CASE STUDY

```
SITE      :  255698. SQUARE FEET      DATE   3-11- 79
BUILDING  :   60242. SQUARE FEET      BLDG        1
EFFICIENCY:  100.00 PCT(  60242. SQ FT)
LOAN RATIO:   75.00 PCT OF $ 1766571.
LOAN      :  $ 1324929.
EQUITY    :  $  441643.
REVENUE   :  $  3.67 PER SQ FT
OTR INCOME:  $       0. ANNUALLY       RUN         1
EXPENSES  :  $  0.77 PER SQ FT
```

ANNUAL CASH FLOWS

FINANCING PARAMETERS

VACANCY RATES	27. YEARS 9.62 PCT	27. YEARS 9.75 PCT	27. YEARS 10.00 PCT	30. YEARS 10.25 PCT	25. YEARS 9.50 PCT
3.00 PCT	30184.	28766.	25915.	25597.	29159.
3.77 PCT	28482.	27063.	24213.	23894.	27456.
4.00 PCT	27973.	26555.	23704.	23386.	26948.
5.00 PCT	25762.	24344.	21494.	21175.	24737.
6.00 PCT	23551.	22133.	19283.	18964.	22526.

BREAKEVEN RENTAL RATES

FINANCING PARAMETERS

VACANCY RATES	27. YEARS 9.62 PCT	27. YEARS 9.75 PCT	27. YEARS 10.00 PCT	30. YEARS 10.25 PCT	25. YEARS 9.50 PCT
3.00 PCT	3.15	3.18	3.23	3.23	3.17
3.77 PCT	3.18	3.20	3.25	3.26	3.20
4.00 PCT	3.19	3.21	3.26	3.27	3.20
5.00 PCT	3.22	3.24	3.29	3.30	3.24
6.00 PCT	3.25	3.28	3.33	3.34	3.27

PRO FORMA CASH FLOW TABLE

CHEMICAL BANK

SHOPPING CENTER CASE STUDY

FIXED PARAMETERS

SITE   : 255698. SQUARE FEET   DATE   3-11- 79
BUILDING : 60242. SQUARE FEET   BLDG   1
EFFICIENCY: 100.00 PCT(60242. SQ FT)
LOAN RATIO: 75.00 PCT OF $ 1766571.
LOAN   : $ 1324929.
EQUITY   : $ 441643.
REVENUE   : $ 3.67 PER SQ FT
VACANCY   : 3.77 PCT OF LEASEABLE
OTR INCOME: $ 0. ANNUALLY   RUN   1

ANNUAL CASH FLOWS

FINANCING PARAMETERS

EXPENSE RATES ANNUAL $/SQ FT	27. YEARS 9.62 PCT	27. YEARS 9.75 PCT	27. YEARS 10.00 PCT	30. YEARS 10.25 PCT	25. YEARS 9.50 PCT
$ 0.70	32698.	31280.	28430.	28111.	31673.
$ 0.77	28482.	27063.	24213.	23894.	27456.
$ 0.80	26674.	25256.	22406.	22087.	25649.
$ 0.90	20650.	19232.	16381.	16063.	19625.
$ 1.00	14626.	13208.	10357.	10039.	13601.

BREAKEVEN RENTAL RATES

FINANCING PARAMETERS

EXPENSE RATES ANNUAL $/SQ FT	27. YEARS 9.62 PCT	27. YEARS 9.75 PCT	27. YEARS 10.00 PCT	30. YEARS 10.25 PCT	25. YEARS 9.50 PCT
$ 0.70	3.11	3.13	3.18	3.19	3.12
$ 0.77	3.18	3.20	3.25	3.26	3.20
$ 0.80	3.21	3.23	3.28	3.29	3.23
$ 0.90	3.31	3.34	3.39	3.39	3.33
$ 1.00	3.42	3.44	3.49	3.50	3.44

FIXED PARAMETERS		PAGE	8 OF 12

SITE	:	255698. SQUARE FEET	DATE	3-11- 79
BUILDING	:	60242. SQUARE FEET	BLDG	1
LOAN RATIO:		75.00 PCT OF $ 1766571.		
LOAN	:	$ 1324929.		
EQUITY	:	$ 441643.		
FINANCING	:	27. YEARS 9.625 PCT		
REVENUE	:	$ 3.67 PER SQ FT		
VACANCY	:	3.77 PCT OF LEASEABLE		
OTR INCOME:	$	0. ANNUALLY	RUN	1

ANNUAL CASH FLOWS

BUILDING EFFICIENCY (PCT OF GROSS)

99.60 PCT 100.00 PCT 102.92 PCT 106.24 PCT 109.56 PCT
LOAN TO COST RATIO

EXPENSE RATES ANNUAL $/SQ FT	70.00 PCT	72.00 PCT	75.00 PCT	78.00 PCT	80.00 PCT
$ 0.70	49003.	43340.	32013.	32698.	37676.
$ 0.77	44383.	38860.	27813.	28482.	33336.
$ 0.80	42403.	36940.	26013.	26674.	31476.
$ 0.90	35803.	30540.	20013.	20650.	25276.
$ 1.00	29203.	24140.	14013.	14626.	19076.

BREAKEVEN RENTAL RATES

BUILDING EFFICIENCY (PCT OF GROSS)

99.60 PCT 100.00 PCT 102.92 PCT 106.24 PCT 109.56 PCT
LOAN TO COST RATIO

EXPENSE RATES ANNUAL $/SQ FT	70.00 PCT	72.00 PCT	75.00 PCT	78.00 PCT	80.00 PCT
$ 0.70	2.90	2.97	3.12	3.11	3.04
$ 0.77	2.97	3.04	3.19	3.18	3.11
$ 0.80	3.00	3.07	3.22	3.21	3.14
$ 0.90	3.11	3.17	3.32	3.31	3.25
$ 1.00	3.21	3.28	3.43	3.42	3.35

PRO FORMA CASH FLOW TABLE

CHEMICAL BANK

SHOPPING CENTER CASE STUDY

SITE   :   255698. SQUARE FEET   DATE   3-11- 79
BUILDING :   60242. SQUARE FEET   BLDG   1
EFFICIENCY: 100.00 PCT(60242. SQ FT)
FINANCING :   27. YEARS 9.625 PCT
REVENUE   : $ 3.67 PER SQ FT
VACANCY   :   3.77 PCT OF LEASEABLE
OTR INCOME: $ 0. ANNUALLY   RUN   1

ANNUAL CASH FLOWS

LOAN TO COST RATIO

EXPENSE RATES ANNUAL $/SQ FT	70.00 PCT	72.00 PCT	75.00 PCT	78.00 PCT	80.00 PCT
$ 0.70	41891.	38214.	32698.	27183.	23506.
$ 0.77	37674.	33997.	28482.	22966.	19289.
$ 0.80	35867.	32190.	26674.	21159.	17482.
$ 0.90	29842.	26165.	20650.	15135.	11458.
$ 1.00	23818.	20141.	14626.	9110.	5434.

BREAKEVEN RENTAL RATES

LOAN TO COST RATIO

EXPENSE RATES ANNUAL $/SQ FT	70.00 PCT	72.00 PCT	75.00 PCT	78.00 PCT	80.00 PCT
$ 0.70	2.95	3.01	3.11	3.20	3.26
$ 0.77	3.02	3.08	3.18	3.27	3.34
$ 0.80	3.05	3.11	3.21	3.31	3.37
$ 0.90	3.16	3.22	3.31	3.41	3.47
$ 1.00	3.26	3.32	3.42	3.51	3.58

PRO FORMA CASH FLOW TABLE

CHEMICAL BANK

SHOPPING CENTER CASE STUDY

SITE :	255698. SQUARE FEET	DATE 3-11- 79
BUILDING :	60242. SQUARE FEET	BLDG 1
EFFICIENCY:	100.00 PCT(60242. SQ FT)	
REVENUE :	$ 3.67 PER SQ FT	
VACANCY :	3.77 PCT OF LEASEABLE	
OTR INCOME:	$ 0. ANNUALLY	RUN 1
EXPENSES :	$ 0.77 PER SQ FT	

ANNUAL CASH FLOWS

LOAN TO COST RATIO

FINANCING	70.00 PCT	72.00 PCT	75.00 PCT	78.00 PCT	80.00 PCT
27.YR 9.62PCT	37674.	33997.	28482.	22966.	19289.
27.YR 9.75PCT	36350.	32636.	27063.	21491.	17777.
27.YR 10.00PCT	33690.	29899.	24213.	18527.	14736.
30.YR 10.25PCT	33393.	29593.	23894.	18195.	14396.
25.YR 9.50PCT	36717.	33013.	27456.	21900.	18196.

BREAKEVEN RENTAL RATES

LOAN TO COST RATIO

FINANCING	70.00 PCT	72.00 PCT	75.00 PCT	78.00 PCT	80.00 PCT
27.YR 9.62 PCT	3.02	3.08	3.18	3.27	3.34
27.YR 9.75 PCT	3.04	3.11	3.20	3.30	3.36
27.YR 10.00 PCT	3.09	3.15	3.25	3.35	3.42
30.YR 10.25 PCT	3.09	3.16	3.26	3.36	3.42
25.YR 9.50 PCT	3.04	3.10	3.20	3.29	3.36

CHEMICAL BANK

SHOPPING CENTER CASE STUDY

FIXED PARAMETERS   PAGE   11 OF 12

SITE   :   255698. SQUARE FEET   DATE   3-11- 79
BUILDING :   60242. SQUARE FEET   BLDG   1
EFFICIENCY: 100.00 PCT OF GROSS
LOAN RATIO: 75.00 PCT OF $ 1766571.
EQUITY   : $ 441643.
FINANCING : 27. YEARS 9.625 PCT
REVENUE   : $ 3.67 PER SQ FT
VACANCY   :   3.77 PCT OF LEASEABLE
PARK/OTHER: $ 0. ANNUALLY   RUN   1
EXPENSES : $ 0.77 PER SQ FT
CONSTRUCTION AND LAND COST 1766571.
CONSTRUCTION INTERIM RATE   10.000 PCT
CONSTRUCTION PERIOD   8 MONTHS
LAND INTERIM RATE IS   0.   PCT

                EFFECT OF SELECTED CHANGES IN PARAMETERS
                    PARAMETER CHANGE   INCREASE IN   EFFECT ON
                                              CASH FLOW   CONSTRUCTION

DECREASE CONSTRUCTION COST $ 100,000 $ 11050. $ -106179.
DECREASE CONSTRUCTION $ 1.00 PER SQ FT   6657.   -63964.
INCREASE CONSTRUCTION PERIOD 1 MONTH   -1198.   11511.
DECREASE CONST AND LAND INTERIM 1 PCT   590.   -5673.
DECREASE TOTAL LAND COST BY $ 332407.   34594.
INCREASE BUILDING EFFICIENCY 1 PCT   1664.
INCREASE RENTAL RATE $ .10 PER SQ FT   5797.
DECREASE VACANCY RATE 1PCT   2211.
DECREASE OPERATING RATE $ .10 PER SQ FT   6024.
DECREASE PERMANENT RATE .25PCT   2821.
DECREASE PERMANENT LOAN TERM BY 1 YEAR   -1136.
DECREASE PERMANENT LOAN TERM BY 5 YEARS   -7252.
DECREASE THE LOAN RATIO BY 5 PERCENT   9192.

                    EQUIVALENT EFFECT TO YIELD
                A $ 5000. INCREASE IN ANNUAL CASH FLOW

    DECREASE CONSTRUCTION COSTS BY $ 45249.
    DECREASE CONSTRUCTION COST BY $ 0.75 PER SQ FT
    DECREASE LAND COST (NO INTERIM) BY $ 48045.
    DECREASE CONSTRUCTION PERIOD BY   4.2 MONTHS
    DECREASE INTERIM INTEREST BY   8.47 PCT
    INCREASE BUILDING EFFICIENCY BY   3.01 PCT
    INCREASE RENT RATE BY $ 0.09 PER SQ FT
    DECREASE VACANCY BY   2.26 PCT
    DECREASE EXPENSE RATE BY $ 0.08 PER SQ FT
    DECREASE PERMANENT RATE BY   0.44 PCT
    INCREASE PERMANENT LOAN TERM BY   3.4 YEARS
    DECREASE LOAN RATIO BY   2.7 PERCENT

CASH FLOW PRO FORMA USING PARAMETER NORMS

CHEMICAL BANK

SHOPPING CENTER CASE STUDY

```
DATE:  3/11/ 79
BLDG:      1
RUN :      1
```

```
GROSS SQUARE FEET IN BUILDING:     60242.
BUILDING EFFICIENCY           :    100.0 PCT
NET LEASEABLE SQUARE FOOTAGE  :     60242.

LAND AND CONSTRUCTION COST : $  1766571.
LOAN TO COST RATIO         :        75.0 PCT
ORIGINAL LOAN AMOUNT       : $  1324929.

EQUITY REQUIREMENT         : $    441643.

PERMANENT INTEREST RATE    :       9.625 PCT
TERM OF LOAN                   27. YEARS

ANNUAL DEBT SERVICE        : $    137885.
```

ANNUAL DOLLARS

```
    GROSS INCOME :   60242. SQ FT AT $ 3.67          221088.
        LESS: VACANCY OF  3.77 PCT                     8335.
                                                    ------------
    GROSS EFFECTIVE INCOME                           212753.

    OPERATING EXPENSES:  60242. SQ FT AT $ 0.77       46386.
                                                    ------------
    NET OPERATING INCOME                             166367.

    DEBT SERVICE  (10.41 PCT CONSTANT)               137885.
                                                    ------------
        PRO FORMA CASH FLOW                           28482.
```

```
    RETURN ON EQUITY          6.45 PERCENT

    DEBT SERVICE COVERAGE:      1.207

    DEFAULT RATIO :     83.35 PERCENT
```

PROGRAM STOP AT 17870

USED   17.97 UNITS
/COST OFF

ACCRUED CHARGES SINCE SIGNIN
$ 3.82 COMPUTER
   6.35 CONNECT
   5.70 CHARACTERS
$ 15.87 TOTAL
EFFICIENCY = 89.8
 00028.09 CRU   0000.46 TCH   0041.46 KC

OFF AT 16:59CST 03/12/79

A SYSTEMATIC APPROACH TO INCOME PROPERTY LOANS

I. While the eventual mortgage loan negotiated should contain at least two
    of the pleasure, pain and bailout components to control dynamic risks,
    analysis begins with the property, the conversion of space time to money
    time, the parties in terms of development, tenant, and investor, and then
    finally the capital package proposed to finance the enterprise.

    A. The first question is how efficiently the proposed use exploits the
        positive attributes of the site and neutralizes the negative factors.
        If it doesn't work physically, it won't work to provide adequate
        security financially. There is no sense in increasing the probabil-
        ity of loss from failing to control variables that are management's
        to control when there are so many outside factors that cannot be
        adequately predicted or controlled.

    B. Given a shopping center, the analyst may review property attributes
        in the following order:

        1. Offsite linkages
        2. Site dynamics
        3. Physical site attributes
        4. Onsite access, parking, walking, and delivery
        5. Structural layout and basic revenue unit of space time
        6. Aesthetic compatibiltiy
        7. Environmental compatibility
        8. Legal-political constraints

    C. Note that a particular use as proposed is concerned with efficiency
        in the design and friction which it may create or must overcome in
        the movement of the goods and people on and off the site. Peak loads
        or frequencies for some uses may be cyclical in time of utilization.

    D. Efficiency of the concept as proposed not only measures financial
        possibilities, but is most revealing about the abilities and attitudes
        of the prospective borrower and his advisors.

II. Review of the physical product also suggests how well the borrower under-
    stands the profile and specifications of his prospective customer.

    A. "Who needs it?" determines the fundamental revenue stream on which
        all else is predicated. The profile suggests the scale of the project,
        the timing of the project, the rent levels, and the competitive stand-
        ard of facilities expected.

    B. While the competitive standard suggests minimum requirements, it is
        the competitive edge which creates some element of monoply for the
        project which is critical to its marketing success. Free enterprise
        is the art of creating a monopoly, if only in the mind of the buyer
        for a moment, which will protect against cutting margins or spreads
        as a competitive device.

C.   A competitive edge is found in location and physical features or services which reduce inconvenience, inefficiency, discomfort, or anxiety, i.e. friction between the consumer and his environment of sufficient irritation to overcome inertia, habit, or the status quo.

III.   For many commercial buildings the stability of the revenue stream is inherent in the lease terms because beyond property description and price, a lease is nothing but a risk management approach to the "what ifs" down the road.

A.   What contingencies precedent to occupancy cancel the lease?

B.   What contingencies following occupancy abate the rents?

C.   What contingencies following occupancy terminate the lease?

D.   What penalties are provided for cancelation, overstay, or failure to pay rents on time or inappropriate amounts as adjustments are indicated?

E.   What contingencies trigger and adjust escalator clauses?

F.   What reporting mechanisms are required to monitor the basis for rents, cost allocation, or other financial adjustments required in the future?

G.   What is the measure of tenant performance - payment, minimum occupancy in operation, sales per quare foot, etc?

H.   Lease terms are also critical to determining budgets of expenses for the borrower/developer, in terms of capital improvements and operating expenses included in base rent.

1.   All operating expenses with a tendancy to fluctuate should be laid off on the tenant through escalators or short-term leases or design to permit metering of services and utilities.

2.   Where appropriate, mechanical replacements or modifications for energy efficiency, etc. should also be shared with the tenant.

3.   Minor costs of management are presumably compensated by indexing of the base rent, renegotiation of short-term leases, or improving price earnings ratios.

IV.   If the physical and legal project would be productive as presented, much has already been learned about the developer, his principle tenants, and perhaps some of the investors. The question remains whether they have sufficiently balanced personalities to review suggestions by the lenders and the financial resources to make good on their undertaking.

A.   Position of their profit centers in time will skew their attitude toward suggestions for design modification and their tolerance for extra cost in product development.

B. Their experience in previous projects should reveal their natural aptitudes and their learning curve.

C. Analysis of the credit statements may reveal their needs for cash from various aspects of the project and therefore, the degree to which the vested interest of the lender and the borrower parallel each other in time.

D. A project which has justified economic productivity and a good faith developer can always be financed with appropriate packaging regardless of the net worth of the borrower/developer.

1. **Chemical Bank Seminar . Case Problem-Gen.**
   Project Title   User Name

10. **1979** . **0** . **1** . **1.0** . **5** . **60242**
    Starting Year   Data Sets   Classification   % Owned Yr. 1   Holding Period   Units/Year

40. **220893** . ***** . _____ . _____ . _____ . _____
    Fixed Income   2   3   4   5

60. **8339** . ***** . _____ . _____ . _____ . _____
    Vacancy Rate   2   3   4   5

70. **24097** . ***** . _____ . _____ . _____ . _____
    Real Estate Tax   2   3   4   5

80. **19457** . ***** . _____ . _____ . _____ . _____
    Fixed Expenses   2   3   4   5

100. **.12** . **.50** . **.07**
     Discount Rate   Income Tax Rate   Reinvestment Rate

101. **0** . **.015** . **6**
     Extraordinary Exp.   Project Growth Rate   Project Growth Type

102. **.14** . **1** . **.06** . **0**
     Working Capital Loan   Ownership   Resale Cost Rate   Charge New Capital

COMPONENT ENTRIES

200, 1. **Land**
        Title (20 character maximum)

201, 1. **332,400** . **.0** . **0**
        Original Cost   % Depreciable   Depreciation Method

202, 1. **1** . **0** . **0**
        Starting Year   Useful Life   Switching

200, 2. **Improvements**
        Title

201, 2. **1431968** . **.90** . **2**
        Original Cost   % Depreciable   Depreciation Method

202, 2. **1** . **33** . **0**
        Starting Year   Useful Life   Switching

200, 3. _____
        Title

201, 3. _____ . _____ . _____
        Original Cost   % Depreciable   Depreciation Method

202, 3. _____ . _____ . _____
        Starting Year   Useful Life   Switching

MORTGAGE ENTRIES

300, 1. **First Mortgage**
        Title (20 character maximum)

301, 1. **.75** . **.09625** . **0** . **27**
        Principal Amount   Annual Interest   Payment Period   Term

302, 1. **12** . **1** . **27** . **0**
        Payments/Year   Year Began   Year End   Refinanced by #

303, 1. _____ . _____ . _____ . _____
        Bonus Interest   Base Amount   Base Type   Mortgage Factor

300, 2. _____
        Title

301, 2. _____ . _____ . _____ . _____
        Principal Amount   Annual Interest   Payment Period   Term

302, 2. _____ . _____ . _____ . _____
        Payments/Year   Year Began   Year End   Refinanced by #

303, 2. _____ . _____ . _____ . _____
        Bonus Interest   Base Amount   Base Type   Mortgage Factor

400, **5** . _____ . _____ . _____ . _____ . _____ . _____ . _____ . _____ . _____
        1   2   3   4   5   6   7   8   9   10

403, **1** . **2** . **3** . **5** . _____ . _____ . _____ . _____ . _____

999,99

20. _____ . _____ . _____ . _____ . _____ . _____
    Back-Door   Back-Door Loans   Investment Default B/4 Tax   Beginning Year End Year

= Back Door

   0 = Do Not process through Back Door
   1 = Derive value based on Default Ratio
   2 = Derive value based on Loan-to-Value Mortgage
   3 = Derive value based on Debt Coverage Ratio

30. _____ . _____ . _____ . _____ . _____ . _____
    Default Ratio   Cash-On-Cash   Year   % Change   Equity B/4 Tax   Reserve B/4 Tax

103. __3000__ . __.0__ . __.07__ . __0__
     Reserves Withheld Equity Reserves Equity Reserve Rate Reserve Maximum

Field #5 = Depreciation Method

   0 = no depreciation
   1 = sum of the years digits
   2 = straight line
   3 = 125% declining balance
   4 = 150% declining balance
   5 = 200% declining balance
   6 = reverse sum of years digits
   9 = equity modification
       "-" = remove equity
       "+" = add equity

= Bonus Basis Type

   1 = fixed income - base amount
   2 = gross rent - base amount
   3 = effective gross rent - base amount
   4 = fixed income - fixed expense - base amount
   5 = net income - base amount
   6 = cash throw - base amount * bonus interest rate
   7 = market value - base amount * bonus interest rate
   8 = B/4 net worth - base amount * bonus interest rate
   9 = after tax net worth - base amount * bonus interest
       rate

Report Field Identifiers

Field #	Report Title	Field #	Report Title
1.	Summary of Income & Expense	6.	After Tax Ratios
2.	Component Summary	7.	Modified Internal Rate of Return
3.	Cash Flow	8.	Mortgage Amortization
4.	Market Value	9.	Depreciation Schedules
5.	Before Tax Ratios	10.	Partnership Report

   * = Position #1 of Card 400

   5 = Auto 1, 2, 3, 4, 5, 6, 7, 10

   9 = Auto All

   3 = Select Specific Line #'s (10 maximum)

PRINT YEARS (Enter any year number 1-25, in any order)

403 ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____ , ____

   99 = first entry line 403 means 10 year wide carriage output option.

```
1,CHEMICAL BANK SEMINAR,CASE PROBLEM - GEN.
10,1979,0,1,1.0,5,60242
40,220893,*
60,8339,*
70,24097,*
80,19457,*
100,.12,.50,.07
101,0,.015,6
102,.14,1,.06,0
200,1,LAND
201,1,332400,.0,0
202,1,1,0,0
200,2,IMPROVEMENTS
201,2,1431968,.90,2
202,2,1,33,0
300,1,FIRST MORTGAGE
301,1,.75,.09625,0,27
302,1,12,1,27,0
103,3000,.0,.07,0
400,5
403,1,2,3,5
999,99
```

* GROSS RENT $ 220893. * RATE OF GROWTH OF GROSS RENT   0.0000
* EXPENSES $ 19457. * RATE OF GROWTH OF EXPENSES   0.0000
* R E TAXES $ 24097. * RATE OF GROWTH OF R E TAXES   0.0000
* INCOME TAX RATE   0.5000   PROJECT VALUE GROWTH OF   6.0000
* VACANCY RATE   0.0378   WORKING CAPITAL LOAN RATE   0.1400
  EQUITY DISCOUNT   0.1200   EXTRAORDINARY EXPENSES $ 0.
  RESALE COST   0.0600   REINVESTMENT RATE   0.0700
  WKG CAPITAL RS $ 0.   CAPITAL RESER INTEREST RATE   0.0700
  INITIAL COST $ 1764368.   INITIAL EQUITY REQUIRED $ 441092.

ALL '*' VALUES ARE AVERAGE AMOUNTS FOR HOLDING PERIOD. OF 5 YRS.

C O M P O N E N T   S U M M A R Y

TITLE	PCT. DEPR	BEGIN USE	USEFUL LIFE	DEPR METHOD	COST	SCH
LAND	0.00	1	0.	0	$ 332400.	0
IMPROVEMENTS	0.90	1	33.	2	$ 1431968.	0

M O R T G A G E   S U M M A R Y

TITLE	INTR RATE	BEGIN YR.	END YR.	TERM	ORIG BALC	PCT VALUE
FIRST MORTGAGE	0.0962	1	27	27	$ 1323276.	0.750

P R O   F O R M A

INVESTMENT ANALYSIS OF

CHEMICAL BANK SEMINA

FOR

CASE PROBLEM - GEN.

CASH FLOW ANALYSIS

==================	1979	1980	1981	1983
1 GROSS RENT	220893.	220893.	220893.	220893.
2 LESS VACANCY	8339.	8339.	8339.	8339.
3 LESS REAL ESTATE TAXES	24097.	24097.	24097.	24097.
4 LESS EXPENSES	19457.	19457.	19457.	19457.
5 NET INCOME	169000.	169000.	169000.	169000.
6 LESS DEPRECIATION	39054.	39054.	39054.	39054.
7 LESS INTEREST	126896.	125808.	124610.	121841.
8 TAXABLE INCOME	3050.	4138.	5336.	8105.
9 PLUS DEPRECIATION	39054.	39054.	39054.	39054.
10 LESS PRINCIPAL PAYMENTS	10817.	11905.	13103.	15872.
11 CASH THROW-OFF	31287.	31287.	31287.	31287.
12 LESS TAXES	1525.	2069.	2668.	4053.
13 LESS RESERVES AT 3000.000	3000.	3000.	3000.	3000.
14 CASH FROM OPERATIONS	26762.	26218.	25619.	24234.
15 WORKING CAPITAL LOAN(CUM B)	0.	0.	0.	0.
16 DISTRIBUTABLE CASH AFR TAX	26762.	26218.	25619.	24234.
17 TAX SAVING ON OTHER INCOME	0.	0.	0.	0.
18 SPENDABLE CASH AFTER TAXES	26762.	26218.	25619.	24234.

CASH FLOW ANALYSIS

==================	1979	1980	1981	1983
MARKET VALUE				
19 BY METHOD - 6 - AT 0.0150	1790834.	1817696.	1844962.	1900725.
20 LESS RESALE COST	107450.	109062.	110698.	114044.
21 LESS LOAN BALANCES	1312459.	1300554.	1287452.	1257159.
22 PLUS CUM. CASH RESERVES	3000.	6210.	9645.	17252.
23 B/4 TAX NET WORTH	373924.	414290.	456457.	546775.
24 CAPITAL GAIN (IF SOLD)	-41931.	22374.	87057.	217582.
25 CAPITAL GAINS TAX	-8386.	4475.	17411.	43516.
26 TAX PREFERENCE TAX	0.	0.	0.	0.
27 INCOME TAX ON EXCESS DEP	0.	0.	0.	0.
28 TOTAL TAX ON SALE	-4193.	4475.	17411.	43516.
29 AFTER TAX NET WORTH	378117.	409815.	439046.	503259.

YEAR OF ANALYSIS

==================	1979	1980	1981	1983
BEFORE TAX RATIO ANALYSIS				
=========================				
30 RETURN ON NET WORTH B/4 TAX	-0.0813	0.1916	0.1773	0.1548
31 CHANGE IN NET WORTH B/4 TAX	-67168.	40366.	42167.	46208.
32 CASH RTN ON ORIG CASH EQUIY	0.0709	0.0709	0.0709	0.0709
33 PERCENT ORIG EQUITY PAYBACK	0.0607	0.1201	0.1782	0.2897
34 PRESENT VALUE OF PROJECT	1685072.	1706422.	1723319.	1746313.

YEAR OF ANALYSIS
===================   1979   1980   1981   1983

AFTER TAX RATIO ANALYSIS
=========================
35 RETURN ON NEW WORTH AFT TAX   -0.0821   0.1532   0.1338   0.1220
36 CHANGE IN NET WORTH AFT TAX   -62975.   31698.   29230.   33117.
37 CASH RTN ON ORIG CASH EQUIY   0.0607   0.0594   0.0581   0.0549
38 PERCENT ORIG EQUITY PAYBACK   0.0607   0.1201   0.1782   0.2897
39 PRESENT VALUE OF PROJECT   1684775. 1694773. 1698810. 1701483.

40 NET INCOME-MARKET VALUE RTO   0.0944   0.0930   0.0916   0.0889
41 LENDER BONUS INTEREST RATE   0.0000   0.0000   0.0000   0.0000
42 DEFAULT RATIO   0.8206   0.8206   0.8206   0.8206

YEAR OF ANALYSIS
===================   1979   1980   1981   1983

MODIFIED INTERNAL RATE OF RETURN ANALYSIS
===

RETURN ANALYSIS WITHOUT SALE
============================

41 CUM. AFT TAX SPENDABLE CASH   26762.   54853.   84312.   147470.
44 MOD. I.R.R. ON ORIG EQUITY   -0.9393   -0.6474   -0.4240   -0.1968
45 MOD. I.R.R. ON CUM. EQUITY   -0.9393   -0.6474   -0.4240   -0.1968

RETURN ANALYSIS WITH SALE
=========================

46 CUM. CASH LESS ORIG EQUITY   -40406.   23576.   82265.   209637.
47 CUM. CASH LESS CUM. EQUITY   -40406.   23576.   82265.   209637.
48 MOD I.R.R. ON ORIG EQUITY   -0.0916   0.0264   0.0587   0.0809
49 MOD I.R.R. ON CUM. EQUITY   -0.0916   0.0264   0.0587   0.0809

```
1,CHEMICAL BANK SEMINAR,CASE PROBLEM - GEN.
10,1979,0,1,1.0,5,60242
40,220893,*
60,8339,*
70,24097,*
80,19457,*
100,.12,.50,.07
101,0,.000,6
102,.14,1,.06,0
200,1,LAND
201,1,332400,.0,0
202,1,1,0,0
200,2,IMPROVEMENTS
201,2,1367600,.90,2
202,2,1,33,0
300,1,FIRST MORTGAGE
301,1,.75,.09625,0,27
302,1,12,1,27,0
103,3000,.0,.07,0
400,5
403,1,2,3,5
999,99


Ready
```

==

```
* GROSS RENT      $ 220893.  * RATE OF GROWTH OF GROSS RENT  0.0000
* EXPENSES        $  19457.  * RATE OF GROWTH OF EXPENSES    0.0000
* R E TAXES       $  24097.  * RATE OF GROWTH OF R E TAXES   0.0000
* INCOME TAX RATE   0.5000     PROJECT VALUE GROWTH OF        6.0000
* VACANCY RATE      0.0378     WORKING CAPITAL LOAN RATE      0.1400
  EQUITY DISCOUNT   0.1200     EXTRAORDINARY EXPENSES    $      0.
  RESALE COST       0.0600     REINVESTMENT RATE              0.0700
  WKG CAPITAL RS $      0.     CAPITAL RESER INTEREST RATE    0.0700
  INITIAL COST $ 1700000.      INITIAL EQUITY REQUIRED   $ 425000.
```

ALL '*' VALUES ARE AVERAGE AMOUNTS FOR HOLDING PERIOD. OF 5 YRS.

==

C O M P O N E N T   S U M M A R Y

TITLE	PCT. DEPR	BEGIN USE	USEFUL LIFE	DEPR METHOD	COST	SCH
LAND	0.00	1	0.	0	$ 332400.	0
IMPROVEMENTS	0.90	1	33.	2	$ 1367600.	0

M O R T G A G E   S U M M A R Y

TITLE	INTR RATE	BEGIN YR.	END YR.	TERM	ORIG BALC	PCT VALUE
FIRST MORTGAGE	0.0962	1	27	27	$ 1275000.	0.750

P R O   F O R M A

INVESTMENT ANALYSIS OF

CHEMICAL BANK SEMINA

FOR

CASE PROBLEM - GEN.

CASH FLOW ANALYSIS

	=================	1979	1980	1981	1983
1	GROSS RENT	220893.	220893.	220893.	220893.
2	LESS VACANCY	8339.	8339.	8339.	8339.
3	LESS REAL ESTATE TAXES	24097.	24097.	24097.	24097.
4	LESS EXPENSES	19457.	19457.	19457.	19457.
5	NET INCOME	169000.	169000.	169000.	169000.
6	LESS DEPRECIATION	37298.	37298.	37298.	37298.
7	LESS INTEREST	122267.	121218.	120064.	117396.
8	TAXABLE INCOME	9435.	10483.	11638.	14306.
9	PLUS DEPRECIATION	37298.	37298.	37298.	37298.
10	LESS PRINCIPAL PAYMENTS	10422.	11471.	12625.	15293.
11	CASH THROW-OFF	36311.	36311.	36311.	36311.
12	LESS TAXES	4717.	5242.	5819.	7153.
13	LESS RESERVES AT 3000.000	3000.	3000.	3000.	3000.
14	CASH FROM OPERATIONS	28594.	28069.	27492.	26158.
15	WORKING CAPITAL LOAN(CUM B)	0.	0.	0.	0.
16	DISTRIBUTABLE CASH AFR TAX	28594.	28069.	27492.	26158.
17	TAX SAVING ON OTHER INCOME	0.	0.	0.	0.
18	SPENDABLE CASH AFTER TAXES	28594.	28069.	27492.	26158.

CASH FLOW ANALYSIS

===================	1979	1980	1981	1983
MARKET VALUE				
19 BY METHOD - 6 - AT 0.0000	1700000.	1700000.	1700000.	1700000.
20 LESS RESALE COST	102000.	102000.	102000.	102000.
21 LESS LOAN BALANCES	1264578.	1253107.	1240483.	1211295.
22 PLUS CUM. CASH RESERVES	3000.	6210.	9645.	17252.
23 B/4 TAX NET WORTH	336422.	351103.	367162.	403957.
24 CAPITAL GAIN (IF SOLD)	-64702.	-27404.	9895.	84491.
25 CAPITAL GAINS TAX	-12940.	-5481.	1979.	16898.
26 TAX PREFERENCE TAX	0.	0.	0.	0.
27 INCOME TAX ON EXCESS DEP	0.	0.	0.	0.
28 TOTAL TAX ON SALE	-6470.	-2740.	1979.	16898.
29 AFTER TAX NET WORTH	342892.	353843.	365183.	387059.

YEAR OF ANALYSIS

===================	1979	1980	1981	1983
BEFORE TAX RATIO ANALYSIS				
==========================				
30 RETURN ON NET WORTH B/4 TAX	-0.1230	0.1516	0.1492	0.1444
31 CHANGE IN NET WORTH B/4 TAX	-88578.	14681.	16059.	19225.
32 CASH RTN ON ORIG CASH EQUIY	0.0854	0.0854	0.0854	0.0854
33 PERCENT ORIG EQUITY PAYBACK	0.0673	0.1333	0.1980	0.3228
34 PRESENT VALUE OF PROJECT	1607797.	1616264.	1623552.	1635109.

YEAR OF ANALYSIS
==================   1979   1980   1981   1983

AFTER TAX RATIO ANALYSIS
========================
35	RETURN ON NEW WORTH AFT TAX	-0.1259	0.1138	0.1097	0.1011
36	CHANGE IN NET WORTH AFT TAX	-82108.	10951.	11340.	11766.
37	CASH RTN ON ORIG CASH EQUIY	0.0673	0.0660	0.0647	0.0615
38	PERCENT ORIG EQUITY PAYBACK	0.0673	0.1333	0.1980	0.3228
39	PRESENT VALUE OF PROJECT	1606684.	1604988.	1602405.	1594014.

40	NET INCOME-MARKET VALUE RTO	0.0994	0.0994	0.0994	0.0994
41	LENDER BONUS INTEREST RATE	0.0000	0.0000	0.0000	0.0000
42	DEFAULT RATIO	0.7979	0.7979	0.7979	0.7979

YEAR OF ANALYSIS
==================   1979   1980   1981   1983

MODIFIED INTERNAL RATE OF RETURN ANALYSIS
===

RETURN ANALYSIS WITHOUT SALE
============================

41	CUM. AFT TAX SPENDABLE CASH	28594.	58664.	90263.	158238.
44	MOD. I.R.R. ON ORIG EQUITY	-0.9327	-0.6285	-0.4034	-0.1793
45	MOD. I.R.R. ON CUM. EQUITY	-0.9327	-0.6285	-0.4034	-0.1793

RETURN ANALYSIS WITH SALE
=========================

46	CUM. CASH LESS ORIG EQUITY	-59984.	-15233.	30446.	120297.
47	CUM. CASH LESS CUM. EQUITY	-59984.	-15233.	30446.	120297.
48	MOD I.R.R. ON ORIG EQUITY	-0.1411	-0.0181	0.0233	0.0511
49	MOD I.R.R. ON CUM. EQUITY	-0.1411	-0.0181	0.0233	0.0511

Summary Table - Project As Whole

	1	2
Cost	1,764,368	1,700,000
Equity	441,092	425,000
Mortgage	1,323,276	1,275,000
Default - 1	.8206	.7979
Default - 5	.8206	.7979
NOI / MKT - 1	.0944	.0944
NOI / MKT - 5	.0889	.0994
Before Tax C/C - 1	.0709	.0854
Before Tax C/C - 5	.0709	.0854
After Tax C/C - 1	.0607	.0673
After Tax C/C - 5	.0549	.0615
Payback - 1	.0607	.0673
Payback - 5	.2897	.3228
M.I.R.R. - 1	-.0916	-.1411
M.I.R.R. - 5	.0809	.0511

Run #1

    Loan 75% of Replacement Cost New, i.e. 1,764,373 and include
an annual market appreciation of 1-1/2 compounding.

Run #2

    Loan 75% of Appraised Value, i.e. 1,700,000 and do not include
an annual market appreciation.

Results Common To Both:

1. Default Ratio is below required level.

    This may indicate a sound project with reduced risk or
    an over optimistic estimate of income and expenses.

2. N.O.I./Market Ratio in #1 is going down.

    This indicates that the Market Value relative to the N.O.I.
    is increasing, meaning:

    a. An accumulation of value for a refinancing option.

    b. A possible index for estimating lease renewal options.

    c. Market demands are in fact changing over time.

    d. The application of the relationship between income
        and value is inconsistent.

    e. All the above and more.

3. Before and After Tax Cash-On-Cash rates are below what
    the appraisal indicates would be acceptable for this type
    of project.

4. Equity Payback is very slow.

5. The Modified Internal Rate of Return is very low.

```
1=1,CHEMICAL BANK SEMINAR,CASE PROBLEM - CSH.
2=10,1979,0,1,1.0,5,60242
3=30,.83,1000,2,.05,.09695,.08
4=40,220893,*
5=60,8339,*
6=70,24097,*
7=80,19457,*
8=100,.12,.50,.07
9=101,0,.015,6
10=102,.14,1,.06,0
11=200,1,LAND
12=201,1,332400,.0,0
13=202,1,1,0,0
14=200,2,IMPROVEMENTS
15=201,2,1431968,.90,2
16=202,2,1,33,0
17=200,3,ENTREPRENEURIAL SKILL
18=201,3,-150000,.0,0
19=202,3,1,0,0
20=300,1,FIRST MORTGAGE
21=301,1,1275000,.09625,0,27
22=302,1,12,1,27,0
23=103,3000,.0,.07,0
24=400,5
25=403,1,2,3,5
26=999,99
```

```
* GROSS RENT       $ 220893.   * RATE OF GROWTH OF GROSS RENT   0.0000
* EXPENSES         $  19457.   * RATE OF GROWTH OF EXPENSES     0.0000
* R E TAXES        $  24097.   * RATE OF GROWTH OF R E TAXES    0.0000
* INCOME TAX RATE    0.5000      PROJECT VALUE GROWTH OF         6.0000
* VACANCY RATE       0.0378      WORKING CAPITAL LOAN RATE       0.1400
  EQUITY DISCOUNT    0.1200      EXTRAORDINARY EXPENSES      $      0.
  RESALE COST        0.0600      REINVESTMENT RATE               0.0700
  WKG CAPITAL RS $      0.       CAPITAL RESER INTEREST RATE     0.0700
  INITIAL COST $ 1614368.        INITIAL EQUITY REQUIRED     $ 339368.
```

ALL '*' VALUES ARE AVERAGE AMOUNTS FOR HOLDING PERIOD. OF 5 YRS.

C O M P O N E N T   S U M M A R Y

TITLE	PCT. DEPR	BEGIN USE	USEFUL LIFE	DEPR METHOD	COST	SCH
LAND	0.00	1	0.	0	$ 332400.	0
IMPROVEMENTS	0.90	1	33.	2	$ 1431968.	0
ENTREPRENEURIAL SKIL	0.00	1	0.	0	$ -150000.	0

M O R T G A G E   S U M M A R Y

TITLE	INTR RATE	BEGIN YR.	END YR.	TERM	ORIG BALC	PCT VALUE
FIRST MORTGAGE	0.0962	1	27	27	$ 1275000.	0.790

PRO FORMA

INVESTMENT ANALYSIS OF

CHEMICAL BANK SEMINA

FOR

CASE PROBLEM - CSH.

CASH FLOW ANALYSIS
==================

		1979	1980	1981	1983
1	GROSS RENT	220893.	220893.	220893.	220893.
2	LESS VACANCY	8339.	8339.	8339.	8339.
3	LESS REAL ESTATE TAXES	24097.	24097.	24097.	24097.
4	LESS EXPENSES	19457.	19457.	19457.	19457.
5	NET INCOME	169000.	169000.	169000.	169000.
6	LESS DEPRECIATION	39054.	39054.	39054.	39054.
7	LESS INTEREST	122267.	121218.	120064.	117396.
8	TAXABLE INCOME	7679.	8728.	9882.	12550.
9	PLUS DEPRECIATION	39054.	39054.	39054.	39054.
10	LESS PRINCIPAL PAYMENTS	10422.	11471.	12625.	15293.
11	CASH THROW-OFF	36311.	36311.	36311.	36311.
12	LESS TAXES	3840.	4364.	4941.	6275.
13	LESS RESERVES AT 3000.000	3000.	3000.	3000.	3000.
14	CASH FROM OPERATIONS	29471.	28947.	28370.	27036.
15	WORKING CAPITAL LOAN(CUM B)	0.	0.	0.	0.
16	DISTRIBUTABLE CASH AFR TAX	29471.	28947.	28370.	27036.
17	TAX SAVING ON OTHER INCOME	0.	0.	0.	0.
18	SPENDABLE CASH AFTER TAXES	29471.	28947.	28370.	27036.

CASH FLOW ANALYSIS
==================   1979   1980   1981   1983
MARKET VALUE
19 BY METHOD - 6 - AT 0.0150   1638584. 1663162. 1688110. 1739133.
20 LESS RESALE COST   98315.   99790.   101287.   104348.
21 LESS LOAN BALANCES   1264578. 1253107. 1240483. 1211295.
22 PLUS CUM. CASH RESERVES   3000.   6210.   9645.   17252.

23 B/4 TAX NET WORTH   278691.   316475.   355985.   440742.

24 CAPITAL GAIN (IF SOLD)   -35046.   27112.   89616.   215685.
25   CAPITAL GAINS TAX   -7009.   5422.   17923.   43137.
26   TAX PREFERENCE TAX   0.   0.   0.   0.
27   INCOME TAX ON EXCESS DEP   0.   0.   0.   0.
28   TOTAL TAX ON SALE   -3505.   5422.   17923.   43137.

29 AFTER TAX NET WORTH   282195.   311053.   338062.   397605.

YEAR OF ANALYSIS
==================   1979   1980   1981   1983

BEFORE TAX RATIO ANALYSIS
=========================
30 RETURN ON NET WORTH B/4 TAX   -0.0718   0.2659   0.2396   0.2006
31 CHANGE IN NET WORTH B/4 TAX -60678.   37785.   39510.   43385.
32 CASH RTN ON ORIG CASH EQUIY   0.1070   0.1070   0.1070   0.1070
33 PERCENT ORIG EQUITY PAYBACK   0.0868   0.1721   0.2557   0.4171
34 PRESENT VALUE OF PROJECT   1556251. 1588660. 1615596. 1655982.

YEAR OF ANALYSIS
==================   1979   1980   1981   1983

AFTER TAX RATIO ANALYSIS
========================
35 RETURN ON NEW WORTH AFT TAX -0.0816   0.2048   0.1780   0.1575
36 CHANGE IN NET WORTH AFT TAX -57173.   28858.   27009.   30742.
37 CASH RTN ON ORIG CASH EQUIY   0.0868   0.0853   0.0836   0.0797
38 PERCENT ORIG EQUITY PAYBACK   0.0868   0.1721   0.2557   0.4171
39 PRESENT VALUE OF PROJECT   1553274. 1572359. 1585209. 1603162.

40 NET INCOME-MARKET VALUE RTO   0.1031   0.1016   0.1001   0.0972
41 LENDER BONUS INTEREST RATE   0.0000   0.0000   0.0000   0.0000
42 DEFAULT RATIO   0.7979   0.7979   0.7979   0.7979

YEAR OF ANALYSIS
==================   1979   1980   1981   1983

MODIFIED INTERNAL RATE OF RETURN ANALYSIS
===

RETURN ANALYSIS WITHOUT SALE
============================

41 CUM. AFT TAX SPENDABLE CASH   29471.   60481.   93085.   163285.
44 MOD. I.R.R. ON ORIG EQUITY   -0.9132   -0.5778   -0.3503   -0.1361
45 MOD. I.R.R. ON CUM. EQUITY   -0.9132   -0.5778   -0.3503   -0.1361

RETURN ANALYSIS WITH SALE
=========================

46 CUM. CASH LESS ORIG EQUITY   -31206.   32166.   91779.   221522.
47 CUM. CASH LESS CUM. EQUITY   -31206.   32166.   91779.   221522.
48 MOD I.R.R. ON ORIG EQUITY   -0.0920   0.0463   0.0831   0.1057
49 MOD I.R.R. ON CUM. EQUITY   -0.0920   0.0463   0.0831   0.1057

```
R E P O R T     S E C T I O N
==============================


SENSITIVITY ANALYSIS
====================




ANALYSIS YEAR IS   2 = 1980


DEFAULT RATE - NEEDED -      0.8300    0.8300    0.8300    0.8300
DEFAULT RATE - ACTUAL -      0.7979    0.7979    0.7979    0.7979
             DIFFER -        0.0321    0.0321    0.0321    0.0321

TO CHANGE THE DEFAULT RATE .01
CHANGE ANY ONE OF THE FOLLOWING


CASH OUTLAYS                   1979      1980      1981      1982
============


REAL ESTATE TAXES      BY    0.0917    0.0917    0.0917    0.0917
TOTAL EXPENSES         BY    0.1135    0.1135    0.1135    0.1135
FIXED EXPENSES         BY    0.1135    0.1135    0.1135    0.1135
VARIABLE EXPENSES      BY    0.0000    0.0000    0.0000    0.0000
TOTAL INTEREST PMTS.   BY    0.0181    0.0182    0.0184    0.0186
TOTAL PRINCIPAL PMTS.  BY    0.2119    0.1926    0.1750    0.1590
WORKING CAPITAL LOAN   BY    0.0000    0.0000    0.0000    0.0000
GROSS INCOME           BY   -0.0080   -0.0080   -0.0080   -0.0080
FIXED INCOME           BY   -0.0080   -0.0080   -0.0080   -0.0080
VARIABLE INCOME        BY    0.0000    0.0000    0.0000    0.0000




COMPONENTS
==========                     1979      1980      1981      1982

INITIAL INVESTMENT     BY    0.0917    0.0917    0.0917    0.0917


LAND                   BY    0.4452    0.4452    0.4452    0.4452
IMPROVEMENTS           BY    0.1033    0.1033    0.1033    0.1033
ENTREPRENEURIAL SKIL   BY   -0.9866   -0.9866   -0.9866   -0.9866


MORTGAGES
=========                      1979      1980      1981      1982


FIRST MORTGAGE         BY    0.0166    0.0166    0.0166    0.0166
```

REPORT   SECTION
==============================

SENSITIVITY ANALYSIS
====================

ANALYSIS YEAR IS   2 = 1980

TO CHANGE CASH RETURN BEFORE TAXES BY   1000.
CHANGE ANY ONE OF THE FOLLOWING

CASH OUTLAYS		1979	1980	1981	1982
REAL ESTATE TAXES	BY	0.0415	0.0415	0.0415	0.0415
TOTAL EXPENSES	BY	0.0514	0.0514	0.0514	0.0514
FIXED EXPENSES	BY	0.0514	0.0514	0.0514	0.0514
VARIABLE EXPENSES	BY	0.0000	0.0000	0.0000	0.0000
TOTAL INTEREST PMTS.	BY	0.0082	0.0082	0.0083	0.0084
TOTAL PRINCIPAL PMTS.	BY	0.0960	0.0872	0.0792	0.0720
WORKING CAPITAL LOAN	BY	0.0000	0.0000	0.0000	0.0000
GROSS INCOME	BY	0.0045	0.0045	0.0045	0.0045
FIXED INCOME	BY	0.0045	0.0045	0.0045	0.0045
VARIABLE INCOME	BY	0.0000	0.0000	0.0000	0.0000

COMPONENTS					
==========		1979	1980	1981	1982
INITIAL INVESTMENT	BY	0.0415	0.0415	0.0415	0.0415
LAND	BY	0.2015	0.2015	0.2015	0.2015
IMPROVEMENTS	BY	0.0468	0.0468	0.0468	0.0468
ENTREPRENEURIAL SKIL	BY	-0.4466	-0.4466	-0.4466	-0.4466

MORTGAGES					
=========		1979	1980	1981	1982
FIRST MORTGAGE	BY	0.0075	0.0075	0.0075	0.0075

R E P O R T   S E C T I O N
==============================

F R O N T   D O O R   A N A L Y S I S
==

A S S U M P T I O N S
======================

ANALYSIS YEAR IS   2 = 1980

C A S H   F L O W
==================

GROSS INCOME	1.000	EXPENSES	0.088
FIXED INCOME	1.000	FIXED EXPENSES	0.088
VARIABLE INCOME	0.000	VARIABLE EXPENSES	0.000
VACANCY	0.038	REAL ESTATE TAXES	0.109
DEBT REPAYMENT	0.601	EQUITY PAYMENT	0.164

DEBT STRUCTURE
==============

TOTAL DEBT IN EFFECT   0.601

   FIRST MORTGAGE   0.601

EQUITY CONTRIBUTION
===================

TOTAL EQUITY   0.164
   COST LESS DEBT   0.164 AT ANNUAL RATE OF 0.097
   WKG CAPITAL RS   0.000 AT ANNUAL RATE OF 0.080

```
F R O N T   D O O R   A N A L Y S I S
=======================================

C A S H   F L O W
=================

P E R C E N T A G E   B A S I S
===============================


ANALYSIS YEAR IS   2 = 1980

                        TEST          TEST          TEST

                        AT 1.00       AT 1.05       AT 0.95

TYPE  0 VALUE ESTIMATE =    1614368.      1695086.      1533650.

EQUITY RETURN BASIS
REQUIRED CASH FLOW

                   YR.      #       YR.      #       YR.      #
GROSS RENT       216437.   3.59   227259.   3.77   205615.   3.41
  LESS VACANCY     8171.   0.14     8579.   0.14     7762.   0.13
  LESS R.E. TAXES 23611.   0.39    24791.   0.41    22430.   0.37
  LESS EXPENSES   19064.   0.32    20018.   0.33    18111.   0.30
NET INCOME       165591.   2.75   173870.   2.89   157311.   2.61
DEBT SERVICE     132689.   2.20   139323.   2.31   126055.   2.09
CASH THROW-OFF    32902.   0.55    34547.   0.57    31257.   0.52

DEFAULT =  0.81023




ZERO EQUITY RETURN BASIS
REQUIRED CASH FLOW

                   YR.      #       YR.      #       YR.      #
GROSS RENT       173432.   2.88   182104.   3.02   164761.   2.73
  LESS VACANCY     6547.   0.11     6875.   0.11     6220.   0.10
  LESS R.E. TAXES 18920.   0.31    19866.   0.33    17974.   0.30
  LESS EXPENSES   15277.   0.25    16040.   0.27    14513.   0.24
NET INCOME       132689.   2.20   139323.   2.31   126055.   2.09
DEBT SERVICE     132689.   2.20   139323.   2.31   126055.   2.09
CASH THROW-OFF       0.   0.00        0.   0.00        0.   0.00

DEFAULT =  0.96225
```

RISK ADJUSTED BASIS WITH DEFAULT AT 0.830 AND ALLOCATING -2709.55 DOLLARS
REQUIRED CASH FLOW

	YR.	#	YR.	#	YR.	#
GROSS RENT	214719.	3.56	225455.	3.74	203983.	3.39
LESS VACANCY	8171.	0.14	8579.	0.14	7762.	0.13
LESS R.E. TAXES	25189.	0.42	26448.	0.44	23929.	0.40
LESS EXPENSES	20339.	0.34	21356.	0.35	19322.	0.32
NET INCOME	161020.	2.67	169071.	2.81	152969.	2.54
DEBT SERVICE	132689.	2.20	139323.	2.31	126055.	2.09
CASH THROW-OFF	28331.	0.47	29748.	0.49	26915.	0.45

DEFAULT = 0.83000

—   —

F R O N T   D O O R   A N A L Y S I S
==

C A S H   F L O W
==================

C A S H   B A S I S
====================

ANALYSIS YEAR IS   2 = 1980

	TEST	TEST	TEST
	AT 1.00	AT 1.05	AT 0.00
TYPE 0 VALUE ESTIMATE =	1614368.	1695086.	1533650.

EQUITY RETURN BASIS
REQUIRED CASH FLOW

	YR.	#	YR.	#	YR.	#
GROSS RENT	217484.	3.61	225763.	3.75	209204.	3.47
LESS VACANCY	8339.	0.14	8339.	0.14	8339.	0.14
LESS R.E. TAXES	24097.	0.40	24097.	0.40	24097.	0.40
LESS EXPENSES	19457.	0.32	19457.	0.32	19457.	0.32
NET INCOME	165591.	2.75	173870.	2.89	157311.	2.61
DEBT SERVICE	132689.	2.20	139323.	2.31	126055.	2.09
CASH THROW-OFF	32902.	0.55	34547.	0.57	31257.	0.52

DEFAULT = 0.81037

ZERO EQUITY RETURN BASIS
REQUIRED CASH FLOW

	YR.	#	YR.	#	YR.	#
GROSS RENT	184582.	3.06	191216.	3.17	177948.	2.95
LESS VACANCY	8339.	0.14	8339.	0.14	8339.	0.14
LESS R.E. TAXES	24097.	0.40	24097.	0.40	24097.	0.40
LESS EXPENSES	19457.	0.32	19457.	0.32	19457.	0.32
NET INCOME	132689.	2.20	139323.	2.31	126055.	2.09
DEBT SERVICE	132689.	2.20	139323.	2.31	126055.	2.09
CASH THROW-OFF	0.	0.00	0.	0.00	0.	0.00

DEFAULT = 0.95482

–   –

RISK ADJUSTED BASIS WITH DEFAULT AT 0.830 AND ALLOCATING -2687.28 DOLLARS
REQUIRED CASH FLOW

	YR.	#	YR.	#	YR.	#
GROSS RENT	215769.	3.58	223954.	3.72	207585.	3.45
LESS VACANCY	8339.	0.14	8339.	0.14	8339.	0.14
LESS R.E. TAXES	25671.	0.43	25759.	0.43	25584.	0.42
LESS EXPENSES	20728.	0.34	20799.	0.35	20657.	0.34
NET INCOME	161031.	2.67	169057.	2.81	153005.	2.54
DEBT SERVICE	132689.	2.20	139323.	2.31	126055.	2.09
CASH THROW-OFF	28342.	0.47	29733.	0.49	26951.	0.45

DEFAULT = 0.83000

BACK DOOR ANALYSIS
==

COMPONENTS
====================

PERCENTAGE BASIS
==================================

ANALYSIS YEAR IS   2 = 1980

	TEST	TEST	TEST
	AT 1.00	AT 1.05	AT 0.95
GROSS RENT PROJECTED	220893.	231938.	209848.
REVENUE UNIT INCOME	3.667	3.850	3.483

JUSTIFIED COMPONENTS

TYPE 0 VALUE ESTIMATE =	1647605.	1729986.	1565225.
VALUE DIFFERENCE =	33237.	115618.	-49143.

LAND	339244. 0.021	356206. 0.072	322281.-0.030
IMPROVEMENTS	1461450. 0.021	1534523. 0.072	1388378.-0.030
ENTREPRENEURIAL	-153088. 0.021	-160743. 0.072	-145434.-0.030
FIRST MORTGAGE	1301250. 0.021	1366313. 0.072	1236188.-0.030
EQTY CONTRIBUTION	346355. 0.021	363673. 0.072	329037.-0.030

Improvement Allocation	Total	A	B	C
Building Cost	1,249,988	878,849	297,236	73,903
Intangibles	81,240	58,726	18,031	4,483
Land Under Building – Area	60,242	43,050	14,560	2,632
Land Under Building – Value*1.30	78,312	55,965	18,928	3,422
Parking Land – Area	180,000	113,238	48,438	18,324
Parking Land – Value*1.30	234,000	147,209	62,969	23,821
Open Space – Area	15,456	9,723	4,159	1,573
Open Space – Value*1.30	20,093	12,640	5,407	2,045
Parking Surface – Value*.50	90,000	56,619	24,219	9,162
Parking Lighting	10,740	6,756	2,890	1,093
Total	1,764,373	1,216,764	429,680	117,929
Financial Allocation	.7226			
Mortgage Amount	1,275,000	879,278	310,502	85,220
Income				
Gross Income	220,893	133,365	74,368	13,160
Vacancy	8,339	3,054	5,114	171
Real Estate Taxes	24,097	16,619	5,868	1,610
Operating Expenses	19,457	13,419	4,738	1,300
Net Income	169,000	100,273	58,648	10,079
Reserve Contribution	3,000	2,070	730	200

7

ENTER LINE NUMBERS

32,37,38,40,42,46,48

CASH FLOW ANALYSIS

==================	1979	1980	1981	1983	
32 ORIG EQUITY CASH RTNB/4 TAX	0.0260	0.0260	0.0260	0.0260	**A**
37 ORIG EQUITY CASH RTNAFR TAX	0.0367	0.0356	0.0344	0.0317	
38 ORIG EQUITY PAYBACK AFR TAX	0.0367	0.0722	0.1066	0.1714	
40 NET INCOME-MARKET VALUE RTO	0.0812	0.0800	0.0788	0.0765	
42 DEFAULT RATIO	0.9113	0.9113	0.9113	0.9113	
46 CUM. CASH LESS ORIG EQUITY	-34221.	2961.	36097.	107719.	
48 MOD. I.R.R. ON ORIG EQUITY	-0.1014	0.0044	0.0344	0.0570	

CASH FLOW ANALYSIS

==================	1979	1980	1981	1983	
32 ORIG EQUITY CASH RTNB/4 TAX	0.2210	0.2210	0.2210	0.2210	**B**
37 ORIG EQUITY CASH RTNAFR TAX	0.1982	0.1971	0.1960	0.1932	
38 ORIG EQUITY PAYBACK AFR TAX	0.1982	0.3953	0.5913	0.9792	
40 NET INCOME-MARKET VALUE RTO	0.1345	0.1325	0.1305	0.1267	
42 DEFAULT RATIO	0.5771	0.5771	0.5771	0.5771	
46 CUM. CASH LESS ORIG EQUITY	-772.	23063.	47889.	104168.	
48 MOD. I.R.R. ON ORIG EQUITY	-0.0065	0.0925	0.1192	0.1338	

CASH FLOW ANALYSIS

==================	1979	1980	1981	1983	
32 ORIG EQUITY CASH RTNB/4 TAX	0.0370	0.0370	0.0370	0.0370	**C**
37 ORIG EQUITY CASH RTNAFR TAX	0.3881	0.3870	0.3858	0.3831	
38 ORIG EQUITY PAYBACK AFR TAX	0.3881	0.7751	1.1609	1.9286	
40 NET INCOME-MARKET VALUE RTO	0.0842	0.0830	0.0817	0.0793	
42 DEFAULT RATIO	0.8950	0.9726	1.0611	1.2770	
46 CUM. CASH LESS ORIG EQUITY	-5183.	-3306.	-884.	6674.	
48 MOD. I.R.R. ON ORIG EQUITY	-0.1584	-0.0519	-0.0091	0.0378	

STOP --

Ready

```
* GROSS RENT      $  13160.  * RATE OF GROWTH OF GROSS RENT  0.0000
* EXPENSES        $   1300.  * RATE OF GROWTH OF EXPENSES    0.0000
* R E TAXES       $   1610.  * RATE OF GROWTH OF R E TAXES   0.0000  C
* INCOME TAX RATE   0.5000     PROJECT VALUE GROWTH OF        6.0000
* VACANCY RATE      0.0130     WORKING CAPITAL LOAN RATE      0.1400
  EQUITY DISCOUNT   0.1200     EXTRAORDINARY EXPENSES       $     0.
  RESALE COST       0.0600     REINVESTMENT RATE              0.0700
  WKG CAPITAL RS $      0.     CAPITAL RESER INTEREST RATE    0.0700
  INITIAL COST $   117929.     INITIAL EQUITY REQUIRED      $  32714.
```

ALL '*' VALUES ARE AVERAGE AMOUNTS FOR HOLDING PERIOD. OF 5 YRS.

C O M P O N E N T   S U M M A R Y

TITLE	PCT. DEPR	BEGIN USE	USEFUL LIFE	DEPR METHOD	COST	SCH
LAND	0.00	1	0.	0	$ 29288.	0
IMPROVEMENTS	0.90	1	33.	0	$ 88641.	0

M O R T G A G E   S U M M A R Y

TITLE	INTR RATE	BEGIN YR.	END YR.	TERM	ORIG BALC	PCT VALUE
FIRST MORTGAGE	0.0962	1	27	27	$ 85215.	0.723

PRO FORMA

INVESTMENT ANALYSIS OF

CHEM. BANK SEMINAR

FOR

CASE PROBLEM - SEPR

CASH FLOW ANALYSIS
==================   1979   1980   1981   1983
 1 GROSS RENT   13160.   13160.   13160.   13160.
 2   LESS VACANCY   171.   171.   171.   171.
 3   LESS REAL ESTATE TAXES   1610.   1610.   1610.   1610.
 4   LESS EXPENSES   1300.   1300.   1300.   1300.
 5 NET INCOME   10079.   10079.   10079.   10079.
 6   LESS DEPRECIATION   27299.   27299.   27299.   27299.
 7   LESS INTEREST   8172.   8102.   8025.   7846.
 8 TAXABLE INCOME   -25391.   -25321.   -25244.   -25066.
 9   PLUS DEPRECIATION   27299.   27299.   27299.   27299.
10   LESS PRINCIPAL PAYMENTS   697.   767.   844.   1022.
11 CASH THROW-OFF   1211.   1211.   1211.   1211.
12   LESS TAXES   2232.   2232.   2232.   2232.
13   LESS RESERVES AT 200.000   0.   0.   0.   0.
14 CASH FROM OPERATIONS   -1022.   -1022.   -1022.   -1022.
15 WORKING CAPITAL LOAN(CUM B)   1022.   2186.   3514.   6752.
16 DISTRIBUTABLE CASH AFR TAX   0.   0.   0.   0.
17 TAX SAVING ON OTHER INCOME   12696.   12661.   12622.   12533.
18 SPENDABLE CASH AFTER TAXES   12696.   12661.   12622.   12533.

Default Ratio Evaluation

Building "A"

16,650	=	.3868	*	.90	· =	.3481
10,200	=	.2369	*	.90	=	.2132
6,000	=	.1394	*	.85	=	.1185
4,800	=	.1115	*	.85	=	.0948
4,200	=	.0976	*	.85	=	.0830
1,200	=	.0279	*	.80	=	.0223
43,050		1.0000				.8799
43,050	=	.7146	*	.8799	=	.6288
17,192	=	.2854	*	.7050	=	.2012
60,242		1.0000				.8300

```
1,CHEM. BANK SEMINAR,CASE PROBLEM - SEPR
10,1979,2,1,1.0,3,43050
40,133365,*
60,3054,*
70,16619,*
80,13419,*
100,.12,.50,.07
101,0,.015,6
102,.14,1,.06,0
103,2070,.0,.07,0
200,1,LAND
201,1,215814,.0,0
202,1,1,0,0
200,2,IMPROVEMENTS
201,2,1000950,.90,2
202,2,1,33,0
300,1,FIRST MORTGAGE
301,1,.7226,.09625,0,27
302,1,12,1,27,0
400,3
403,1,2,3,5
999,99
40,74368,*
60,5114,*
70,5868,*
80,4737,*
103,730,.0,.07,0
201,1,87304,.0,0
201,2,342376,.90,0
301,1,.7226,.09625,0,27
999,99
40,13160,*
60,171,*
70,1610,*
80,1300,*
103,200,.0,.07,0
201,1,29288,.0,0
201,2,88641,.90,0
301,1,.7226,.09625,0,27
999,99


Ready
```

```
* GROSS RENT       $  74368.   * RATE OF GROWTH OF GROSS RENT   0.0000
* EXPENSES         $   4737.   * RATE OF GROWTH OF EXPENSES     0.0000
* R E TAXES        $   5868.   * RATE OF GROWTH OF R E TAXES    0.0000
* INCOME TAX RATE    0.5000      PROJECT VALUE GROWTH OF        6.0000
* VACANCY RATE       0.0688      WORKING CAPITAL LOAN RATE      0.1400
  EQUITY DISCOUNT    0.1200      EXTRAORDINARY EXPENSES     $      0.
  RESALE COST        0.0600      REINVESTMENT RATE              0.0700
  WKG CAPITAL RS $      0.       CAPITAL RESER INTEREST RATE    0.0700
  INITIAL COST $   567817.       INITIAL EQUITY REQUIRED    $  62313.
```

BALL '*' VALUES ARE AVERAGE AMOUNTS FOR HOLDING PERIOD. OF 5 YRS.
INITIAL COST DERIVED THROUGH BACKDOOR TYPE 1 USING 1 MORTGAGES

BC O M P O N E N T   S U M M A R Y

TITLE	PCT. DEPR	BEGIN USE	USEFUL LIFE	DEPR METHOD	COST	SCH
LAND	0.00	1	0.	0	$ 87304.	0
IMPROVEMENTS	0.90	1	33.	0	$ 480513.	0

M O R T G A G E   S U M M A R Y

TITLE	INTR RATE	BEGIN YR.	END YR.	TERM	ORIG BALC	PCT VALUE
FIRST MORTGAGE	0.0962	1	27	27	$ 505504.	0.890

B

CASH FLOW ANALYSIS

	===================	1979	1980	1981	1983
1	GROSS RENT	74368.	74368.	74368.	74368.
2	LESS VACANCY	5114.	5114.	5114.	5114.
3	LESS REAL ESTATE TAXES	5868.	5868.	5868.	5868.
4	LESS EXPENSES	4737.	4737.	4737.	4737.
5	NET INCOME	58649.	58649.	58649.	58649.
6	LESS DEPRECIATION	20641.	20641.	20641.	20641.
7	LESS INTEREST	48476.	48060.	47602.	46544.
8	TAXABLE INCOME	-10468.	-10052.	-9594.	-8537.
9	PLUS DEPRECIATION	20641.	20641.	20641.	20641.
10	LESS PRINCIPAL PAYMENTS	4132.	4548.	5005.	6063.
11	CASH THROW-OFF	6041.	6041.	6041.	6041.
12	LESS TAXES	0.	0.	0.	0.
13	LESS RESERVES AT 730.000	730.	730.	730.	730.
14	CASH FROM OPERATIONS	5311.	5311.	5311.	5311.
15	WORKING CAPITAL LOAN(CUM B)	0.	0.	0.	0.
16	DISTRIBUTABLE CASH AFR TAX	5311.	5311.	5311.	5311.
17	TAX SAVING ON OTHER INCOME	5234.	5026.	4797.	4268.
18	SPENDABLE CASH AFTER TAXES	10545.	10337.	10109.	9580.

YEAR OF ANALYSIS
==================   1979   1980   1981   1983

B AFTER TAX RATIO ANALYSIS
==========================

#		1979	1980	1981	1983
35	RETURN ON NEW WORTH AFT TAX	-0.2107	0.4419	0.3561	0.2926
36	CHANGE IN NET WORTH AFT TAX	-23673.	6737.	6051.	7429.
37	CASH RTN ON ORIG CASH EQUIY	0.1692	0.1659	0.1622	0.1537
38	PERCENT ORIG EQUITY PAYBACK	0.1692	0.3351	0.4973	0.8093
39	PRESENT VALUE OF PROJECT	549419.	559334.	566960.	579260.
40	NET INCOME-MARKET VALUE RTO	0.1018	0.1003	0.0988	0.0959
41	LENDER BONUS INTEREST RATE	0.0000	0.0000	0.0000	0.0000
42	DEFAULT RATIO	0.8500	0.8500	0.8500	0.8500

YEAR OF ANALYSIS
==================   1979   1980   1981   1983

B MODIFIED INTERNAL RATE OF RETURN ANALYSIS
===

RETURN ANALYSIS WITHOUT SALE
============================

#		1979	1980	1981	1983
41	CUM. AFT TAX SPENDABLE CASH	10545.	21621.	33243.	58186.
44	MOD. I.R.R. ON ORIG EQUITY	-0.8308	-0.4110	-0.1890	-0.0136
45	MOD. I.R.R. ON CUM. EQUITY	-0.8308	-0.4110	-0.1890	-0.0136

RETURN ANALYSIS WITH SALE
=========================

#		1979	1980	1981	1983
46	CUM. CASH LESS ORIG EQUITY	-13128.	4684.	22357.	61441.
47	CUM. CASH LESS CUM. EQUITY	-13128.	4684.	22357.	61441.
48	MOD I.R.R. ON ORIG EQUITY	-0.2107	0.0369	0.1076	0.1471
49	MOD I.R.R. ON CUM. EQUITY	-0.2107	0.0369	0.1076	0.1471

* GROSS RENT $ 13160.   * RATE OF GROWTH OF GROSS RENT 0.0000
* EXPENSES $ 1300.   * RATE OF GROWTH OF EXPENSES   0.0000
* R E TAXES $ 1610.   * RATE OF GROWTH OF R E TAXES   0.0000
* INCOME TAX RATE   0.5000   PROJECT VALUE GROWTH OF   6.0000
* VACANCY RATE   0.0130   WORKING CAPITAL LOAN RATE   0.1400
  EQUITY DISCOUNT   0.1200   EXTRAORDINARY EXPENSES $ 0.
  RESALE COST   0.0600   REINVESTMENT RATE   0.0700
  WKG CAPITAL RS $ 0.   CAPITAL RESER INTEREST RATE   0.0700
  INITIAL COST $ 98584.   INITIAL EQUITY REQUIRED $ 25384.

C ALL '*' VALUES ARE AVERAGE AMOUNTS FOR HOLDING PERIOD. OF 5 YRS.
  INITIAL COST DERIVED THROUGH BACKDOOR TYPE 1 USING 1 MORTGAGES

C O M P O N E N T   S U M M A R Y

TITLE	PCT. DEPR	BEGIN USE	USEFUL LIFE	DEPR METHOD	COST	SCH
LAND	0.00	1	0.	0	$ 29288.	0
IMPROVEMENTS	0.90	1	33.	0	$ 69296.	0

M O R T G A G E   S U M M A R Y

TITLE	INTR RATE	BEGIN YR.	END YR.	TERM	ORIG BALC	PCT VALUE
FIRST MORTGAGE	0.0962	1	27	27	$ 73200.	0.743

C

CASH FLOW ANALYSIS
===================	1979	1980	1981	1983
1 GROSS RENT	13160.	13160.	13160.	13160.
2 LESS VACANCY	171.	171.	171.	171.
3 LESS REAL ESTATE TAXES	1610.	1610.	1610.	1610.
4 LESS EXPENSES	1300.	1300.	1300.	1300.
5 NET INCOME	10079.	10079.	10079.	10079.
6 LESS DEPRECIATION	20641.	20641.	20641.	20641.
7 LESS INTEREST	7020.	6959.	6893.	6740.
8 TAXABLE INCOME	-17582.	-17521.	-17455.	-17302.
9 PLUS DEPRECIATION	20641.	20641.	20641.	20641.
10 LESS PRINCIPAL PAYMENTS	598.	659.	725.	878.
11 CASH THROW-OFF	2461.	2461.	2461.	2461.
12 LESS TAXES	1313.	1313.	1313.	1313.
13 LESS RESERVES AT 200.000	200.	200.	200.	200.
14 CASH FROM OPERATIONS	948.	948.	948.	948.
15 WORKING CAPITAL LOAN(CUM B)	0.	0.	0.	0.
16 DISTRIBUTABLE CASH AFR TAX	948.	948.	948.	948.
17 TAX SAVING ON OTHER INCOME	8791.	8761.	8728.	8651.
18 SPENDABLE CASH AFTER TAXES	9739.	9709.	9676.	9599.

Parking Information From Urban Land Institute

I. Truck Loading

   One (1) truck loading dock for each 10,000 sq. ft. of building area

II. Parking Requirements

   5.5 parking spaces for each 1000 GLA, this includes employee parking

III. Parking Space Size

   One (1) parking space normally required 400-450 sq. ft. depending
   on design, topography, etc.

IV. Value of Parking Stall - Formula

   A. I = A * C * M * P * N * #
      Where:
      I = Annual Income
      A = Average Unit Sale (in dollars)
      C = Customers Per Car
      M = Minimum Daily Turnover Per Space
      P = Percent Of Customers Arriving By Car
      N = Number Of Shopping Days Per Year
      # = Number of Parking Spaces

   B. Variation

      $$A = \frac{I}{(C * M * P * N * \#)}$$

      Value Per Day = A * C * M

      Value Per Annum = Value Per Day * N

V. Gross Sales Estimate From Dollars and Cents of Shopping Centers

	GLA	$/Sq.Ft.	Average Sales	High Sales
Grocery	16,650	193.65 / 131.49	2,189,308	3,224,272
Hardware	10,200	75.86 / 57.74	588,948	773,772
Drugs	6,000	90.01 / 54.87	329,220	540,060
Furniture	4,800	60.80 / 35.35	169,680	291,840
Clothing	4,200	108.32 / 65.03	273,336	454,944
Miscellaneous	1,200	67.05	80,460	80,460
Financial	2,688	--	--	--
Liquor	1,344	186.49 / 79.50	106,840	25,064
Cleaners	1,000	67.45 / 30.28	30,280	67,450
Beauty Shop	1,000	90.19 / 52.01	52,010	90,190
Barber	670	67.57 / 40.30	27,001	45,272
Miscellaneous	7,858	67.05	526,879	526,879
Restaurant	2,632	78.28 / 49.93	131,416	206,033
			4,505,378	6,326,236

VI. Example

I = 4,505,378 - Average

I = 6,326,236 - High

$$A = \frac{I}{(C * M * P * N * \#)}$$

Where:
I = $4,505,378
C = 1.5
M = 3.0
P = .90
N = 325
# = 275

A = $12.45

Sales Per Day = $12.45 * 1.5 * 3.0 = $56.03

Sales Per Annum = $56.03 * 325 = $18,210

Project Modification

Land From "C"
     2,632 = Under Building
    18,324 = Parking
     1,573 = Open Space
    22,529 = Total Incro To "A" and "B" Parking

Building Cost
    A = 886,399
    B = 299,790   1,186,190

Intangibles
    A = 58,726
    B = 18,031   76,757

Land Under Building
    A = 43,050
    B = 14,560   57,610 * 1.30   74,893

Open Space
    A =   9,723
    B =   4,159   13,882 * 1.30   18,047

Parking Lot Lighting   10,740

Land For Parking
    Original   = 180,000
    Under "C"   2,632
    Open Space "C"   1,573
                       184,205 * 1.30   239,466

Parking Surface   184,205 * .5   92,102

Total Cost   1,698,195

Redesign of Parking to allocate 550 Sq. Ft./parking stall

184,205
  550   = 335 parking stalls

Determine Gross Income

I = .6102 * 1.5 * 3.0 * .90 * 325 * 335

I = 269,064

Depreciation Classes*

Shopping Centers

Item	% of Total	Amount	Useful Life
Land		332,400	0
Shell	.45	614,608	33
Electric, Wiring, Plumbing	.1872	249,347	10
Heating & Air Conditioning	.20	273,159	15
Ceiling & Flooring	.0725	99,020	10
Paving	.06285	92,102	10
Roof	.01	13,658	15
Fence & Signs	.01	13,658	15
Parking Lot Lighting	.0075	10,243	15
		1,698,195	

* Coldwell Banker

Land Valuation

I. Regression Estimate For Time

    A. 2.14   =   3.25

    B. 1.38   =   1.94

    C. 1.16   =   1.57

    D. 1.53   =   2.06

    E.   .96   =   1.24

    F. 1.08   =   1.23

    G. 1.73   =   1.95

    H. 2.11   =   1.93

II. Adjustment For Comment/Comparability
                     Adj.
    A. 3.25   .50   =   1.625

    B. 1.94   .90   =   1.746

    C. 1.57   1.20   =   1.884

    D. 2.06   .85   =   1.751

    E. 1.24   1.35   =   1.674

    F. 1.23   1.00   =   1.230

    G. 1.95   1.00   =   1.950

    H. 1.93   .85   =   1.640

                              1.69 $\pm$ .217

    Low = 1.47

    Avg. = 1.69

    High = 1.90

1. _Chemical Bank_ , _Case Solution_
   Project Title   User Name

10. _1979_ . _0_ . _1_ . _1.0_ . _10_ . _57610_
    Starting Year   Data Sets   Classification   % Owned Yr. 1   Holding Period   Units/Year

20. _____ . _____ . _____ . _____ . _____ . _____
    Back-Door   Back-Door Loans   Investment Default   B/4 Tax   Beginning Year   End Year

30. _0_ . _0_ . _2_ . _.05_ . _.09695_ . _.10_
    Default Ratio   Cash-On-Cash   Year   % Change   Equity B/4 Tax   Reserve B/4 Tax

40. _207733_ . _*_ . _____ . _____ . _____
    Fixed Income   2   3   4   5

41. _____ . _____ . _____ . _____ . _____
        6   7   8   9   10

42. _____ . _____ . _____ . _____ . _____
       11   12   13   14   15

43. _____ . _____ . _____ . _____ . _____
       16   17   18   19   20

44. _____ . _____ . _____ . _____ . _____
       21   22   23   24   25

50. _____ . _____ . _____ . _____ . _____
    Variable Income   2   3   4   5

51. _____ . _____ . _____ . _____ . _____
        6   7   8   9   10

52. _____ . _____ . _____ . _____ . _____
       11   12   13   14   15

53. _____ . _____ . _____ . _____ . _____
       16   17   18   19   20

54. _____ . _____ . _____ . _____ . _____
       21   22   23   24   25

60. _.50_ . _.25_ . _7842_ . _*_ . _____
    Vacancy Rate   2   3   4   5

61. _____ . _____ . _____ . _____ . _____
        6   7   8   9   10

62. _____ . _____ . _____ . _____ . _____
       11   12   13   14   15

63. _____ . _____ . _____ . _____ . _____
       16   17   18   19   20

64. _____ . _____ . _____ . _____ . _____
       21   22   23   24   25

70.	13597	18129	22662	*	
	Real Estate Tax	2	3	4	5
71.					
	6	7	8	9	10
72.					
	11	12	13	14	15
73.					
	16	17	18	19	20
74.					
	21	22	23	24	25
80.	18288	*			
	Fixed Expenses	2	3	4	5
81.					
	6	7	8	9	10
82.					
	11	12	13	14	15
83.					
	16	17	18	19	20
84.					
	21	22	23	24	25
90.					
	Variable Expenses	2	3	4	5
91.					
	6	7	8	9	10
92.					
	11	12	13	14	15
93.					
	16	17	18	19	20
94.					
	21	22	23	24	25

100.	.12	.50	.06
	Discount Rate	Income Tax Rate	Reinvestment Rate
101.	0	.02	6
	Extraordinary Exp.	Project Growth Rate	Project Growth Type
102.	.14	1	.07	0
	Working Capital Loan	Ownership	Resale Cost Rate	Charge New Capital
103.	3000	400000	.06	500000
	Reserves Witheld	Equity Reserves	Equity Reserve Rate	Reserve Maximum

PARTNERSHIPS

110, 1, **Robert Johnson**
Title (20 character maximum)

111, 1, **.35** , **.20** , **.20**
Income Tax | % of Spendable | % Equity Contribution

112, 1, **.30** , **.20** , **.20** , **.12**
% Equity Reversion | % Tax Loss | % Tax Payment | Discount Rate

113, 1, **.05** , **.0** , **1**
Reinvestment Rate | % Mortgage Liability | General Partner

110, 2, **Equity Backer-1**
Title

111, 2, **.50** , **.40** , **.40**
Income Tax | % of Spendable | % Equity Contribution

112, 2, **.35** , **.40** , **.40** , **.14**
% Equity Reversion | % Tax Loss | % Tax Payment | Discount Rate

113, 2, **.07** , **.0** , **0**
Reinvestment Rate | % Mortgage Liability | General Partner

110, 3, **Equity Backer-2**
Title

111, 3, **.60** , **.40** , **.40**
Income Tax | % of Spendable | % Equity Contribution

112, 3, **.35** , **.40** , **.40** , **.16**
% Equity Reversion | % Tax Loss | % Tax Payment | Discount Rate

113, 3, **.09** , **.0** , **0**
Reinvestment Rate | % Mortgage Liability | General Partner

110, 4, _____
Title

111, 4, _____ , _____ , _____
Income Tax | % of Spendable | % Equity Contribution

112, 4, _____ , _____ , _____ , _____
% Equity Reversion | % Tax Loss | % Tax Payment | Discount Rate

113, 4, _____ , _____ , _____
Reinvestment Rate | % Mortgage Liability | General Partner

110, 5, _____
Title

111, 5, _____ , _____ , _____
Income Tax | % of Spendable | % Equity Contribution

112, 5, _____ , _____ , _____ , _____
% Equity Reversion | % Tax Loss | % Tax Payment | Discount Rate

113, 5, _____ , _____ , _____
Reinvestment Rate | % Mortgage Liability | General Partner

COMPONENT ENTRIES

200, 1. Land
Title(20 character maximum)

201, 1. 332400 . .0 . 0
Original Cost / % Depreciable / Depreciation Method

202, 1. 1 . 0 . 0
Starting Year / Useful Life / Switching

200, 2. Shell
Title

201, 2. 614608 . .90 . 4
Original Cost / % Depreciable / Depreciation Method

202, 2. 1 . 33 . 0
Starting Year / Useful Life / Switching

200, 3. Elect/Wir/ Pmb
Title

201, 3. 249347 . .95 . 4
Original Cost / % Depreciable / Depreciation Method

202, 3. 1 . 10 . 0
Starting Year / Useful Life / Switching

200, 4. HVAC
Title

201, 4. 273159 . .90 . 4
Original Cost / % Depreciable / Depreciation Method

202, 4. 1 . 15 . 0
Starting Year / Useful Life / Switching

200, 5. Ceiling + Floor
Title

201, 5. 99020 . .90 . 4
Original Cost / % Depreciable / Depreciation Method

202, 5. 1 . 10 . 0
Starting Year / Useful Life / Switching

200, 6. Paving
Title

201, 6. 92103 . .95 . 4
Original Cost / % Depreciable / Depreciation Method

202, 6. 1 . 10 . 0
Starting Year / Useful Life / Switching

200, 7. Roof Fence + Signs
Title

201, 7. 27316 . .90 . 4
Original Cost / % Depreciable / Depreciation Method

202, 7. 1 . 15 . 0
Starting Year / Useful Life / Switching

200, 8. Entreprenurial Skill
Title

201, 8. -150000 . 1.0 . 0
Original Cost / % Depreciable / Depreciation Method

202, 8. 1 . 1 . 0
Starting Year / Useful Life / Switching

_____ 200, 9. **Lot Lighting**
                 Title

_____ 201, 9. **10243** . **.90** . **4**
                 Original Cost   % Depreciable   Depreciation Method

_____ 202, 9. **1** . **15** . **0**
                 Starting Year   Useful Life   Switching

_____ 200, 10. **Equity Pull**
                  Title

_____ 201, 10. **-250000** . **1.0** . **9**
                  Original Cost   % Depreciable   Depreciation Method

_____ 202, 10. **6** . **1** . **0**
                  Starting Year   Useful Life   Switching

MORTGAGE ENTRIES

_____ 300, 1, **First Mortgage**
Title(20 character maximum)

_____ 301, 1, 1189000 , .09625 , 0 , 27
Principal Amount — Annual Interest — Payment Period — Term

_____ 302, 1, 12 , 1 , 5 , 3
Payments/Year — Year Began — Year End — Refinanced by #

_____ 303, 1, _____ , _____ , _____ , _____
Bonus Interest — Base Amount — Base Type — Mortgage Factor

_____ 300, 2, **Land Lease**
Title

_____ 301, 2, 300000 , .08 , 1.0 , 0
Principal Amount — Annual Interest — Payment Period — Term

_____ 302, 2, 1 , 1 , 10 , 0
Payments/Year — Year Began — Year End — Refinanced by #

_____ 303, 2, .10 , 100000 , 5 , 0
Bonus Interest — Base Amount — Base Type — Mortgage Factor

_____ 300, 3, **Refinance Mtg.**
Title

_____ 301, 3, .88 , .0975 , 0 , 27
Principal Amount — Annual Interest — Payment Period — Term

_____ 302, 3, 12 , 6 , 27 , 0
Payments/Year — Year Began — Year End — Refinanced by #

_____ 303, 3, .10 , 100000 , 5 , 0
Bonus Interest — Base Amount — Base Type — Mortgage Factor

_____ 300, 4, _____
Title

_____ 301, 4, _____ , _____ , _____ , _____
Principal Amount — Annual Interest — Payment Period — Term

_____ 302, 4, _____ , _____ , _____ , _____
Payments/Year — Year Began — Year End — Refinanced by #

_____ 303, 4, _____ , _____ , _____ , _____
Bonus Interest — Base Amount — Base Type — Mortgage Factor

OUTPUT OPTIONS (Enter "0" to suppress report printing; Enter "1" to permit report printing)

___ 400 __9__ , __ , __ , __ , __ , __ , __ , __ , __ , __
      1   2   3   4   5   6   7   8   9   10

Report Field Identifiers

Field #	Report Title	Field #	Report Title
1.	Summary of Income & Expense	6.	After Tax Ratios
2.	Component Summary	7.	Modified Internal Rate of Return
3.	Cash Flow	8.	Mortgage Amortization
4.	Market Value	9.	Depreciation Schedules
5.	Before Tax Ratios	10.	Partnership Report

* = Position #1 of Card 400

5 = Auto 1, 2, 3, 4, 5, 6, 7, 10

9 = Auto All

3 = Select Specific Line #'s (10 maximum)

PRINT YEARS (Enter any year number 1-25, in any order)

___ 403 __1__ , __2__ , __3__ , __4__ , __5__ , __6__ , __9__ , __10__ , __ , __

99 = first entry line 403 means 10 year wide carriage output option.

```
1,CHEMICAL BANK,CASE SOLUTION        200,9,LOT LIGHTING
10,1979,0,1,1.0,10,57610            201,9,10243,.90,4
30,.0,0,2,.05,.09695,.10            202,9,1,15,0
40,207733,*                         200,10,EQUITY PULL
60,.50,.25,7842,*                   201,10,-250000,1.0,9
70,13597,18129,22662,*              202,10,6,1,0
80,18288,*                          400,5
100,.12,.50,.06,0                   403,1,2,3,4,5,6,9,10
101,0,.02,6                         999,99
102,.14,1,.07,0
103,3000,400000,.06,500000
110,1,ROBERT JOHNSON                Ready
111,1,.35,.20,.20
112,1,.30.20,.20,.12                PETE CASE.SOL
113,1,.05,.0,1                      #F /400,5/
110,2,EQUITY BACKER-1               400,5
111,2,.50,.40,.40                   #C /5/9/
112,2,.35,.40,.40,.14               400,9
113,2,.07,.0,0                      #LOG
110,3,EQUITY BACKER-2                67 lines
111,3,.60,.40,.40
112,3,.35,.40,.40,.16               Ready
113,3,.09,.0,0
200,1,LAND                          RUN MRCAX
201,1,332400,.0,0                   ENTER INPUT FILE NAME
202,1,1,0,0                         *CASE.SOL
200,2,SHELL
201,2,614608,.90,4
202,2,1,33,0
200,3,ELECT/WIR/PMB
201,3,249347,.95,4
202,3,1,10,0
200,4,HVAC
201,4,273159,.90,4
202,4,1,15,0
200,5,CEILING & FLOOR
201,5,99020,.90,4
202,5,1,10,0
200,6,PAVING
201,6,92103,.95,4
202,6,1,10,0
200,7,ROOF FENCE X SINGS
201,7,27316,.90,4
202,7,1,15,0
200,8,ENTREPRENEURIAL SKILL
201,8,-150000,1.0,0
202,8,1,1,0
300,1,FIRST MORTGAGE
301,1,1189000,.09625,0,27
302,1,12,1,5,3
300,2,LAND LEASE
301,2,300000,.08,1.0,0
302,2,1,1,10,0
303,2,.10,100000,5,0
300,3,REFINANCE
301,3,.88,.0975,0,27
302,3,12,6,27,0
303,3,.10,100000,5,0
```

DEPRECIATION SCHEDULE FOR SHELL

INITIAL COST   614608.
DEPRECIATION METHOD   4   PERCENT DEPRECIABLE 0.900
USEFUL LIFE   33.   BEGINNING YEAR   1

YR	ANNUAL DEP.	CUMULATIVE STR. LINE	CUMULATIVE ACCELERATED	EXCESS
1	27937.	16762.	27937.	11175.
2	26667.	33524.	54604.	21080.
3	25455.	50286.	80058.	29772.
4	24298.	67048.	104356.	37308.
5	23193.	83810.	127549.	43739.
6	22139.	100572.	149688.	49116.
7	21133.	117334.	170821.	53487.
8	20172.	134096.	190993.	56897.
9	19255.	150858.	210248.	59390.
10	18380.	167620.	228628.	61008.

DEPRECIATION SCHEDULE FOR ELECT/WIR/PMB

INITIAL COST   249347.
DEPRECIATION METHOD   4   PERCENT DEPRECIABLE 0.950
USEFUL LIFE   10.   BEGINNING YEAR   1

YR	ANNUAL DEP.	CUMULATIVE STR. LINE	CUMULATIVE ACCELERATED	EXCESS
1	37402.	23688.	37402.	13714.
2	31792.	47376.	69194.	21818.
3	27023.	71064.	96217.	25153.
4	22970.	94752.	119186.	24434.
5	19616.	118440.	138802.	20362.
6	19616.	142128.	158417.	16290.
7	19616.	165816.	178033.	12217.
8	19616.	189504.	197649.	8145.
9	19616.	213192.	217264.	4072.
10	19616.	236880.	236880.	0.

DEPRECIATION SCHEDULE FOR HVAC

INITIAL COST   273159.
DEPRECIATION METHOD   4   PERCENT DEPRECIABLE 0.900
USEFUL LIFE   15.   BEGINNING YEAR   1

	ANNUAL	CUMULATIVE	CUMULATIVE	
YR	DEP.	STR. LINE	ACCELERATED	EXCESS
1	27316.	16390.	27316.	10926.
2	24584.	32779.	51900.	19121.
3	22126.	49169.	74026.	24857.
4	19913.	65558.	93939.	28381.
5	17922.	81948.	111861.	29914.
6	16130.	98337.	127991.	29654.
7	14517.	114727.	142508.	27781.
8	13065.	131116.	155573.	24457.
9	12896.	147506.	168469.	20963.
10	12896.	163895.	181364.	17469.

DEPRECIATION SCHEDULE FOR CEILING & FLOOR

INITIAL COST   99020.
DEPRECIATION METHOD   4   PERCENT DEPRECIABLE 0.900
USEFUL LIFE   10.   BEGINNING YEAR   1

	ANNUAL	CUMULATIVE	CUMULATIVE	
YR	DEP.	STR. LINE	ACCELERATED	EXCESS
1	14853.	8912.	14853.	5941.
2	12625.	17824.	27478.	9654.
3	10731.	26735.	38209.	11474.
4	9122.	35647.	47331.	11684.
5	7753.	44559.	55084.	10525.
6	6807.	53471.	61891.	8420.
7	6807.	62383.	68698.	6315.
8	6807.	71294.	75505.	4210.
9	6807.	80206.	82311.	2105.
10	6807.	89118.	89118.	0.

DEPRECIATION SCHEDULE FOR PAVING

INITIAL COST   92103.
DEPRECIATION METHOD   4   PERCENT DEPRECIABLE 0.950
USEFUL LIFE   10.   BEGINNING YEAR   1

	ANNUAL	CUMULATIVE	CUMULATIVE	
YR	DEP.	STR. LINE	ACCELERATED	EXCESS
1	13815.	8750.	13815.	5066.
2	11743.	17500.	25559.	8059.
3	9982.	26249.	35540.	9291.
4	8484.	34999.	44025.	9026.
5	7246.	43749.	51270.	7521.
6	7246.	52499.	58516.	6017.
7	7246.	61248.	65761.	4513.
8	7246.	69998.	73007.	3009.
9	7246.	78748.	80252.	1504.
10	7246.	87498.	87498.	-0.

DEPRECIATION SCHEDULE FOR ROOF FENCE % SINGS

INITIAL COST   27316.
DEPRECIATION METHOD   4   PERCENT DEPRECIABLE 0.900
USEFUL LIFE   15.   BEGINNING YEAR   1

	ANNUAL	CUMULATIVE	CUMULATIVE	
YR	DEP.	STR. LINE	ACCELERATED	EXCESS
1	2732.	1639.	2732.	1093.
2	2458.	3278.	5190.	1912.
3	2213.	4917.	7403.	2486.
4	1991.	6556.	9394.	2838.
5	1792.	8195.	11186.	2991.
6	1613.	9834.	12799.	2965.
7	1452.	11473.	14251.	2778.
8	1307.	13112.	15557.	2446.
9	1290.	14751.	16847.	2096.
10	1290.	16390.	18137.	1747.

DEPRECIATION SCHEDULE FOR LOT LIGHTING

INITIAL COST   10243.
DEPRECIATION METHOD   4   PERCENT DEPRECIABLE 0.900
USEFUL LIFE   15.   BEGINNING YEAR   1

YR	ANNUAL DEP.	CUMULATIVE STR. LINE	CUMULATIVE ACCELERATED	EXCESS
1	1024.	615.	1024.	410.
2	922.	1229.	1946.	717.
3	830.	1844.	2776.	932.
4	747.	2458.	3523.	1064.
5	672.	3073.	4195.	1122.
6	605.	3687.	4799.	1112.
7	544.	4302.	5344.	1042.
8	490.	4917.	5834.	917.
9	484.	5531.	6317.	786.
10	484.	6146.	6801.	655.

MORTGAGE AMORTIZATION SCHEDULE FOR FIRST MORTGAGE

MORTGAGE AMOUNT	1189000.	TERM	27
INTEREST RATE	0.0962	MORTGAGE FACTOR	0.00867248
PERIOD PAYMENT	10311.58	PAYMENTS PER YEAR	12
BONUS INTEREST	0.0000	TYPE 0 GREATER THAN	0.

YR	ANNUAL PAYMENT	INTEREST PAYMENT	PRINCIPAL PAYMENT	BALANCE	BONUS INT PAYMENT
1	123739.	114020.	9719.	1179281.	0.
2	123739.	113042.	10697.	1168584.	0.
3	123739.	111966.	11773.	1156811.	0.
4	123739.	110781.	12958.	1143853.	0.
5	123739.	109478.	14261.	1129592.	0.

MORTGAGE AMORTIZATION SCHEDULE FOR LAND LEASE

MORTGAGE AMOUNT	300000.	TERM	0
INTEREST RATE	0.0800	MORTGAGE FACTOR	0.00000000
PERIOD PAYMENT	1.00	PAYMENTS PER YEAR	1
BONUS INTEREST	0.1000	TYPE 5 GREATER THAN	100000.

YR	ANNUAL PAYMENT	INTEREST PAYMENT	PRINCIPAL PAYMENT	BALANCE	BONUS INT PAYMENT
1	1.	24000.	0.	300000.	0.
2	1939.	24000.	0.	300000.	1938.
3	5895.	24000.	0.	300000.	5894.
4	5895.	24000.	0.	300000.	5894.
5	5895.	24000.	0.	300000.	5894.
6	5895.	24000.	0.	300000.	5894.
7	5895.	24000.	0.	300000.	5894.
8	5895.	24000.	0.	300000.	5894.
9	5895.	24000.	0.	300000.	5894.
10	5895.	24000.	0.	300000.	5894.

MORTGAGE AMORTIZATION SCHEDULE FOR REFINANCE

MORTGAGE AMOUNT	1008812.	TERM	27
INTEREST RATE	0.0975	MORTGAGE FACTOR	0.00876170
PERIOD PAYMENT	8838.90	PAYMENTS PER YEAR	12
BONUS INTEREST	0.1000	TYPE 5 GREATER THAN	100000.

YR	ANNUAL PAYMENT	INTEREST PAYMENT	PRINCIPAL PAYMENT	BALANCE	BONUS INT PAYMENT
6	111961.	98005.	8062.	1000750.	5894.
7	111961.	97183.	8884.	991866.	5894.
8	111961.	96277.	9790.	982077.	5894.
9	111961.	95279.	10788.	971289.	5894.
10	111961.	94179.	11888.	959401.	5894.

==

```
* GROSS RENT      $ 207733.  * RATE OF GROWTH OF GROSS RENT  0.0000
* EXPENSES        $  18288.  * RATE OF GROWTH OF EXPENSES    0.0000
* R E TAXES       $  21302.  * RATE OF GROWTH OF R E TAXES   0.0648
* INCOME TAX RATE   0.5000     PROJECT VALUE GROWTH OF        6.0000
* VACANCY RATE      0.1052     WORKING CAPITAL LOAN RATE      0.1400
  EQUITY DISCOUNT   0.1200     EXTRAORDINARY EXPENSES      $     0.
  RESALE COST       0.0700     REINVESTMENT RATE              0.0600
  WKG CAPITAL RS $ 400000.     CAPITAL RESER INTEREST RATE    0.0600
  INITIAL COST $ 1548196.      INITIAL EQUITY REQUIRED    $  459196.
```

ALL '*' VALUES ARE AVERAGE AMOUNTS FOR HOLDING PERIOD. OF 10 YRS.

==

C O M P O N E N T   S U M M A R Y

TITLE	PCT. DEPR	BEGIN USE	USEFUL LIFE	DEPR METHOD	COST	SCH
LAND	0.00	1	0.	0	$ 332400.	0
SHELL	0.90	1	33.	4	$ 614608.	0
ELECT/WIR/PMB	0.95	1	10.	4	$ 249347.	0
HVAC	0.90	1	15.	4	$ 273159.	0
CEILING & FLOOR	0.90	1	10.	4	$ 99020.	0
PAVING	0.95	1	10.	4	$ 92103.	0
ROOF FENCE % SINGS	0.90	1	15.	4	$ 27316.	0
ENTREPRENEURIAL SKIL	1.00	1	1.	0	$ -150000.	0
LOT LIGHTING	0.90	1	15.	4	$ 10243.	0
EQUITY PULL	1.00	6	1.	9	$ -250000.	0

M O R T G A G E   S U M M A R Y

TITLE	INTR RATE	BEGIN YR.	END YR.	TERM	ORIG BALC	PCT VALUE
FIRST MORTGAGE	0.0962	1	5	27	$ 1189000.	0.768
LAND LEASE	0.0800	1	10	0	$ 300000.	0.194
REFINANCE	0.0975	6	27	27	$ 1008812.	0.590

PRO FORMA

INVESTMENT ANALYSIS OF

CHEMICAL BANK

FOR

CASE SOLUTION

CASH FLOW ANALYSIS

==================	1979	1980	1981	1982
1 GROSS RENT	207733.	207733.	207733.	207733.
2 LESS VACANCY	103867.	51933.	7842.	7842.
3 LESS REAL ESTATE TAXES	13597.	18129.	22662.	22662.
4 LESS EXPENSES	18288.	18288.	18288.	18288.
5 NET INCOME	71982.	119383.	158941.	158941.
6 LESS DEPRECIATION	125079.	110791.	98359.	87525.
7 LESS INTEREST	138020.	137042.	141860.	140675.
8 TAXABLE INCOME	-191117.	-128451.	-81278.	-69259.
9 PLUS DEPRECIATION	125079.	110791.	98359.	87525.
10 LESS PRINCIPAL PAYMENTS	9719.	10697.	11773.	12958.
11 CASH THROW-OFF	-75757.	-28356.	5308.	5308.
12 LESS TAXES	28249.	3606.	1741.	263.
13 LESS RESERVES AT 3000.000	0.	0.	3000.	3000.
14 CASH FROM OPERATIONS	0.	0.	567.	2045.
15 WORKING CAPITAL LOAN(CUM B)	0.	0.	0.	0.
16 DISTRIBUTABLE CASH AFR TAX	0.	0.	567.	2045.
17 TAX SAVING ON OTHER INCOME	95559.	64225.	40639.	34630.
18 SPENDABLE CASH AFTER TAXES	95559.	64225.	41206.	36674.

CASH FLOW ANALYSIS

==================	1979	1980	1981	1982
MARKET VALUE				
19 BY METHOD - 6 - AT 0.0200	1579160.	1610743.	1642958.	1675817.
20 LESS RESALE COST	110541.	112752.	115007.	117307.
21 LESS LOAN BALANCES	1479281.	1468584.	1456811.	1443853.
22 PLUS CUM. CASH RESERVES	319994.	307232.	328666.	351385.
23 B/4 TAX NET WORTH	309332.	336639.	399806.	466043.
24 CAPITAL GAIN (IF SOLD)	-152823.	-46696.	60019.	167333.
25 CAPITAL GAINS TAX	-30565.	-9339.	12004.	33467.
26 TAX PREFERENCE TAX	0.	0.	0.	0.
27 INCOME TAX ON EXCESS DEP	99162.	116181.	126983.	132368.
28 TOTAL TAX ON SALE	83880.	111511.	138986.	165834.
29 AFTER TAX NET WORTH	225452.	225128.	260819.	300208.

YEAR OF ANALYSIS

==================	1979	1980	1981	1982
BEFORE TAX RATIO ANALYSIS				
=========================				
30 RETURN ON NET WORTH B/4 TAX	-0.3264	0.0883	0.2034	0.1789
31 CHANGE IN NET WORTH B/4 TAX	-149864.	27307.	63167.	66237.
32 CASH RTN ON ORIG CASH EQUIY	-0.1650	-0.0618	0.0116	0.0116
33 PERCENT ORIG EQUITY PAYBACK	0.0000	0.0000	0.0012	0.0057
34 PRESENT VALUE OF PROJECT	1697548.	1667121.	1687106.	1702084.

YEAR OF ANALYSIS
=================   1979   1980   1981   1982

AFTER TAX RATIO ANALYSIS
=========================
		1979	1980	1981	1982
35	RETURN ON NEW WORTH AFT TAX	-0.3009	0.2834	0.3416	0.2916
36	CHANGE IN NET WORTH AFT TAX	-233744.	-324.	35691.	39389.
37	CASH RTN ON ORIG CASH EQUITY	0.2081	0.1399	0.0897	0.0799
38	PERCENT ORIG EQUITY PAYBACK	0.2081	0.3480	0.4377	0.5176
39	PRESENT VALUE OF PROJECT	1775616.	1804991.	1840496.	1868945.

		1979	1980	1981	1982
40	NET INCOME-MARKET VALUE RTO	0.0456	0.0741	0.0967	0.0948
41	LENDER BONUS INTEREST RATE	0.0000	0.0000	0.0040	0.0040
42	DEFAULT RATIO	0.8647	0.8865	0.9367	0.9367

YEAR OF ANALYSIS
=================   1979   1980   1981   1982

MODIFIED INTERNAL RATE OF RETURN ANALYSIS
==

RETURN ANALYSIS WITHOUT SALE
=============================

		1979	1980	1981	1982
41	CUM. AFT TAX SPENDABLE CASH	95559.	165518.	216655.	266328.
44	MOD. I.R.R. ON ORIG EQUITY	-0.7919	-0.3996	-0.2215	-0.1273
45	MOD. I.R.R. ON CUM. EQUITY	-0.7919	-0.3996	-0.2215	-0.1273

RETURN ANALYSIS WITH SALE
=========================

		1979	1980	1981	1982
46	CUM. CASH LESS ORIG EQUITY	-138186.	-68550.	18278.	107341.
47	CUM. CASH LESS CUM. EQUITY	-138186.	-68550.	18278.	107341.
48	MOD I.R.R. ON ORIG EQUITY	-0.3009	-0.0777	0.0131	0.0539
49	MOD I.R.R. ON CUM. EQUITY	-0.3009	-0.0777	0.0131	0.0539

CASH FLOW ANALYSIS

		1983	1984	1987	1988
1	GROSS RENT	207733.	207733.	207733.	207733.
2	LESS VACANCY	7842.	7842.	7842.	7842.
3	LESS REAL ESTATE TAXES	22662.	22662.	22662.	22662.
4	LESS EXPENSES	18288.	18288.	18288.	18288.
5	NET INCOME	158941.	158941.	158941.	158941.
6	LESS DEPRECIATION	78194.	74154.	67592.	66717.
7	LESS INTEREST	139372.	133793.	131067.	129967.
8	TAXABLE INCOME	-58625.	-49007.	-39718.	-37743.
9	PLUS DEPRECIATION	78194.	74154.	67592.	66717.
10	LESS PRINCIPAL PAYMENTS	14261.	8062.	10788.	11888.
11	CASH THROW-OFF	5308.	17086.	17086.	17086.
12	LESS TAXES	0.	0.	0.	0.
13	LESS RESERVES AT 3000.000	3000.	3000.	3000.	3000.
14	CASH FROM OPERATIONS	2308.	0.	14086.	14086.
15	WORKING CAPITAL LOAN(CUM B)	0.	0.	0.	0.
16	DISTRIBUTABLE CASH AFR TAX	2308.	0.	14086.	14086.
17	TAX SAVING ON OTHER INCOME	29312.	24503.	19859.	18871.
18	SPENDABLE CASH AFTER TAXES	31620.	24503.	33945.	32957.

CASH FLOW ANALYSIS
=====================   1983   1984   1987   1988
MARKET VALUE
19 BY METHOD - 6 - AT 0.0200 1709334. 1743520. 1850237. 1887242.
20 LESS RESALE COST   119653. 122046. 129517. 132107.
21 LESS LOAN BALANCES   1429592. 1300750. 1271289. 1259401.
22 PLUS CUM. CASH RESERVES   375469.   44303.   62316.   69055.

23 B/4 TAX NET WORTH   535557. 365026. 511748. 564790.

24 CAPITAL GAIN (IF SOLD)   275258. 383806. 713317. 824486.
25   CAPITAL GAINS TAX   55052.   76761. 142663. 164897.
26   TAX PREFERENCE TAX   0.   0.   0.   0.
27   INCOME TAX ON EXCESS DEP 133087. 131787. 120459. 115440.
28   TOTAL TAX ON SALE   188139. 208548. 263122. 280337.

29 AFTER TAX NET WORTH   347419. 156478. 248626. 284453.

YEAR OF ANALYSIS
=====================   1983   1984   1987   1988

BEFORE TAX RATIO ANALYSIS
===========================
30 RETURN ON NET WORTH B/4 TAX   0.1605 -0.5120   0.1475   0.1370
31 CHANGE IN NET WORTH B/4 TAX 69515. -170531.   50885.   53042.
32 CASH RTN ON ORIG CASH EQUIY   0.0116   0.0372   0.0372   0.0372
33 PERCENT ORIG EQUITY PAYBACK   0.0107   0.0107   0.1027   0.1334
34 PRESENT VALUE OF PROJECT   1712807. 1422319. 1442718. 1445524.

YEAR OF ANALYSIS
==================   1983   1984   1987   1988

AFTER TAX RATIO ANALYSIS
========================
35 RETURN ON NEW WORTH AFT TAX   0.2626   -0.4791   0.3127   0.2767
36 CHANGE IN NET WORTH AFT TAX   47210. -190940.   33367.   35827.
37 CASH RTN ON ORIG CASH EQUIY   0.0689   0.0534   0.0739   0.0718
38 PERCENT ORIG EQUITY PAYBACK   0.5864   0.6398   0.8700   0.9417
39 PRESENT VALUE OF PROJECT   1893234. 1607602. 1660986. 1673527.

40 NET INCOME-MARKET VALUE RTO   0.0930   0.0912   0.0859   0.0842
41 LENDER BONUS INTEREST RATE   0.0041   0.0090   0.0092   0.0093
42 DEFAULT RATIO   0.9367   0.8800   0.8800   0.8800

YEAR OF ANALYSIS
==================   1983   1984   1987   1988

MODIFIED INTERNAL RATE OF RETURN ANALYSIS
===

RETURN ANALYSIS WITHOUT SALE
============================

41 CUM. AFT TAX SPENDABLE CASH   313928. 357267. 537856. 603085.
44 MOD. I.R.R. ON ORIG EQUITY   -0.0732 -0.0410   0.0177   0.0276
45 MOD. I.R.R. ON CUM. EQUITY   -0.0732   0.0120   0.0549   0.0613

RETURN ANALYSIS WITH SALE
=========================

46 CUM. CASH LESS ORIG EQUITY   202151.   54550. 327286. 428342.
47 CUM. CASH LESS CUM. EQUITY   202151. 181207. 453944. 554999.
48 MOD I.R.R. ON ORIG EQUITY   0.0757   0.0189   0.0616   0.0681
49 MOD I.R.R. ON CUM. EQUITY   0.0757   0.0752   0.1004   0.1031

PARTNERSHIP INVESTMENT SUMMARY

FOR

ROBERT JOHNSON

OWNERSHIP FORM

INDIVIDUAL
==========

INCOME TAX RATE	0.3500	SHARE OF EQUITY CONTRIBUTION	0.2000	
MAX. CAPITAL GAIN RATE	0.1750	INITIAL CASH CONTRIBUTION	91839.	
DISCOUNT RATE	0.1200	SHARE OF EQUITY REVERSION	0.3000	
REINVESTMENT RATE	0.0500	SHARE OF DISTRIBUTABLE CASH	0.2000	
SHARE INC TAX PMT	0.2000	MAX. BASIS AMOUNT	328270.	

GENERAL PARTNER	SHARE OF TAX LOSSES	0.2000	
W/ CONTRACT LIABILITY OF	55104.		

CASH FLOW	1979	1980	1981	1982
=========				
TAXABLE INCOME	-38223.	-25690.	-16256.	-13852.
CASH THROW-OFF	-15151.	-5671.	1062.	1062.
LESS TAXES	0.	0.	0.	0.
DISTRIBUTABLE CASH AFTER TAX	0.	0.	713.	1009.
TAX SAVINGS ON OTHER INCOME	13378.	8992.	5689.	4848.
SPENDABLE CASH AFTER TAXES	13378.	8992.	6403.	5857.

	1979	1980	1981	1982
NET WORTH OF SHARE	92799.	100992.	119942.	139813.
CAPITAL GAIN (IF SOLD)	-45847.	-14009.	18006.	50200.
CAPITAL GAIN TAX	-2808.	-858.	3151.	8820.
TAX PREFERENCE TAX	0.	0.	0.	2265.
INCOME TAX ON EXCESS DEPR	20824.	24398.	26666.	27797.
TOTAL TAX ON SALE	18016.	23540.	29817.	38882.

	1979	1980	1981	1982
AFTER TAX NET WORTH	74784.	77452.	90124.	100931.

BEFORE TAX RATIO ANALYSIS

=========================	1979	1980	1981	1982
CASH RTN ON ORIG CASH EQUITY	-0.1031	-0.0386	0.0072	0.0072
PERCENT ORIG EQUITY PAYBACK	0.0000	0.0000	0.0049	0.0117
PRESENT VALUE OF SHARE	69329.	62461.	68079.	72235.

AFTER TAX RATIO ANALYSIS

=========================	1979	1980	1981	1982
CASH RTN ON ORIG CASH EQUITY	0.0910	0.0612	0.0436	0.0399
PERCENT ORIG EQUITY PAYBACK	0.0910	0.1522	0.1958	0.2357
PRESENT VALUE OF SHARE	78716.	80857.	87819.	91536.

PARTNERSHIP INVESTMENT SUMMARY

FOR

ROBERT JOHNSON

OWNERSHIP FORM

INDIVIDUAL
==========

MODIFIED INTERNAL RATE OF RETURN ANALYSIS
===

RETURN ANALYSIS WITHOUT SALE

===============================	1979	1980	1981	1982
CUM.AFT TAX SPENDABLE CASH,	13378.	23039.	30594.	37980.
MOD. I.R.R. ON ORIG EQUITY	-0.9090	-0.6040	-0.4073	-0.2870
MOD. I.R.R. ON CUM. EQUITY	-0.9090	-0.6040	-0.4073	-0.2870

RETURN ANALYSIS WITH SALE

===========================	1979	1980	1981	1982
CUM. CASH LESS ORIG EQUITY	-3677.	8651.	28879.	47072.
CUM. CASH LESS CUM. EQUITY	-58781.	-46452.	-26225.	-8032.
MOD. I.R.R. ON ORIG EQUITY	-0.4000	-0.1730	-0.0634	-0.0140
MOD. I.R.R. ON CUM. EQUITY	-0.4000	-0.1730	-0.0634	-0.0140

PARTNERSHIP INVESTMENT SUMMARY

FOR

ROBERT JOHNSON

OWNERSHIP FORM

INDIVIDUAL
==========

INCOME TAX RATE	0.3500	SHARE OF EQUITY CONTRIBUTION	0.2000
MAX. CAPITAL GAIN RATE	0.1750	INITIAL CASH CONTRIBUTION	91839.
DISCOUNT RATE	0.1200	SHARE OF EQUITY REVERSION	0.3000
REINVESTMENT RATE	0.0500	SHARE OF DISTRIBUTABLE CASH	0.2000
SHARE INC TAX PMT	0.2000	MAX. BASIS AMOUNT	328270.

GENERAL PARTNER	SHARE OF TAX LOSSES	0.2000
W/ CONTRACT LIABILITY OF	55104.	

CASH FLOW	1983	1984	1987	1988
=========				
TAXABLE INCOME	-11725.	-9801.	-7944.	-7549.
CASH THROW-OFF	1062.	3417.	3417.	3417.
LESS TAXES	0.	0.	0.	0.
DISTRIBUTABLE CASH AFTER TAX	1062.	600.	3417.	3417.
TAX SAVINGS ON OTHER INCOME	4104.	3430.	2780.	2642.
SPENDABLE CASH AFTER TAXES	5165.	4030.	6197.	6059.

	1983	1984	1987	1988
NET WORTH OF SHARE	160667.	109508.	153524.	169437.
CAPITAL GAIN (IF SOLD)	82577.	115142.	213995.	247346.
CAPITAL GAIN TAX	20152.	31550.	66148.	77821.
TAX PREFERENCE TAX	4693.	7136.	14550.	17051.
INCOME TAX ON EXCESS DEPR	27948.	27675.	25296.	24242.
TOTAL TAX ON SALE	52794.	66361.	105994.	119114.

	1983	1984	1987	1988
AFTER TAX NET WORTH	107874.	43147.	47530.	50323.

BEFORE TAX RATIO ANALYSIS	1983	1984	1987	1988
=========================				
CASH RTN ON ORIG CASH EQUITY	0.0072	0.0281	0.0281	0.0281
PERCENT ORIG EQUITY PAYBACK	0.0189	0.0278	0.1121	0.1402
PRESENT VALUE OF SHARE	75150.	41195.	45235.	45527.

AFTER TAX RATIO ANALYSIS	1983	1984	1987	1988
=========================				
CASH RTN ON ORIG CASH EQUITY	0.0352	0.0331	0.0510	0.0498
PERCENT ORIG EQUITY PAYBACK	0.2708	0.3604	0.5177	0.5675
PRESENT VALUE OF SHARE	91534.	54225.	57284.	58298.

PARTNERSHIP INVESTMENT SUMMARY

FOR

ROBERT JOHNSON

OWNERSHIP FORM

INDIVIDUAL
==========

MODIFIED INTERNAL RATE OF RETURN ANALYSIS
===

RETURN ANALYSIS WITHOUT SALE

============================	1983	1984	1987	1988
CUM.AFT TAX SPENDABLE CASH,	45045.	51327.	79544.	89581.
MOD. I.R.R. ON ORIG EQUITY	-0.2106	-0.1608	-0.0659	-0.0483
MOD. I.R.R. ON CUM. EQUITY	-0.2106	-0.1339	-0.0461	-0.0301

RETURN ANALYSIS WITH SALE

=========================	1983	1984	1987	1988
CUM. CASH LESS ORIG EQUITY	61079.	2636.	35235.	48064.
CUM. CASH LESS CUM. EQUITY	5975.	-27136.	5463.	18292.
MOD. I.R.R. ON ORIG EQUITY	0.0080	-0.0710	-0.0160	-0.0049
MOD. I.R.R. ON CUM. EQUITY	0.0080	-0.0412	0.0049	0.0141

PARTNERSHIP INVESTMENT SUMMARY

FOR

EQUITY BACKER-1

OWNERSHIP FORM

INDIVIDUAL
==========

INCOME TAX RATE	0.5000	SHARE OF EQUITY CONTRIBUTION	0.4000
MAX. CAPITAL GAIN RATE	0.2500	INITIAL CASH CONTRIBUTION	183678.
DISCOUNT RATE	0.1400	SHARE OF EQUITY REVERSION	0.3500
REINVESTMENT RATE	0.0700	SHARE OF DISTRIBUTABLE CASH	0.4000
SHARE INC TAX PMT	0.4000	MAX. BASIS AMOUNT	656540.
LIMITED PARTNER		SHARE OF TAX LOSSES	0.4000

CASH FLOW	1979	1980	1981	1982
TAXABLE INCOME	-76447.	-51380.	-32511.	-27704.
CASH THROW-OFF	-30303.	-11343.	2123.	2123.
LESS TAXES	0.	0.	0.	0.
DISTRIBUTABLE CASH AFTER TAX	0.	0.	1427.	2018.
TAX SAVINGS ON OTHER INCOME	38223.	25690.	16256.	13852.
SPENDABLE CASH AFTER TAXES	38223.	25690.	17682.	15870.
NET WORTH OF SHARE	108266.	117824.	139932.	163115.
CAPITAL GAIN (IF SOLD)	-53488.	-16343.	21007.	58566.
CAPITAL GAIN TAX	-6686.	-2043.	5252.	15498.
TAX PREFERENCE TAX	0.	0.	75.	2892.
INCOME TAX ON EXCESS DEPR	34707.	40663.	44444.	46329.
TOTAL TAX ON SALE	28021.	38620.	49771.	64719.
AFTER TAX NET WORTH	80245.	79203.	90161.	98396.

BEFORE TAX RATIO ANALYSIS	1979	1980	1981	1982
CASH RTN ON ORIG CASH EQUITY	-0.1650	-0.0618	0.0116	0.0116
PERCENT ORIG EQUITY PAYBACK	0.0000	0.0000	0.0078	0.0188
PRESENT VALUE OF SHARE	68389.	55352.	60574.	63958.

AFTER TAX RATIO ANALYSIS	1979	1980	1981	1982
CASH RTN ON ORIG CASH EQUITY	0.2081	0.1399	0.0963	0.0864
PERCENT ORIG EQUITY PAYBACK	0.2081	0.3480	0.4442	0.5306
PRESENT VALUE OF SHARE	103920.	114242.	126088.	132887.

PARTNERSHIP INVESTMENT SUMMARY

FOR

EQUITY BACKER-1

OWNERSHIP FORM

INDIVIDUAL
==========

MODIFIED INTERNAL RATE OF RETURN ANALYSIS
===

RETURN ANALYSIS WITHOUT SALE

============================	1979	1980	1981	1982
CUM.AFT TAX SPENDABLE CASH,	38223.	66589.	88933.	111028.
MOD. I.R.R. ON ORIG EQUITY	-0.7919	-0.3979	-0.2148	-0.1183
MOD. I.R.R. ON CUM. EQUITY	-0.7919	-0.3979	-0.2148	-0.1183

RETURN ANALYSIS WITH SALE

=========================	1979	1980	1981	1982
CUM. CASH LESS ORIG EQUITY	-65210.	-37886.	-4584.	25745.
CUM. CASH LESS CUM. EQUITY	-65210.	-37886.	-4584.	25745.
MOD. I.R.R. ON ORIG EQUITY	-0.3550	-0.1091	-0.0084	0.0333
MOD. I.R.R. ON CUM. EQUITY	-0.3550	-0.1091	-0.0084	0.0333

PARTNERSHIP INVESTMENT SUMMARY

FOR

EQUITY BACKER-1

OWNERSHIP FORM

INDIVIDUAL
==========

INCOME TAX RATE	0.5000	SHARE OF EQUITY CONTRIBUTION	0.4000
MAX. CAPITAL GAIN RATE	0.2500	INITIAL CASH CONTRIBUTION	183678.
DISCOUNT RATE	0.1400	SHARE OF EQUITY REVERSION	0.3500
REINVESTMENT RATE	0.0700	SHARE OF DISTRIBUTABLE CASH	0.4000
SHARE INC TAX PMT	0.4000	MAX. BASIS AMOUNT	656540.
LIMITED PARTNER		SHARE OF TAX LOSSES	0.4000

CASH FLOW	1983	1984	1987	1988
=========				
TAXABLE INCOME	-23450.	-19603.	-15887.	-15097.
CASH THROW-OFF	2123.	6834.	6834.	6834.
LESS TAXES	0.	0.	0.	0.
DISTRIBUTABLE CASH AFTER TAX	2123.	1200.	6834.	6834.
TAX SAVINGS ON OTHER INCOME	11725.	9801.	7944.	7549.
SPENDABLE CASH AFTER TAXES	13848.	11001.	14778.	14383.
NET WORTH OF SHARE	187445.	127759.	179112.	197676.
CAPITAL GAIN (IF SOLD)	96340.	134332.	249661.	288570.
CAPITAL GAIN TAX	28719.	42016.	82381.	96000.
TAX PREFERENCE TAX	5726.	8575.	17225.	20143.
INCOME TAX ON EXCESS DEPR	46581.	46125.	42161.	40404.
TOTAL TAX ON SALE	81025.	96717.	141766.	156546.
AFTER TAX NET WORTH	106420.	31043.	37345.	41130.

BEFORE TAX RATIO ANALYSIS	1983	1984	1987	1988
=========================				
CASH RTN ON ORIG CASH EQUITY	0.0116	0.0514	0.0514	0.0514
PERCENT ORIG EQUITY PAYBACK	0.0303	0.0509	0.2050	0.2564
PRESENT VALUE OF SHARE	65837.	29803.	33904.	33992.

AFTER TAX RATIO ANALYSIS	1983	1984	1987	1988
========================				
CASH RTN ON ORIG CASH EQUITY	0.0754	0.0827	0.1111	0.1081
PERCENT ORIG EQUITY PAYBACK	0.6060	0.9196	1.2645	1.3726
PRESENT VALUE OF SHARE	137092.	100975.	114545.	118035.

PARTNERSHIP INVESTMENT SUMMARY

FOR

EQUITY BACKER-1

OWNERSHIP FORM

INDIVIDUAL
==========

MODIFIED INTERNAL RATE OF RETURN ANALYSIS
===

RETURN ANALYSIS WITHOUT SALE

============================	1983	1984	1987	1988
CUM.AFT TAX SPENDABLE CASH,	132648.	152935.	236601.	267546.
MOD. I.R.R. ON ORIG EQUITY	-0.0630	-0.0301	0.0285	0.0383
MOD. I.R.R. ON CUM. EQUITY	-0.0630	0.0235	0.0661	0.0724

RETURN ANALYSIS WITH SALE

=========================	1983	1984	1987	1988
CUM. CASH LESS ORIG EQUITY	55390.	299.	90268.	124998.
CUM. CASH LESS CUM. EQUITY	55390.	50962.	140931.	175661.
MOD. I.R.R. ON ORIG EQUITY	0.0541	0.0003	0.0454	0.0533
MOD. I.R.R. ON CUM. EQUITY	0.0541	0.0555	0.0836	0.0878

```
                    PARTNERSHIP INVESTMENT SUMMARY

                               FOR

                         EQUITY BACKER-2

                         OWNERSHIP FORM

                           INDIVIDUAL
                           ==========



INCOME TAX RATE          0.6000  SHARE OF EQUITY CONTRIBUTION  0.4000
MAX. CAPITAL GAIN RATE   0.3000  INITIAL CASH CONTRIBUTION     183678.
DISCOUNT RATE            0.1600  SHARE OF EQUITY REVERSION      0.3500
REINVESTMENT RATE        0.0900  SHARE OF DISTRIBUTABLE CASH    0.4000
SHARE INC TAX PMT        0.4000  MAX. BASIS AMOUNT             656540.

LIMITED PARTNER                  SHARE OF TAX LOSSES            0.4000


CASH FLOW                        1979      1980      1981      1982
=========


TAXABLE INCOME                 -76447.   -51380.   -32511.   -27704.
CASH THROW-OFF                 -30303.   -11343.     2123.     2123.
  LESS TAXES                        0.        0.        0.        0.
DISTRIBUTABLE CASH AFTER TAX       0.        0.     1427.     2018.
TAX SAVINGS ON OTHER INCOME     45868.    30828.    19507.    16622.
SPENDABLE CASH AFTER TAXES      45868.    30828.    20934.    18640.



NET WORTH OF SHARE             108266.   117824.   139932.   163115.
CAPITAL GAIN  (IF SOLD)        -53488.   -16343.    21007.    58566.
  CAPITAL GAIN TAX              -9628.    -2942.     6302.    17998.
  TAX PREFERENCE TAX               0.        0.       75.     2892.
  INCOME TAX ON EXCESS DEPR     41648.    48796.    53333.    55594.
  TOTAL TAX ON SALE            32020.    45854.    59710.    76485.



AFTER TAX NET WORTH            76246.    71970.    80222.    86630.


BEFORE TAX RATIO ANALYSIS
=========================         1979      1980      1981      1982

CASH RTN ON ORIG CASH EQUITY   -0.1650   -0.0618    0.0116    0.0116
PERCENT ORIG EQUITY PAYBACK     0.0000    0.0000    0.0078    0.0188
PRESENT VALUE OF SHARE          67210.    53010.    56456.    58067.


AFTER TAX RATIO ANALYSIS
=========================         1979      1980      1981      1982

CASH RTN ON ORIG CASH EQUITY    0.2497    0.1678    0.1140    0.1015
PERCENT ORIG EQUITY PAYBACK     0.2497    0.4176    0.5315    0.6330
PRESENT VALUE OF SHARE         105271.   115937.   127258.   134003.
```

PARTNERSHIP INVESTMENT SUMMARY

FOR

EQUITY BACKER-2

OWNERSHIP FORM

INDIVIDUAL
==========

MODIFIED INTERNAL RATE OF RETURN ANALYSIS
===

RETURN ANALYSIS WITHOUT SALE

=============================	1979	1980	1981	1982
CUM.AFT TAX SPENDABLE CASH,	45868.	80825.	109032.	137485.
MOD. I.R.R. ON ORIG EQUITY	-0.7503	-0.3367	-0.1596	-0.0699
MOD. I.R.R. ON CUM. EQUITY	-0.7503	-0.3367	-0.1596	-0.0699

RETURN ANALYSIS WITH SALE

=========================	1979	1980	1981	1982
CUM. CASH LESS ORIG EQUITY	-61564.	-30884.	5576.	40437.
CUM. CASH LESS CUM. EQUITY	-61564.	-30884.	5576.	40437.
MOD. I.R.R. ON ORIG EQUITY	-0.3352	-0.0879	0.0100	0.0510
MOD. I.R.R. ON CUM. EQUITY	-0.3352	-0.0879	0.0100	0.0510

PARTNERSHIP INVESTMENT SUMMARY

FOR

EQUITY BACKER-2

OWNERSHIP FORM

INDIVIDUAL
==========

INCOME TAX RATE	0.6000	SHARE OF EQUITY CONTRIBUTION	0.4000
MAX. CAPITAL GAIN RATE	0.3000	INITIAL CASH CONTRIBUTION	183678.
DISCOUNT RATE	0.1600	SHARE OF EQUITY REVERSION	0.3500
REINVESTMENT RATE	0.0900	SHARE OF DISTRIBUTABLE CASH	0.4000
SHARE INC TAX PMT	0.4000	MAX. BASIS AMOUNT	656540.
LIMITED PARTNER		SHARE OF TAX LOSSES	0.4000

CASH FLOW	1983	1984	1987	1988
=========				
TAXABLE INCOME	-23450.	-19603.	-15887.	-15097.
CASH THROW-OFF	2123.	6834.	6834.	6834.
LESS TAXES	0.	0.	0.	0.
DISTRIBUTABLE CASH AFTER TAX	2123.	1200.	6834.	6834.
TAX SAVINGS ON OTHER INCOME	14070.	11762.	9532.	9058.
SPENDABLE CASH AFTER TAXES	16193.	12962.	16367.	15893.
NET WORTH OF SHARE	187445.	127759.	179112.	197676.
CAPITAL GAIN (IF SOLD)	96340.	134332.	249661.	288570.
CAPITAL GAIN TAX	31219.	44516.	84881.	98500.
TAX PREFERENCE TAX	5726.	8575.	17225.	20143.
INCOME TAX ON EXCESS DEPR	55897.	55351.	50593.	48485.
TOTAL TAX ON SALE	92841.	108442.	152698.	167127.
AFTER TAX NET WORTH	94604.	19318.	26413.	30549.

BEFORE TAX RATIO ANALYSIS	1983	1984	1987	1988
=========================				
CASH RTN ON ORIG CASH EQUITY	0.0116	0.0514	0.0514	0.0514
PERCENT ORIG EQUITY PAYBACK	0.0303	0.0509	0.2050	0.2564
PRESENT VALUE OF SHARE	58236.	24234.	25194.	24455.

AFTER TAX RATIO ANALYSIS	1983	1984	1987	1988
=========================				
CASH RTN ON ORIG CASH EQUITY	0.0882	0.0974	0.1230	0.1195
PERCENT ORIG EQUITY PAYBACK	0.7212	1.0933	1.4764	1.5959
PRESENT VALUE OF SHARE	138910.	107116.	121852.	125434.

PARTNERSHIP INVESTMENT SUMMARY

FOR

EQUITY BACKER-2

OWNERSHIP FORM

INDIVIDUAL
==========

MODIFIED INTERNAL RATE OF RETURN ANALYSIS
===

RETURN ANALYSIS WITHOUT SALE
============================

	1983	1984	1987	1988
CUM.AFT TAX SPENDABLE CASH,	166052.	193958.	306989.	350511.
MOD. I.R.R. ON ORIG EQUITY	-0.0200	0.0091	0.0587	0.0668
MOD. I.R.R. ON CUM. EQUITY	-0.0200	0.0649	0.0974	0.1017

RETURN ANALYSIS WITH SALE
=========================

	1983	1984	1987	1988
CUM. CASH LESS ORIG EQUITY	76977.	29598.	149724.	197382.
CUM. CASH LESS CUM. EQUITY	76977.	80261.	200387.	248045.
MOD. I.R.R. ON ORIG EQUITY	0.0725	0.0252	0.0685	0.0757
MOD. I.R.R. ON CUM. EQUITY	0.0725	0.0819	0.1075	0.1110

R E P O R T   S E C T I O N
===============================

F R O N T   D O O R   A N A L Y S I S
==

A S S U M P T I O N S
======================

ANALYSIS YEAR IS   3 = 1981

C A S H   F L O W
==================

GROSS INCOME	1.000	EXPENSES	0.088
FIXED INCOME	1.000	FIXED EXPENSES	0.088
VARIABLE INCOME	0.000	VARIABLE EXPENSES	0.000
VACANCY	0.038	REAL ESTATE TAXES	0.109
DEBT REPAYMENT	0.740	EQUITY PAYMENT	0.026

DEBT STRUCTURE
==============

TOTAL DEBT IN EFFECT   0.740

   FIRST MORTGAGE   0.596
   LAND LEASE   0.144

EQUITY CONTRIBUTION
===================

TOTAL EQUITY   0.026
   COST LESS DEBT   0.003 AT ANNUAL RATE OF 0.097
   WKG CAPITAL RS   0.022 AT ANNUAL RATE OF 0.100

```
F R O N T   D O O R   A N A L Y S I S
=========================================


C A S H   F L O W
==================


P E R C E N T A G E   B A S I S
==================================
```

ANALYSIS YEAR IS   3 = 1981

	TEST		TEST		TEST	
	AT 1.00		AT 1.05		AT 0.95	
TYPE 0 VALUE ESTIMATE =	1548196.		1625606.		1470786.	

EQUITY RETURN BASIS
REQUIRED CASH FLOW

	YR.	#	YR.	#	YR.	#
GROSS RENT	260576.	4.52	270991.	4.70	250161.	4.34
LESS VACANCY	9837.	0.17	10230.	0.18	9444.	0.16
LESS R.E. TAXES	28427.	0.49	29563.	0.51	27291.	0.47
LESS EXPENSES	22940.	0.40	23857.	0.41	22023.	0.38
NET INCOME	199372.	3.46	207341.	3.60	191404.	3.32
DEBT SERVICE	153633.	2.67	161315.	2.80	145951.	2.53
CASH THROW-OFF	45739.	0.79	46026.	0.80	45452.	0.79

DEFAULT = 0.78672

ZERO EQUITY RETURN BASIS
REQUIRED CASH FLOW

	YR.	#	YR.	#	YR.	#
GROSS RENT	200796.	3.49	210835.	3.66	190756.	3.31
LESS VACANCY	7580.	0.13	7959.	0.14	7201.	0.12
LESS R.E. TAXES	21905.	0.38	23000.	0.40	20810.	0.36
LESS EXPENSES	17677.	0.31	18561.	0.32	16793.	0.29
NET INCOME	153633.	2.67	161315.	2.80	145951.	2.53
DEBT SERVICE	153633.	2.67	161315.	2.80	145951.	2.53
CASH THROW-OFF	0.	0.00	0.	0.00	0.	0.00

DEFAULT = 0.96225

RISK ADJUSTED BASIS WITH DEFAULT AT 0.870 AND ALLOCATING-14916.56 DOLLARS
REQUIRED CASH FLOW

	YR.	#	YR.	#	YR.	#
GROSS RENT	252261.	4.38	262934.	4.56	241588.	4.19
LESS VACANCY	9837.	0.17	10230.	0.18	9444.	0.16
LESS R.E. TAXES	36433.	0.63	37321.	0.65	35545.	0.62
LESS EXPENSES	29401.	0.51	30117.	0.52	28685.	0.50
NET INCOME	176590.	3.07	185266.	3.22	167914.	2.91
DEBT SERVICE	153633.	2.67	161315.	2.80	145951.	2.53
CASH THROW-OFF	22957.	0.40	23951.	0.42	21963.	0.38

DEFAULT = 0.87000

F R O N T   D O O R   A N A L Y S I S
==

C A S H   F L O W
=================

C A S H   B A S I S
===================

ANALYSIS YEAR IS   3 = 1981

	TEST	TEST	TEST
	AT 1.00	AT 1.05	AT 0.00
TYPE 0 VALUE ESTIMATE =	1548196.	1625606.	1470786.

EQUITY RETURN BASIS
REQUIRED CASH FLOW

	YR.	#	YR.	#	YR.	#
GROSS RENT	248164.	4.31	256133.	4.45	240196.	4.17
LESS VACANCY	7842.	0.14	7842.	0.14	7842.	0.14
LESS R.E. TAXES	22662.	0.39	22662.	0.39	22662.	0.39
LESS EXPENSES	18288.	0.32	18288.	0.32	18288.	0.32
NET INCOME	199372.	3.46	207341.	3.60	191404.	3.32
DEBT SERVICE	153633.	2.67	161315.	2.80	145951.	2.53
CASH THROW-OFF	45739.	0.79	46026.	0.80	45452.	0.79

DEFAULT = 0.78409

ZERO EQUITY RETURN BASIS
REQUIRED CASH FLOW

	YR.	#	YR.	#	YR.	#
GROSS RENT	202425.	3.51	210107.	3.65	194743.	3.38
LESS VACANCY	7842.	0.14	7842.	0.14	7842.	0.14
LESS R.E. TAXES	22662.	0.39	22662.	0.39	22662.	0.39
LESS EXPENSES	18288.	0.32	18288.	0.32	18288.	0.32
NET INCOME	153633.	2.67	161315.	2.80	145951.	2.53
DEBT SERVICE	153633.	2.67	161315.	2.80	145951.	2.53
CASH THROW-OFF	0.	0.00	0.	0.00	0.	0.00

DEFAULT = 0.96126

RISK ADJUSTED BASIS WITH DEFAULT AT 0.870 AND ALLOCATING-14712.45 DOLLARS
REQUIRED CASH FLOW

	YR.	#	YR.	#	YR.	#
GROSS RENT	239996.	4.17	248251.	4.31	231740.	4.02
LESS VACANCY	7842.	0.14	7842.	0.14	7842.	0.14
LESS R.E. TAXES	30528.	0.53	30251.	0.53	30804.	0.53
LESS EXPENSES	24635.	0.43	24413.	0.42	24858.	0.43
NET INCOME	176991.	3.07	185745.	3.22	168236.	2.92
DEBT SERVICE	153633.	2.67	161315.	2.80	145951.	2.53
CASH THROW-OFF	23357.	0.41	24431.	0.42	22284.	0.39

DEFAULT = 0.87000

B A C K   D O O R   A N A L Y S I S

===================================

C O M P O N E N T S

=====================

P E R C E N T A G E   B A S I S

===================================

ANALYSIS YEAR IS   3 = 1981

	TEST	TEST	TEST
	AT 1.00	AT 1.05	AT 0.95
GROSS RENT PROJECTED	207733.	218120.	197346.
REVENUE UNIT INCOME	3.606	3.786	3.426

JUSTIFIED COMPONENTS

TYPE 0 VALUE ESTIMATE =	1234234.	1308446.	1160270.
VALUE DIFFERENCE =	-313962.	-239750.	-387926.

LAND	264992.-0.203	280925.-0.155	249112.-0.251
SHELL	489970.-0.203	519431.-0.155	460608.-0.251
ELECT/WIR/PMB	198781.-0.203	210734.-0.155	186869.-0.251
HVAC	217764.-0.203	230858.-0.155	204715.-0.251
CEILING & FLOOR	78940.-0.203	83686.-0.155	74209.-0.251
PAVING	73425.-0.203	77840.-0.155	69025.-0.251
ROOF FENCE % SIN	21777.-0.203	23086.-0.155	20472.-0.251
ENTREPRENEURIAL	-119581.-0.203	-126771.-0.155	-112415.-0.251
LOT LIGHTING	8166.-0.203	8657.-0.155	7676.-0.251
EQUITY PULL	0.-1.000	0.-1.000	0.-1.000
FIRST MORTGAGE	947880.-0.203	1004874.-0.155	891077.-0.251
LAND LEASE	239162.-0.203	253543.-0.155	224830.-0.251
REFINANCE	0.-1.000	0.-1.000	0.-1.000
EQTY CONTRIBUTION	47192.-0.897	50029.-0.891	44364.-0.903

Critique of A Real Estate Appraisal

I. Political compromises in the 1930's lead to the appraisal docotoing which
    defines value and three normative approaches to value based on the economics
    before income tax. Currently there are strong factors pushing for and
    against restatement of the appraisal process:

   A. Namative methods are not predictive of price but nine times out of ten
       appraisers aer supposed to predict the price at which a property would
       sell under specific circumstances.

   B. If the appraisal is to serve as a benchmark for a decision under specific
       circumstances, or purposes, then it should not be governed by conditions
       characteristic of an efficient market since real estate is not known for
       market efficiency.

   C. Widespread acceptance of appraisal models is a function of the cost
       of reeducation, on the job training, word processing, and data processing
       and that is being drastically altered by electronics and communication
       advances.

   D. A consistent theory for reconstructing appraisal has been prepared by
       Prof. R. U. Ratcliff but its tenets are being adapted at the grass roots
       level by individuals rather than considered by the controlling committee
       of the professional societies.

   E. Factors which have delayed appraisal reform include:

      1. The uncertainty surrounding efforts to merge the major appraisal
          societies which at this time are competitive and without control of
          the profession.
      2. Fear that a retreat from old principles will discredit appraisal
          designations and existing regulatory monopolies and therefore contribute
          toward further competitive erosion by the accountants and the engineers
          and the investment bankers.
      3. Timidity of practicing appraisers to call for a colloquium with which
          to draft a restatement of appraisal principles and thereby open
          exhausting and devicive debate.

II. To critique an appraisal provided as a benchmark of a mortgage loan and to
     classify the appraiser as contemporary or old guard, the reader should look
     to the following elements.

   A. Definition of value - is it the classic definition or defined as the
       most probable price at which it would sell subject to specific financing
       terms?

   B. Does the interest to be appraised represent fee title unemcumbered or
       does it include entitlement to the financing requrested or subject to
       financing appropriate to regulated institutional standard?

   C. For a proposed projects does the appraisal assume completion and therefore
       a future appraisal date and does it assume absorption of the units
       into the market in a stated period of time. If so, it must prove
       absorption, capture rate and construction as reasonable assumptions
       or it has sidestepped the critical issue of indirect cost.

   D. Does it discard any of the three approaches at the outset as inappropriate
       or does it wait until the report reaches the section called synthesis?

E. In using the market approach for an appraisal report indicate buyer motivation on comparable sales or current status of the comparable. Does the appraiser use basic statistics for adjustment or arbitrary percentage or flat dollar shifts in value? Does it provide the standard error of the investment or the mean price?

F. In doing the income approach does the appraiser use normalized income or cash flows over time and in capitalizing the income does he use market rates, Ellwood rates, or cash on cash mortgage equity. Only the latter is reliable for mortgage loan purposes.

G. In doing the cost approach, does the appraiser show the entrepreneurial compensation or is that buried in over-estimated construction costs? Hard dollar costs should be the lowest of three estimates, not the highest as advocated by appraisal textbooks. The spread is the developers fee for the entrepreneurial contribution to land, labor and capital.

H. Does the appraiser provide a test on the after tax basis of either his resale assumptions on which his income approach depends or his conclusion as to most probable price at which it would sell? These tests might include something like BFCF, the resulting financial ratios discussed previously, or a front door approach to demonstrate the rents implied by a given cost of acquisition.

I. Check the statement of limiting conditions to see what applies relative to underlying assumptions and limitations on use.

J. Check the professional designation. Does it include SREA which is the only designation which requires recertification and a continued learning curve.

The Ethics of Real Estate Finance

I. The traditional ethic of mortgage lending as well as its ultimate practical objective is to recover the principal advanced, the interest, and the extra expense cost of collection. For sake of argument, let us assume:

    A. Posit: The United States can become a capital shy economy in the post industrial age for lack of consumer saving and bacause all of the major issues relative to energy, conservation, pollution, housing, and competitive production costs in the international market will require capital intensive solutions.

    B. Posit: National priorities will require capital allocations on true interest rather than marginal after tax costs or a non-monetary rationing system for capital and investment banking.

    C. Posit: Whether it is space ships, cardboard parodies of the Statue of Liberty, or real estate development we build anything that can be financed wisely or otherwise.

    D. Posit: Real estate investors and developers can make money from empty buildings when present mortgage lending systems make it possible to speculate on a long term commodity market at almost no cost of the put that protects the speculator.

    E. Posit: The standards of the commercial banker on construction loans and permanent loans form the standard of a competitive industry.

    F. Therefore: Commercial bankers have an obligation to aggressively modify the current competitive standards and regulations for underwriting mortgage loans.

II. What are the major issues on which commercial bankers have the ethical responsibility to initiate mortgage lending reforms?

    A. Regulations relative to loan to value ratios, the definition of an appraisal, and the evidence required to demonstrate need.

    B. The redefinition of appraisal, market and merchandising analysis, and the permissable investment analysis format required for diligent independent review of the proposal.

    C. Consistent standards for real estate financing made directly by the bank or indirectly with loans to investment banking and mortgage banking houses, collateralized by mortgages.

    D. Certification of mortgage lending officers for training that includes both technical issues of mortgage lending and public policy issues relative to externalized costs and compatibility of proposed real estate with physical and financial plans of the community.

    E. Participation in development of centralized data base records on existing space supplies, absorption rates, capture rates and borrower performance for major metropolitan areas maintained in cooperation with community and regional planners and assessors as well as other real estate lending institutions so that efficiency in real estate marketing is improved with adequate and timely information. Capital efficiency requires marketing efficiency since the ultimate take-out on a permanent loan is a customer.

DISTRIBUTED BY THE FEDERAL HOME LOAN BANK OF CHICAGO - JUNE 29, 1977

ADVANCE COPY

FEDERAL HOME LOAN BANK BOARD
OFFICE OF EXAMINATIONS AND SUPERVISION

M E M O R A N D U M   #R 41

To   : OES Professional Staff   June 6, 1977   JUN 17 1977

From : William Sprague   Appraisal Policies and Practices
                                         of Insured Institutions and
                                         Service Corporations

> SYNOPSIS: GUIDELINES REGARDING APPRAISAL PROCEDURES AND
>   MANAGEMENT.

The soundness of an association's or service corporation's mortgage loans
and real estate investments depends to a great extent upon the timeliness
and adequacy of the appraisals of the real estate. This memorandum pro-
vides guidelines for appraisal management and procedures to this end.
It is the responsibility of the examiner at each examination to evaluate
the quality of the association's appraisal function in meeting the require-
ments of Insurance Regulations 563.17-1(c)(1) and 563.10. The examiner
must similarly evaluate the service corporation's appraisal function.

Appraisal Management

The lending policies established by the board of directors determine the
association's and service corporation's appraisal staff, fee appraiser
and plant requirements. Management should ensure at all times that appraisal
services fit both the ordinary and specialized needs of the association
and service corporation, whether performed by staff or fee appraisers.

A. Staff and Plant

An appraisal should readily serve an underwriter's needs by providing
a documented opinion of the market value of the property as of the
date of the estimated market value and should indicate the degree of
feasibility/marketability of the property. An accurate and fully
useful appraisal is most often the work of a capable and suitably
equipped fee or staff appraiser who has ready access to current market
information. Therefore, each association and service corporation must
be able to demonstrate that its fee and staff appraisers are capable
and have the facilities necessary to perform adequate appraisals.

B. Training

Staff appraisers should continually increase their knowledge and skills
through attendance at courses sponsored by universities, colleges
and/or professional appraisal organizations. Memberships in professional
appraisal organizations should be encouraged.

Appraisal Procedures
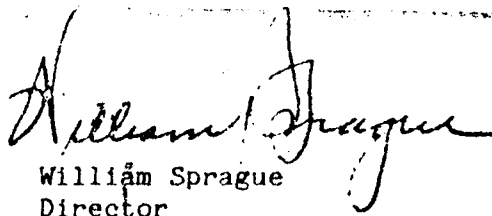
The appraisal content shall follow generally accepted and established appraisal practices as reflected in the nationally recognized professional appraisal organizations, such as: The American Institute of Real Estate Appraisers and the Society of Real Estate Appraisers.

Specifically, each appraisal report must:

1. be totally self-contained so that:

   a. it is a useful tool for prudent underwriting, REO and/or LTF decisions.

   b. when read by any third party, the appraiser's logic, reasoning, judgment and analysis in arriving at a final conclusion indicate to the reader the reasonableness of the market value reported.

   c. it demonstrates professional competence, ethics and expertise.

2. be of a narrative style for major loans and/or investments of similar magnitude made by the association or affiliates.

3. contain all recognized approaches to market value unless the appraiser fully explains and documents the rationale for eliminating one or more of the approaches to value.

4. take into consideration and make provision for all appropriate deductions and discounts for any development type property that requires:

   a. marketing periods in excess of 12 months for total, 100 percent, sell out, or

   b. occupancy build-up periods in excess of 12 months for the property to reach the appraiser's anticipated normal occupancy level.

5. address itself to the market/economic feasibility prospects for any proposed major loan/investment real estate project, in sufficient detail to support the appraiser's forecast of the probable success. If a market/economic feasibility report is prepared by other than the appraiser, the appraiser will set forth the reasoning and rationale for accepting or rejecting said report. All such market/economic feasibility studies will be made a permanent part of the appraisal report.

6. for properties and investments (other than single family or two family dwellings) assigned a value of $100,000 or more, contain a sales history analysis of the property over the past five years preceding the appraisal report, fully disclosing and verifying:

    a. grantor(s)-grantee(s).

    b. sale date(s).

    c. sale price(s) and terms of financing, discounting the sale to a cash equivalent, where necessary.

    d. any interrelated parties to each transaction.

7. address itself to "Market Value" as defined and qualified as acceptable to the Federal Home Loan Bank Board. Under no circumstance should the appraiser further qualify, or by assumptions, erode the impact of this definition. All market data inputs should be thoroughly analyzed and/or adjusted in terms of the above definition as qualified. Market value as defined is applicable in all lending/investment circumstances for insured associations and affiliates, including special purpose properties and REO/LTF situations. In REO/LTF situations, defined market value estimates will be derived on an "as is" basis.

The appraiser's "market value" estimate should, in view of the collateral lending posture of the savings and loan industry, reflect the most probable price to be derived should the property be placed on the market for sale, given the previously noted "market" value definition qualifiers.

William Sprague
Director

Distribution to State supervisory authorities to be made by District Directors-Examinations.

100

Case Problem   Bus 551   Howard J. Wicker

To: James A Graaskamp & Michael Robbins, Loan Committee
From: Howard J. Wicker, Analyst

INTRODUCTION:

        We first have to ask whether this proposed deal really
interests me. Is it even in the ballpark? We can try an
Ellwood approach to see if the project value comes close to
what they -- Johnson and Mason -- say it is worth. See Ap-
pendix A for the Ellwood calculations. The Ellwood calculation
indicates that the total project is only worth $1,362,713.
Johnson and Mason say it is worth $1.657,000. The difference
between them is so large that I would say the deal is not
reasonable at all.

        Johnson, the mortgage applicant, does not even have
enough money to handle the deal in its present form. According
to his own application, he needs $382,000 in cash equity. If
he puts the land in the deal, with the land having a market
value of $332,400, and an equity value of $223,455, Johnson
is in a difficult financial position. He has a personal note
worth $37,500 due in just a few months, for instance. We would
have to almost surely bail him out very soon if we made this
loan, ignoring the Ellwood calculation that this is not a
good deal to start with. --

        Nevertheless, you have asked how I could structure the
deal so that it might work. Here is my analysis.

I.   THE PEOPLE: JOHNSON, THE PROPOSED MORTGAGOR

     A. Problems with his Application

        Johnson does not appear to be completely candid with the
information he has supplied us. He offers practically no in-
formation, on his financial statements, about his source of
base income. He just says he is "self-employed." Mason, the
mortage banker, says that Johnson is "highly experienced in
the analysis and underwriting of such investment." But this
appears to be puffery. I cannot see such detailed in the doc-
uments we have from Johnson. Indeed, Mason said in his April
2, 1975 loan application, that Johnson specialized "primarily
in apartments" and that he intended, with this deal, to retain
ownership of the project for the first time. He has previously
generally built for sale to other parties. But we do not see
on Johnson's documents a history of successful developments.

        Johnson's financial statement indicates that he has a
$35,000 "base income." We see nothing of whether this is his
usual income or not. Thirty five thousand dollars in income
per year does not seem to be much. Was this a good year for him
or a poor one? If it was a poor one, he should have included
income from previous years, so we could see this.

the ends of the centers, to allow for easy access and in
and out traffic. He has his prime drawing tentants (grocery &
drugs, for example) together. He has his grocery lease signed
but not the lease for the drugstore. He should have some dif-
ficulty signing the small shop leases, for those spaces away
from the drawing tenants. Johnson should keep a restaurant in
the center, since it is a good draw. But Yum Yum is located
poorly. It cannot draw, since it is blocked from buildings, so
it does not offer the center anything, or take benefits from
it. It should not be seperately located.

III. THE DEAL: AS IT STANDS

Given present plans for the center, can we make the loan?
One item we might look at is the ratio of total costs to GLA.
For 1-3 year old shopping centers in the Kansas region, operating
expenses are $.67 per sq. ft. of GLA.[1] Our center is at the
median. But, shopping centers at the median or lower all had
losses, from $.12 to $1.02/sq. ft. See Appendix B.

A. The Picture for the Whole Project

The default ratio for the entire project is .81114,Con-
sidering the mortgage of $1,275,000. We desire .81 and have it
here. However, we as the lender will have to take a second
position on the land. This will be troublesome. Here are re-
turns on the whole project:

	Year 5	Year 10
After-tax MIRR	7.34 %	8.68%
Before-tax C. on C.	6.81 %	6.81%
After-tax C. on C.	7.39 %	5.38%

The returns are very low, and indicate that Johnson may
not earn a good return on his investment.

Our payback of original equity in year 10 is .7181, or
71%. Caldwell Banker indicates that an owner should get a re-
turn of all equity within 10 years. However, a slower payback
is to our advantage.

Johnson also has assumed that his net income would remain
constant during the 5-year holding period. This is a poor
assumption. The next income/market value ratio goes down:

Year 1	Year3	Year5	Year10
.0945	.0893	.0846	.0749

These ratios should stay the same--net income and market value
should stay parallel. To keep them parallel, Johnson will have

---

[1]Dollars & Cents of Shopping Centers: 1975, Urban Land
Institute.

to boost rents a great deal in year 5, when some of his leases expire. This is a big risk.

B. The Picture on the Seperate Buildings

See Appendix B for the ratios and figures for each of the buildings.

Building A shows the worst results, and we would expect this. We can see price concessions on the rent there, and all loss leaders are in one building, which suggests that we propose that Johnson shift tentants. But as it stands, the default ratio for Building A is terrible, at 1.07 at the 5th year. The returns are terrible, also.

C. The Problem Areas

1. As explained above, Johnson does not have the assets to swing the deal according to the original application. We have to find a way to allow him to contribute less equity and still make a deal.
2. Also, we do not see good returns on the project as a whole.
3. If Johnson keeps the land, we will have a second mortgage position--bad.
4. The deal offers no "pleasure" to Johnson--only "bail-out" for us.
5. Yum Yum Tree--has big construction costs and offers little contribution. It should be in the main center anyway.

D. Proposed Solutions

A. Proposal #1

Johnson has to get some additional money somewhere, or reduce the size of the project, and its improvement costs and required loan, or arrange perhaps a sale-and-leaseback deal with us.

I have shown in Appendix D a proposed solution with assumptions to drop the Yum Yum Tree and arrange a sale-and-leaseback with Johnson's land.

Appendix D shows the ratios and returns. They are not good. The default ratio is .87--too high. The net income to market value ratio declines, since we did not adjust rents. The cash-on-cash rate declines, too.

B. Alternative Proposals

An alternate proposal is to have Johnson go in with a partner or into a joint venture. Keeping the same assumptions as in Alternative #1, we assumed also a $100,000 contributing partner. The rates and ratios are shown in Appendix E. Although the default ratio is acceptable, the returns are modest at best.

Another alternative is to reduce the project improvements
seriously, by consolidating buildings A and B. This would re-
duce the required loan and enable us to offer a package to
Johnson that will require an equity investment he can handle.

Appendix A--Ellwood Calculation

Ellwood

Eq. yield = 12%
NOI = 166,000
Holding per. = 5 year
Mtg. term = 27 years @ 75% L/V, i = 9.625%
App. over holding per. = 10%

$R = Y - MC + (dep/app \times 1/Sn)$

$\quad C = Y + (\overline{P} \times 1/Sn) - f$

$\quad\quad P = (f/i - 1)(Sp - 1)$

$\quad\quad P = (.10524/109625 - 1)(.6250) = .058376623$

$\quad C = .12 + (.058376623 \times .164615) - .10524$

$\quad C = .0243696678$

$R = .12 - (.75 \times .0243696678) - (.10 \times .164615)$

$R = .1218157$

$V = NOI/R = 166,000/.1218157 = \$1,362,713$

Appendix B—Standard Operating Figures for New Shopping Centers: Kansas Area

Dollars per sq. foot of GLA 1-3 yrs old

	Site	Lower Decile	Median	Upper Decile	Difference from Median		Lower	Med.	Upper
Tot. oper. rcpts.	3.53	1.66	2.20	3.92	.73	26%	1.80	3.09	4.10
Tot. oper. exps.	.77	.30	.89	1.43	-.12	-.11%	.27	1.67	2.91
Oper. bal.	2.28	.74	1.78	2.85			1.07	2.29	2.88

Tenant's rent

Variety		2.03
Supermarket	2.50	2.01
Drug	4.05	2.45

Funds After Debt Service (for 1-3 yr. old)

Tot. oper. rcpts.	1.80	3.04	4.10
exps.	1.29	2.38	4.07
NOI	(.12)	(1.02)	1.31
Add. deprec.	.10	.63	1.58
Less: mtg.	.07	.47	1.30

Management

Assoc.	.02	.02	.06	.14

P283

Tot. Cap. Cost	28.22	16.59	25.20	35.95

Looking to Johnson's financial situation directly, it is clear he does not have much staying power. If there is a problem with the project, such as a major tentant leaving, we will have to bail him out. He has little base income. Does he intend to work full-time managing this project? If so, even the $35,000 base income will be gone, leaving him little if any cushion. He does not have much in assets anyway, and converting those assets to cash will also cost a good deal.

Most important for Johnson is his ratio of current assets to current liabilities. The ratio is:

$$\frac{\text{Current assets}}{\text{Current Liabilities}} = \frac{\$124,479}{\$127,500} = .9763$$

He is practically existing hand-to-mouth, and he is behind at that. And the notes are both due within the next year, one of them in two months.

Johnson has been a brick and mortar, as I can tell from the information I have. He has not had management or finance experience, it seems. He does not seem to have his personal finances in order, much less a large business project. He is overextended financially, and has not even used the leverage of his properties fully; he owns two of them outright, for example.

II. THE PROPERTY: THE DESIGN

Johnson's brick and mortar experince shows up in the design of the site. He has overbuilt it. One source indicates that a builder should not build too intensely on a site. You have to allow for expansion. You should have more than 4 sq. ft. of site space for every 1 sq. ft. of building space.[1] The ratio for our site is 4.244 to 1. However, Johnson has not allowed for delivery space; he has parking spaces all around the buildings. The Builder's Handbook suggests 5.5 sq. ft. of space for parking for every 1 sq. ft. of building. Johnson does not have enough parking, even without truck delivery access.

Johnson also makes a mistake in having seperate buildings. He has almost a street running right through the middle of the center. This is a barrier to customer traffic. A "U" or "L" or strip structure would be a better design for him. He at least should start with a large site relative to improvements, to allow for expansion.

Also, the store mix is poor. Grocery stores should be at

---

[1] The Community Builder's Handbook, Anniversary Edition, Urban Land Institute (1968).

Appendix D--A Proposed Solution

Assumptions

1. Drop Yum Yum Tree out of project, and replace with parking

2. Arrange a sale and leaseback with Johnson's land

Calculations:

$1,431,000	total imptovement cost
78,422	Yum Yum cost
$1,352,578	new improvement cost
x .75	L/V ratio
$1,014,434	loan amount

$1,352,578	
-1,014,434	
$ 338,144	total equity required
-223,455	Johnson's equity inland
$ 114,689	adjusted equi ty
- 50,00	Johnson wants to put in project in cash
$ 64,689	Additional equity needed

Appendix C--Ratios & Returns: Each Structure

	Default Ratio		After-tax MIRR		After-tax Eq. Payback		Before-tax C. on C.		After-tax C. on C.	
	yr.5	yr.10	yr.5	yr.10		yr.10	yr.5	yr.10	yr.5	yr.10
Bldg A	1.07	1.09	3.8%	5.7%	0	.3132	-.36%	-.36%	3.29%	.95%
Bldg B	.5895	.5895	16.5%	14.98%	.98	1.8412	25.76%	25.76%	18.61%	16.18%
Yum Yum	.6023	.6023	13.74%	12.22%	.5	.9460	12.18%	12.18%	9.55%	8.25%