

Potomac Yard Underwriting, Feasibility, and Due Diligence  
An outline prepared for JHU MSRE “Urban Redevelopment”  
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**1. Introduction**  
**(What are we talking about?)**

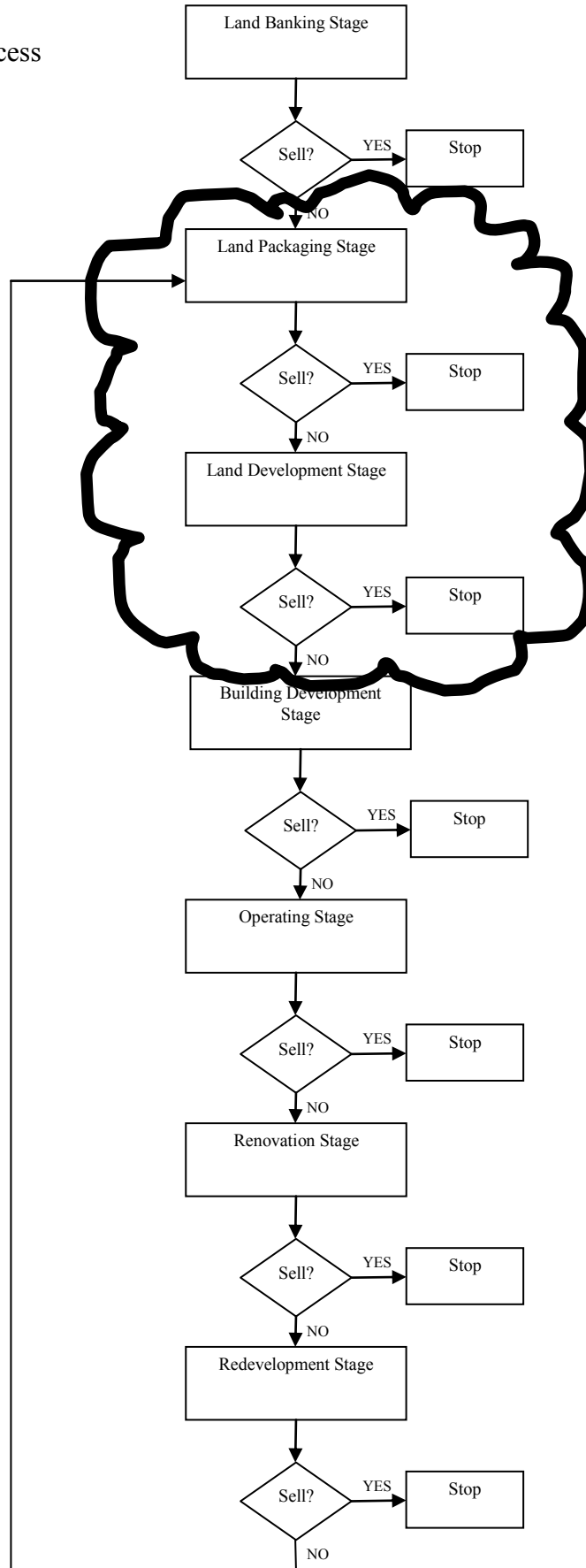
- a. **What is “Underwriting”?** (a financial concept)
  - i. **1** : to write under or at the end of something else
  - 2** : to set one's name to (an insurance policy) for the purpose of thereby becoming answerable for a designated loss or damage on consideration of receiving a premium percent : insure on life or property; *also* : to assume liability for (a sum or risk) as an insurer
  - 3** : to subscribe to : agree to
  - 4 a** : to agree to purchase (as security issue) usually on a fixed date at a fixed price with a view to public distribution **b** : to guarantee financial support of
  - ii. Kohlhepp: To bet your assets that this deal will work!
  
- b. **What is “Feasibility”?** (an engineering and appraisal concept)
  - i. **1** : capable of being done or carried out <a *feasible* plan>
  - 2** : capable of being used or dealt with successfully : suitable, reasonable, likely
  - ii. Kohlhepp: When the benefits exceed the costs.
  
- c. **What is “Due Diligence”?** (a legal concept)
  - i. the care that a reasonable person exercises under the circumstances to avoid harm to other persons or their property
  - ii. Kohlhepp Seller’s Due Diligence:
    - 1. What do we have
    - 2. What is it worth?
    - 3. Who wants to buy it?
    - 4. How do we affect a sale?
  - iii. Kohlhepp Buyer’s Due Diligence:
    - 1. All things considered, is there a reasonable possibility that this investment will meet or exceed the buyer’s investment objectives?

2. No limiting assumptions (unlike appraisals or accounting projections).
3. No excuses, e.g. not my field

iv. **What is the Real Estate Development Process?**

1. Seven Stage Process (See Figure 1)
2. The Underwriting of Potomac Yard focused on the Land Packaging and the Land Development Stage
3. No vertical construction (the Building Development Stage) was assumed.

Real Estate Development Process



**d. Know thyself:**

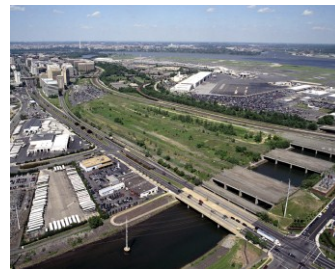
- i. What price can be paid and what risks can be assumed for the specified investment opportunity to achieve the buyer's objectives?
- ii. If you don't know where you are going, any road will get you there.

## 2. The Opportunity: (What the Seller thought, said or represented..... in two volumes)

### a. What It Is

#### i. Physical Conditions

1. 369 acres
2. Former RF&P Rail Yard
3. Partially developed

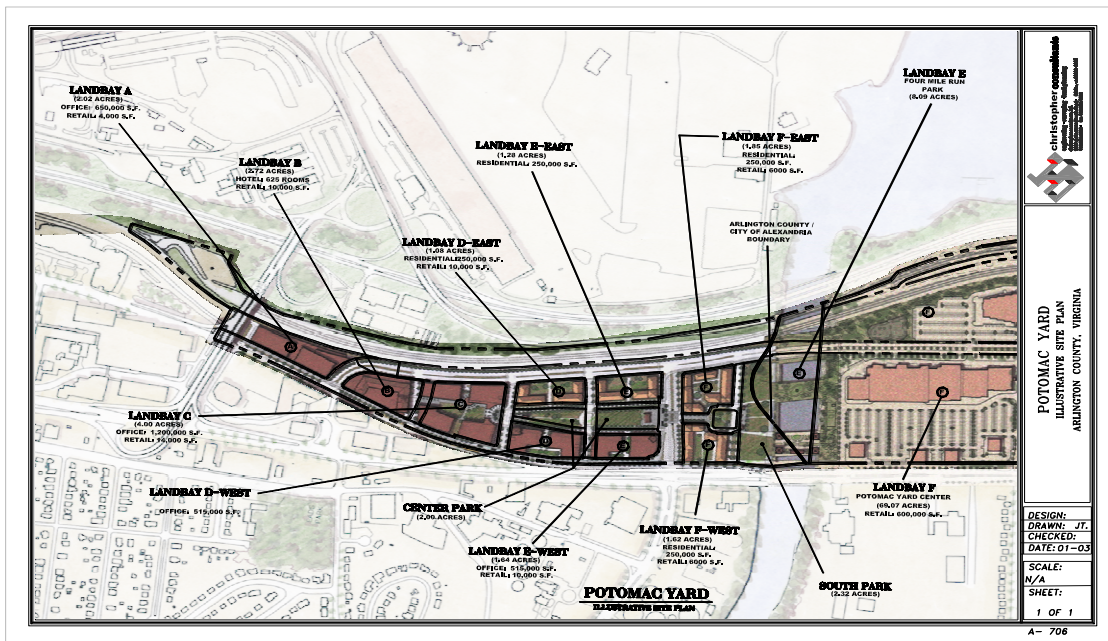
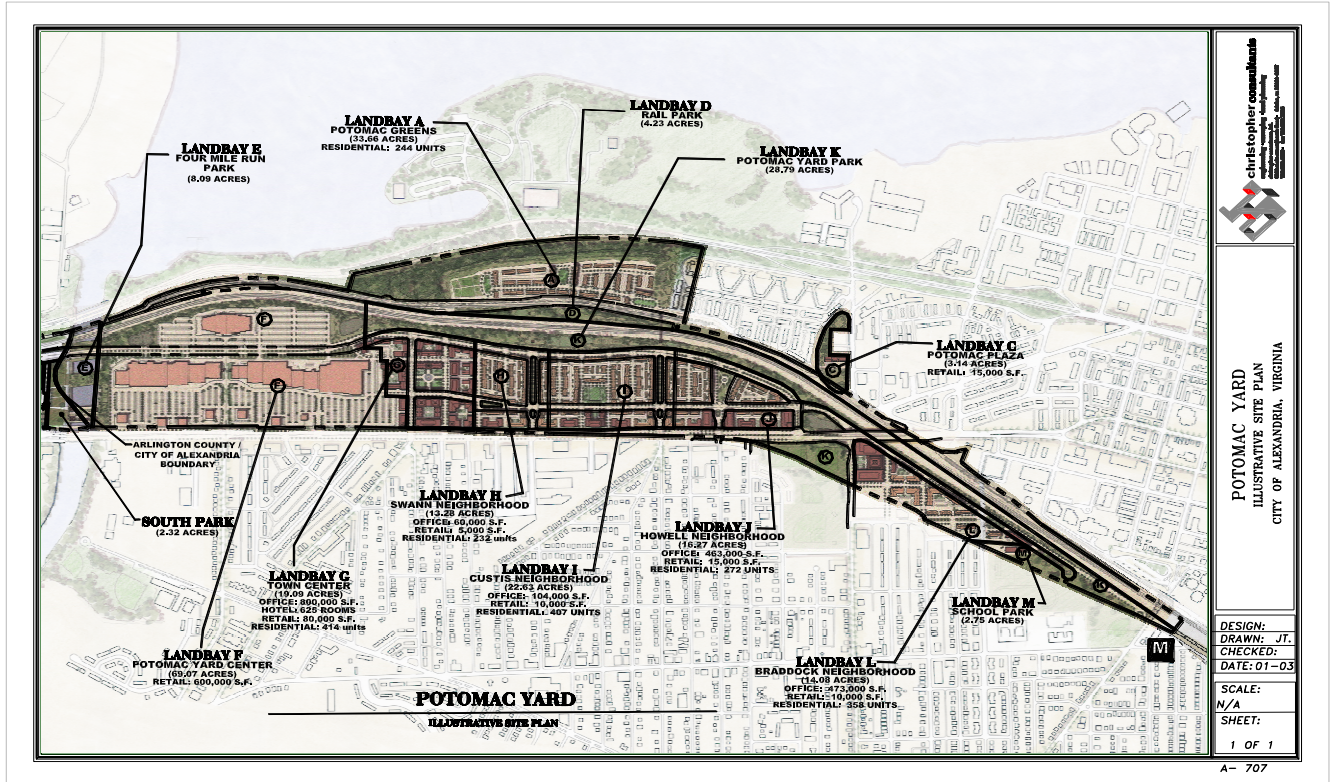


- ii. Environmental conditions
  1. "Extent of Contamination Study" completed May 24, 1995 (Approved by EPA September 19, 1995)
  2. "Human Risk Assessment and On-Site Ecological Risk Assessment" completed October 13, 1995 (approved by EPA October 13, 1995)
  3. Remediation Underway at former Central Operations area
  4. "No further action" letter expected
  5. 16 boxes of studies
  
- iii. Entitlements
  - a. Coordinated Development District approved in Alexandria in September 1999.
    - i. Development conditions
    - ii. Urban Design Guidelines
  - b. Phased Development Site Plan Zoning being negotiated in Arlington
    - i. Development Conditions
    - ii. Urban Design Guidelines
  - c. Smith Litigation is baseless

**b. What It Can Become**

Potomac Yard Land Use Matrix  
(in Square Feet of Gross Building Area)

	Arlington South Tract PDSP	Alexandria CDD	Existing Retail Center	Total
Office	2,880,000	1,900,000	0	4,780,000
Residential	1,000,000	2,953,000	0	3,953,000
Neighborhood Retail	60,000	135,000	0	195,000
Hotel	468,750	468,750	0	937,500
Retail Center	0	0	600,000	600,000
Total Building Area	4,408,750	5,456,750	600,000	10,465,500



### **3. Crescent Underwriting, Feasibility and Due Diligence (What we thought)**

#### **a. Critical Issues**

- i. Real estate market forecasts in 1999 and 2000
  1. Office -- Strong
  2. Retail -- Weak
  3. Residential -- Weak
  4. Hotel -- Strong
- ii. Infrastructure
  1. Off-site
    - a. Potomac River Outfall (paid by Seller, done by Buyer)
    - b. Four Mile Run Outfalls
    - c. 1.75-mile Trunk Sewer through Old Town Alexandria
    - d. Pump (or Lift) at Arlington Sanitary Water Treatment Plant
    - e. Sewer line to Pump Station under Route 1 and Crystal Drive
    - f. Force Main in Alexandria to Four Mile Run Holding Tank through Retail Center
    - g. Pedestrian Bridge over CSX and METRO rail lines
    - h. Monroe Avenue Bridge over CSX and Metro Lines
    - i. Water line and Sewer line connections under CSX and METRO
  2. Onsite
    - a. Streets and Transit way
    - b. Storm and Sanitary Sewers
    - c. Water and Gas lines
    - d. Communication Conduit
    - e. Street and Traffic lights and controls
    - f. Storm Water Detention Ponds (BMP's)
    - g. Parks
    - h. Landscaping
- iii. Environmental Risks
  1. Reviewed Documents
    - a. Duke Scientists



- b. Third-party Consultants
      - c. Environmental Attorneys
    - 2. Phase II Analysis (tests)
    - 3. Phase III Remediation
    - 4. Insurance
  - iv. Entitlements and Municipal Conditions
    - 1. Alexandria Necessary Condition - Trunk sewer completion
    - 2. Arlington necessary Condition - North Tract Transfer
    - 3. Existing Litigation over alleged NEPA violations
  - v. Neighbors
    - 1. CSX Railroad
      - a. Easement Agreement
      - b. Railroad crossings
      - c. 100+ trains per day
    - 2. WMAA (Reagan National Airport)
      - a. Height Restriction
      - b. Avigation Easements
      - c. Waterline connection
    - 3. WAMTA (metro)
      - a. Future Metro Locations
      - b. Railroad Crossings
    - 4. VDDOT
      - a. Glebe Road (VA 120)
      - b. Jefferson Davis Highway (US 1)
    - 5. Army Corps of Engineers
      - a. Four Mile Run Flood Control
      - b. Wetlands Delineation
      - c. Storm Water Outfalls
    - 6. National Park Service
      - a. Height Limitations
      - b. Architectural approvals
      - c. Lighting and Landscaping
      - d. NEPA Litigation co-defendant
    - 7. Neighborhood Associations
      - a. Arlington
      - b. Alexandria
  - vi. Political Conditions
    - 1. Arlington
      - a. Board Members support development
      - b. Planning Staff suspicious of North Carolina suburban developers
    - 2. Alexandria

- a. Mayor and City Manage had strong support for the development
- b. City Council Members had mixed feelings
- c. Planning Commission Chairman supportive
- d. No director of Planning Department

vii. Capital Requirements

- 1. Return Expectations
  - a. Minimum IRR on Total Capital of 15%
  - b. Recognized earnings are imperative
  - c. Minimum after-tax return
- 2. Acceptable Risks
  - a. Business Risks
  - b. Construction Risks
  - c. No Entitlement Risks
  - d. No Environmental Risks
- 3. 1031 Trade Dollars
  - a. Closing date is important
    - i. Trade property (Potomac Yard) must be identified with 45 days of closing the sale.
    - ii.
  - b. Use of Trade Dollars is critical

**b. Quantifying the Issues**

- i. Land Sales Projections
  - 1. Market Limitations/Absorption
    - a. Office has maximum annual absorption
    - b. Residential has maximum annual absorption
  - 2. Regulatory Limitations
    - a. Alexandria Land Bays A and C can be developed after Trunk sewer is completed
    - b. Arlington Land Bay A can be developed before North Tract is transferred.
    - c. Potomac Yard must be completed to Route One when the earlier of three development thresholds is met.
    - d. Monroe Avenue Bridge must be built when a development threshold is met
  - 3. Land Sales Vs Building Occupancy
    - a. Site Plan Approval (6-18 months)
    - b. Building Construction (18-30 months)
    - c. Certificate of Occupancy (partial CO's are expected)
  - 4. Initial 2001 Sales Prices and Annual Growth Rates
    - a. Office: \$32.50 psf
    - b. Retail: \$32.50 psf
    - c. Townhouse: \$50.00 psf

- d. Multifamily: \$35.00 psf
- e. Hotel: \$33.33 psf
- f. Annual Growth Rate: 3%
- g. Selling Costs: 2%
- ii. Interim Income and Holding Costs
  - 1. Arlington
    - a. North Tract Leases
    - b. Edna Parking
    - c. Sun Park
  - 2. Alexandria
    - a. GSA
    - b. Avis
    - c. NCR
    - d. DCS
  - 3. Real Estate Taxes
    - a. Projected rate: \$.14 psf (2001 dollars)
    - b. Arlington Assessed Value exceeded sales price for entire property
    - c. Alexandria Assessed Value exceeded sales price for entire property
- iii. Infrastructure
  - 1. Arlington
    - a. Streets, Sanitary and Storm Sewer, Utilities
      - i. Potomac Avenue
      - ii. Thirty-third Street
      - iii. Glebe Road Extension
      - iv. Route One and Crystal Drive
    - b. Off-Site Sewer and Pump Station
    - c. Rough Grading and Haul Road
    - d. North Park, Center Park and South Park
    - e. North Tract Expenditures
      - i. Litigation Settlement
      - ii. Transfer Expenses
      - iii. Remediation
    - f. Environmental Costs
    - g. Architectural and Engineering
  - 2. Alexandria
    - a. Land Bays A and C
    - b. Streets, Storm Sewer, and Utilities
      - i. Potomac Avenue
      - ii. Swan Avenue
      - iii. East Glebe Avenue
      - iv. Custis Street
      - v. Howell Street
      - vi. Main Street
      - vii. Route One

- viii. Monroe Avenue
- c. Monroe Avenue Bridge
- d. Rough Grading
- e. Avis and GSA Removal
- f. Off-site Trunk Sewer
- g. On-site Sanitary Sewer
  - i. Phase One
  - ii. Phase Two
  - iii. Pump Station
- h. Land Bay D Pedestrian Bridge
- i. Four Mile Run Force Main
- j. Parks
  - i. Land Bay M: Braddock Fields
  - ii. Land bay K: Monroe Fields
  - iii. Land bay K: Linear Park
  - iv. Land Bay D: Rail Park
  - v. Land Bay J: Howell Park
  - vi. Land bay H: Swann Finger Park
  - vii. Land Bay I: Curtis Finger Park
  - viii. Land Bay E: Four Mile Run Park
  - ix. Land bay G: Town Center Park
- k. Environmental Expenditures
- l. CDD Phasing Plan Design

### 3. Time –Weighted Measures for Evaluation

- a. Land Residual Analysis: How much can we pay for the land and still achieve a target rate of return?

$$LandValue = \sum_{t=1}^n \frac{S_t - HC_t - If_t}{(1 + D)^t}$$

Where,

$S_t$  = land sales in period t

$HC_t$  = holding costs in period t

$If_t$  = infrastructure costs in period t

D = risk-adjusted rate of discount

n = number of years in the development

- b. Internal Rate of Return: If we pay this much for the land, what will our rate of return be?

$$LandCost = \sum_{t=1}^n \frac{S_t - HC_t - If_t}{(1 + IRR)^t}$$

Where,

IRR = Internal Rate of Return on Total Capital

- c. Role of the Reinvestment Rate Assumption
- 4. Predicted Results
  - a. Arlington
    - i. Total Land Sales: \$170,713,770
    - ii. Infrastructure Expenditures: \$30,908,378
    - iii. Allocated Land Cost<sup>7</sup>: \$3,089,233
    - iv. Cash Flow: \$66,716,159
    - v. Time Period : 12 years
  - b. Alexandria
    - i. Total Land Sales: \$295,269,238
    - ii. Infrastructure Expenditures: \$84,154,362
    - iii. Allocated Land Cost: \$49,725,766
    - iv. Cash Flow: \$131,389,100
    - v. Time Period: 13 years
  - c. Total
    - i. Total Land Sales: \$465,983,008
    - ii. Infrastructure Expenditures: \$115,062,740
    - iii. Allocated Land Cost: \$122,814,990
    - iv. Cash Flow: \$198,105,259
    - v. Time Period: 13 years

## **4. The Deal**

### **(What the Buyer and Seller Worked Out)**

- a. Negotiations: Three Rounds of Bidding**
  - i. Bid on everything Commonwealth Atlantic owned
    - 1. Undeveloped Land at Potomac Yard
    - 2. Other undeveloped Land – Ruther Glen
    - 3. Developed land – Retail Center
    - 4. Convertible Securities in several REIT's
  - ii. Bid on real estate only
    - 1. Undeveloped Land at Potomac Yard
    - 2. Other undeveloped Land – Ruther Glen
    - 3. Developed land – Retail Center
  - iii. Bid on Undeveloped Land at Potomac Yard
    - 1. With the Davis Tract
    - 2. Without the Davis Tract
  
- b. Approvals**
  - i. Duke Board Updates (2)
    - 1. Here are the Issues and Major Risks
    - 2. Here's how the Issues Major Risks have been resolved and/or conditioned to acceptable levels
    - 3. Value Proposition
      - a. Buy land for \$12 psf
      - b. Complete infrastructure for \$10
      - c. Sell land for \$32 psf
      - d. Over 10 to 15 years
  - ii. Crescent Board Approval
  - iii. Duke Board Approval
  - iv. Lazard Freres Board Approval
  
- c. Transaction**
  - i. Retail Option and ROFO Agreement
  - ii. Title, Survey, and Cost Allocations
  - iii. 1031 Trade
    - 1. Buyer had 16 trades into the deal
    - 2. Seller had 4 trades out of the deal



## 5. The Execution (What We Did)

- a. 2000**
  - i. Signed purchase Contract with Lazard Freres
  - ii. Arlington approved PDSP zoning
  - iii. “No Further Action” Letter received from VDEQ
- b. 2001**
  - i. Closed the sale of Potomac Yard
  - ii. Applied for site plan approval of Arlington Land Bay A
  - iii. Terrorist attacked Pentagon; Regan National Airport closed
  - iv. Applied for site plan approval of Alexandria Land Bays A and C
- c. 2002**
  - i. Started Alexandria Trunk Sewer
  - ii. Smith Litigation Settled
- d. 2003**
  - i. Completed Alexandria Trunk Sewer
  - ii. Started infrastructure in Arlington
  - iii. Arlington Soil Management Plan Approved by VDEQ
  - iv. Sold Alexandria Land Bays A and C (Potomac Greens and Potomac Plaza)
  - v. Sold DCS and NCR in Alexandria (Potomac Properties)
  - vi. Transferred North Tract to Arlington
  - vii. Sold Arlington Land Bay F (Residential Condominiums with 80,000 square feet of Retail)
- e. 2004**
  - i. Sold land Arlington Land Bay E-East (For-rent Residential)
  - ii. Bought and sold Alexandria existing retail center
  - iii. Sold Alexandria Land Bays D, E, F, G, H, I, J, K, L, M
  - iv. Signed 420,000 square foot lease with GSA/EPA for Land Bay A
  - v. Began Construction of 654000 FAR office towers on Arlington Land Bay A
  - vi. Sold Arlington Land Bays B, C, D, E-West
- f. 2005**
  - i. Completed Arlington infrastructure
  - ii. Negotiated Joint Venture Agreement for Arlington Land Bay A
  - iii. Completed five “post-closing development agreements” with Potomac Yard Land Bay buyers
- g. 2006 Projected**
  - i. Complete construction of Land Bay A office towers
  - ii. Complete joint venture agreement for Arlington Land Bay A



**h. Actual Performance**

i. Arlington

1. Total Land Sales: \$150,200,000
2. Infrastructure Expenditures: \$34,300,000
3. Allocated Land Cost: \$76,640,000
4. Cash Flow: \$39,260,000
5. Time Period: 4.5 years

ii. Alexandria

1. Total Land Sales: 140,900,000
2. Infrastructure Expenditures: \$13,000,000
3. Allocated Land Cost: \$51,160,000
4. Cash Flow: \$76,640,000
5. Time Period: 3.25 years

iii. Total

1. Total Land Sales: \$291,100,000
2. Infrastructure Expenditures: \$47,300,000
3. Allocated Land Cost: \$127,800,000
4. Cash Flow: \$115,900,000
5. Time Period: 4.5 years

## 6. Predicted Performance versus the Actual Performance

### Comparison Matrix (In millions)

	Predicted			Actual			% Difference		
	Arlington	Alexandria	Total	Arlington	Alexandria	Total	Arlington	Alexandria	Total
Sales	170.7	295.3	466.0	150.2	140.9	291.1	-12.0	-52.3	-37.5
Infrastructure	30.9	84.2	115.1	34.3	13.0	47.3	11.0	-84.6	-58.9
Land	73.1	49.7	122.8	78.6	51.2	127.8	7.5	3.0	4.1
Cash Flow	66.7	131.4	198.1	39.3	78.6	115.9	-41.1	-40.2	-41.5
Time (years)	12	13	13	4.5	3.25	4.5	-62.5	-75.0	-65.4