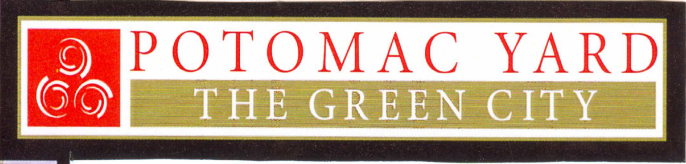


# Challenges and Lessons Learned At Arlington Potomac Yard (a work in progress)

Daniel B. Kohlhepp, Ph. D.



## **TABLE of CONTENTS**

### **I. Purpose**

1. Summarize the Challenges and Lessons Learned at Potomac Yard
2. Focus on the Arlington Experience
3. Narrate from a Personal Perspective

### **II. Overview**

1. Witnessed the Terrorist Attack on the Pentagon
2. Transferred the North Tract to Arlington County
3. Constructed the On-site and Off-site Infrastructure in Arlington
4. Obtained Site Plan Approval for Three Land Bays
5. Pre-leased 405,000 sq.ft. of Office to the GSA for Occupancy by the EPA
6. Began Construction of a 654,000 sq.ft., Two-tower, Office Complex.

### **III. Land Development Challenges**

1. Satisfying PDSP Conditions and Urban Design Guidelines
  - A. New Urbanism and Post-9/11 Security concerns
  - B. North Tract Transfer
  - C. Transit-Oriented Community
  - D. Interjurisdictional Issues
2. Constructing the Off-site Infrastructure
  - A. Arlington Pump Station
  - B. US Route 1 Bridge Improvements
  - C. U.S. Route 1 Landscaping
  - D. Crystal Drive Lane Re-alignment
3. Resolving Environmental Myths and Physical Realities
  - A. The Myths
  - B. The Facts
  - C. The Realities
  - D. Cinder Ballast

#### **IV. Building Development Challenges**

1. Obtaining Municipal Approvals and Permits
  - A. The Arlington Site Plan Approval Process
  - B. Arlington Building Permit Process
  - C. The All Potomac Yard Meeting
2. Reconciling GSA and EPA, USGBC, and FPS Requirements
  - A. GSA Lease Requirements
  - B. EPA Requirements
  - C. Green Building Requirements
  - D. Federal Protection Services Requirements
3. Confronting Neighborhood Issues
  - A. Tie Backs
  - B. Crane swings
  - C. Water connections
  - D. Traffic control
4. Accepting Changing Market Conditions
  - A. Residential Up and Office Down
  - B. Strange Econometrics
  - C. Converting Office to Residential

#### **V. Lessons Learned to Date**

1. Embrace Complexity
2. Accept Cultural Differences
3. Appreciate How Developers and Municipalities Struggle with Regional Issues.
4. Go To Work Everyday

**TABLE OF EXHIBITS**

1. Arlington Potomac Yard Existing Conditions in 2002
2. Overall Potomac Yard Land Use Matrix
3. Potomac Yard Arlington Land Bays
4. Model of One and Two Potomac Yard
5. Potomac Yard Development Team
6. Potomac Yard Pump Station
7. US Route 1 Bridge: Double Taper Solution
8. Potomac Yard Building Development Team
9. Oblique Neighborhood Photo Montage
10. One and Two Potomac Yard Sheeting and Shoring with Tie-Back
11. Neighborhood Construction Cranes
12. In the Beginning...

## **I. Purpose**

The purpose of this paper is to summarize my presentation at the "New Offices/New Communities" session, which was part of the Future Office Conference, hosted by the North Carolina Chapter of the American Institute of Architects and the College of Architecture and the Belk College of Business at the University of North Carolina Charlotte on August 26, 2004. The tag line for this session was:

"The demand for new kinds of work spaces can best be met by integrating offices into 'urban villages' that provide housing, retail, and transit opportunities."

This is exactly what we, the Mid-Atlantic Region of Crescent Resources, LLC, have been attempting to do for the last four years at our Potomac Yard development in Northern Virginia.

We have been fortunate to have land planners, architects, and engineers who have provided us with the conceptual plans for both the land development and the building development. However, the process of turning these conceptual plans into a physical realities, of "integrating offices into 'urban villages'" has been interesting and exciting, as well as humbling and bewildering. This paper will focus only on the Arlington County portion of Potomac Yard and will highlight the challenges encountered and lessons learned as the master developer of this urban mixed-use project. This is a personal narrative. I am reporting on challenges that I perceive, and the "lessons learned" are lessons that I have learned. The amount of

brain damage I have suffered during the development of Potomac Yard may make small issues seem like challenges and "lessons learned" obvious. I will use the royal "we" to represent our Potomac Yard team's efforts.

This paper is divided into four major sections. First, a brief overview of the Potomac Yard development is presented. Second, the challenges associated with re-developing a former rail yard into a new community in a densely populated, politically fragmented area are summarized. Third, the challenges that we have encountered developing a large, office complex, the majority of which is pre-leased to the U.S. General Services Administration for occupancy by the U.S. Environmental Protection Agency, are discussed. Finally, the "lessons learned" are proffered.

## **II. Overview**

Crescent Resources entered into a contract with Commonwealth Atlantic Properties to acquire Potomac Yard in October 2002. See Exhibit 1. The acquisition process involved due diligence studies, corporate board approvals, numerous projections and pro formas, and a few anxiety attacks. In March 2001, Crescent Resources, LLC, bought 300 undeveloped acres at Potomac Yard, a recently de-commissioned railroad switching yard that had been used by the RF&P Railroad since 1848. With 88 acres in Arlington County and the 212 acres in the City of Alexandria, Virginia, the acquisition had conceptual site plans approved in both municipalities which divided the land into 20 development parcels, each with a set of specific land uses. Overall, the approved plans will produce approximately 4.5 million square feet of office, just under 3,000 residential units, about 200,000 square feet of retail, 1,250 hotel rooms, and 92.4 acres of parks and open space at full build-out. See Exhibit 2.

In October 2000, the Arlington County Board unanimously approved the Potomac Yard Phased Development Site Plan (PDSP) which included 47 development conditions along with the Potomac Yard Design Guidelines, an 82-page book that further defined the Arlington Portion of Potomac Yard with drawings, conceptual designs, photographs, maps, street cross-sections, matrices, and text. The Arlington land was divided into six land bays with each land bay designated for specific uses. See Exhibit 3.

A year earlier, the Alexandria City Council unanimously approved the Potomac Yard/Potomac Green Coordinated Development District (CDD) which included 38 conditions for development and an additional 17 conditions for a Transportation

Management Plan (TMP). These Conditions also included The Potomac Yard Urban Design Guidelines, a 109-page book with further clarifications.

The Alexandria CDD conditions and Potomac Yard Urban Design Guidelines were similar to but not the same as the corresponding documents in Arlington. While Alexandria was low density, Arlington was high density, and while Alexandria was predominantly residential, Arlington was predominantly office. The Arlington development was predicated on the owners of Potomac Yard transferring 28 acres known as the North Tract to the county for a park, and the Alexandria development was predicated on the construction of a 1.65 mile-long, trunk-sewer line. Both municipalities conceived Potomac Yard as a transit-oriented community. Consequently, Arlington required a dedicated transit way for light rail, and Alexandria required a reservation for a METRO station on the heavy rail.

Both municipalities believed that the approved plans represented a clear vision for the optimal development of Potomac Yard with the best concepts of urban design.

Since acquiring the property, Crescent's Potomac Yard team has experienced the following in Arlington County:

1. witnessed the terrorist attack on the Pentagon
2. transferred the North Tract to Arlington County for a park,
3. constructed the on-site and off-site infrastructure in Arlington,
4. obtained site plan approval for three land bays,
5. pre-leased 405,000 square feet to the GSA for occupancy by the EPA,  
and
6. began construction of a 654,000 square foot, two-tower office complex.

### **1. Witnessed Terrorist Attack on Pentagon**

Of all the contingency planning that had been done prior to acquiring Potomac Yard, terrorist attacks were never considered. On September 11, 2001, Crescent had an "all hands" meeting scheduled on the Yard at 9:00 am. We were outside trying to visualize the construction of Land Bay A in Arlington when the first plane hit the Twin Towers in New York. We had just entered our office when the jet hit the Pentagon and shortly afterward the Yard was engulfed in black smoke from the explosion of



the jet fuel. Crystal City, Reagan National Airport, and Potomac Yard were closed for business. Reagan National Airport remained closed after other major airports re-opened, and there was talk about closing it permanently or making it into a military air base. Finally, a bi-partisan, multi-state group of legislators prevailed on the White House and the Secret Service to reopen Reagan National, but the aftereffects would be felt for several years in the tourism and hospitality sector of the local economy. The dreams of Potomac Yard appeared to be on hold. National security became the highest priority.

## **2. Transferred the North Tract to Arlington County**

The settlement of a lawsuit, in November 2001, brought by the Charles E. Smith Companies against the United States Department of Interior and the owners of Potomac Yard over alleged violations of the National Environmental Protection Act (NEPA) set the stage for the transfer of the North Tract to Arlington County and the eventual development of the Arlington portion of Potomac Yard (PDSP Condition 3). The highly complicated transfer occurred one year later in November 2002. Throughout 2002, the North Tract Task Force held dozens of public meetings to set the framework for the eventual planning and construction of the largest park in Arlington County.

## **3. Constructed the On-site and Off-site Infrastructure in Arlington**

The Preliminary Infrastructure Plan (PIP) for Arlington was approved by the County Board on April 2002, and construction was begun in May 2003. See Exhibit 4. The infrastructure is expected to be completed in October 2004. The largest major component of the infrastructure was the Potomac Yard/Arlington Sanitary Sewer Pump Station, which was built within Arlington County's wastewater treatment compound. The pump station was over-sized so it could handle not only the Potomac Yard requirement of .367 MGD, but also the eventual de-commissioning of the National Center Lift Station which has a capacity of .4 MGD.

The private and public road network in Arlington approached four miles in length and included all of the underground utilities to serve the development. Almost 20 miles of conduit was laid for the dry utilities such as power and communications.

#### **4. Obtained Site Plan Approval for Three Land Bays**

The approved PDSP site plan in Arlington also required the developer obtain a specific site plan approval for each construction project. In Arlington, these are called 4.1 Approvals (referring to the regulation that defines the approval process). The Arlington process is strictly regimented and defined, requiring numerous public meetings to gather comments, criticisms, and suggestions. Many times we had evening meetings that routinely lasted past midnight. 4.1 Approvals were obtained for the following:

- Land Bay A – 648,000 square feet of office and 6000 square feet of retail on 2.02 acres; 71 Site Plan Conditions
- Land Bay F – 482,000 square feet of residential and 80,000 square feet of retail on 4.83 acres; 76 Site Plan Conditions
- Land Bay E-East – 391,714 square feet of residential and 4120 square feet of retail on 1.77 acres; 74 Site Plan Conditions

#### **6. Pre-leased 405,000 sq.ft. of Office to the GSA for Occupancy by the EPA**

On May 6, 2004 the United States Government signed a ten-year lease for 309,179 BOMA rentable square feet in One Potomac Yard and another 10-year lease for 95,939 BOMA rentable square feet in Two Potomac Yard. The lease provided that if the buildings did not achieve a Silver LEEDs rating by the United States Green Building Council, then the rent would be reduced by ten percent! The GSA leased the building for occupancy by the U.S. Environmental Protection Agency, which is consolidating many of its offices in Crystal City. Occupancy is to begin in March 2006.

#### **7. Began Construction of a 654,000 sq.ft., Two-tower, Office Complex.**

Construction of One and Two Potomac Yard began on May 11, 2004. See Exhibit 4. In anticipation of the lease execution, we had bid-out the building and were negotiating the construction contract with the lowest bidder, subject to the lease actually being signed. As the lease negotiations dragged on, world wholesale prices for steel and concrete were continually rising. At this time, the excavation and sheeting and shoring are underway and the “bottom of the hole” at eight feet below

sea level was reached at the end of August. While the soils have generally conformed to the geo-technical reports, dry, virgin sand is currently being excavated near the bottom. Nature and the de-watering system appear to be on our side!

### **III. Land Development Challenges**

We have assembled a land development team that is skilled and committed to our motto: "No problems, only opportunities." See Exhibit 5. However, the development of the land at Potomac Yard has met and continues to meet incredible challenges everyday. From my perspective, these challenges can be broadly grouped into three categories:

1. satisfying PDSP Conditions and Urban Design Guidelines,
2. constructing Off-site utilities, and
3. reconciling environmental myths and physical realities.

#### **1. Satisfying PDSP Conditions and Urban Design Guidelines**

The PDSP Conditions and Urban Design Guidelines that purported to clearly define the development of Potomac Yard were not as clear as we first thought. These Conditions and Guidelines were subject to interpretation and reinterpretation caused by changing political and economic realities.

##### **A. New Urbanism and Post 9/11 Security Concerns**

For example, the dream of new urbanism conflicted with the reality of post 9/11 security concerns. New urbanism wants numerous pedestrian and vehicular access points to buildings and destinations, but this conflicted with post-9/11 security's need for limited and controlled access points. The street-level retail activity conflicted with limited street access to buildings. The Urban Design Guidelines require no setbacks from the building line, while the new security guidelines require setbacks of 50 to 100 feet. The new urbanism envisioned many smaller buildings

while the new security concerns required big, consolidated buildings that were much easier to guard and control. The reconciliation of these disparate points of view has been the subject of many public meetings, seminars, and work sessions. Since the federal government and especially the U.S. Department of Defense occupy almost 70% of the office space in Arlington, this reconciliation process will continue for many more years as we now dream of "transparent security" systems.

#### B. North Tract Transfer

The development of Land Bays B, C, D, E, and F were contingent on Crescent settling an existing lawsuit and, then, transferring the North Tract property to the County for a park. The PDSP condition required that the North Tract land be transferred to the County within 60 days after the lawsuit was settled. We quickly gave notice to the 50-odd tenants occupying the land and buildings, and also removed a person living in a cardboard shack on an abandoned railroad right-of-way, so we could meet the outside closing date as we understood it. For another ten months, we struggled to meet the condition as the county understood it. The County wanted the removal of all easements, encumbrances, or encroachments on the property. These included releases or quitclaim deeds for abandoned railroad right-of-ways, uranium which might exist under the site (none did), a realigned storm water out fall, and an abandoned railroad spur to supply coal to the Pentagon. (The Pentagon switched to oil in 1985.)

I happened to meet the County Manager before going into negotiating session for the North tract transfer, and asked if he could help get this deal done. I explained we had been working on it for eleven months, and I didn't feel that we were being treated fairly. He said, "Dan, it's not about what's fair; it's about how much money we can get from you." We promptly agreed to post a stand-by letter of credit that was 25 times greater than the estimated cost to remediate two isolated lead concentrations. The transfer occurred in the next month.

#### C. Transit-Oriented Community

Both Arlington and Alexandria expected Potomac Yard would be a transit-oriented community. Alexandria wanted of a METRO Station, and Arlington wanted of a dedicated transit-way. Ironically, the dedicated transit-way in Arlington won't be able to connect to a transit-way in Alexandria because of its location, and the METRO

Station in Potomac Yard Alexandria can't be justified because it's too close to the METRO Stations in Arlington.

#### D. Interjurisdictional Issues

Finally, the land development of Potomac Yard has interjurisdictional dimensions, as both Arlington and Alexandria have placed infrastructure restrictions on their portion of Potomac Yard based on the level of development in the other jurisdiction. That is, Potomac Avenue must be completed from US Route 1 in Alexandria to Crystal Drive in Alexandria before certain thresholds of overall development are reached. Also, the development of Arlington's South Park and Alexandria's Four Mile Run Park are tied together through Urban Design Guidelines and Development Conditions, which also require approvals from the U.S. Army Corps of Engineers.

A joint task force has been organized to study the development of Four Mile Run and includes representatives of Arlington, Alexandria, the U.S. Army Corps of Engineers, and the Northern Virginia Regional commission. This task force has been granted \$1.5 million by the U.S. Congress to study the development for the next three years.

## **2. Constructing the Off-site Infrastructure**

Because the off-site infrastructure projects are outside the boundaries of Crescent's ownership at Potomac Yard, we needed to obtain permission, cooperation, and approvals of the many neighbors surrounding Potomac Yard.

### A. Arlington Pump Station

The sanitary sewer collection system in Arlington gravity flows to a pump station where it is lifted into the Arlington Water Treatment Plant. Constructing the pump station seemed like a simple project until the neighborhood groups objected to the location of the station, the appearance of the pump house, and the landscaping plan. The location on the grounds of the existing water treatment plant was accepted after the citizens understood that no sewage from Alexandria would be pumped. Crescent then proposed an all-brick, colonial-styled, pump house along with a landscape plan that completely obscured any view of the plan from the adjacent streets. See Exhibit 6. The citizens embraced our proposal and have been very supportive of the project.

Now Arlington's large, red, tin shed next to the new pump house is under scrutiny by the citizens.

Other challenging off-site infrastructure included bridge improvements, intersections and road improvements.

#### B. US Route 1 Bridge Improvements

Both Arlington and Alexandria wanted double left-hand turns to be accommodated on the bridge through the middle of which ran the municipal boundary. Arlington wanted two left-hand turns northbound on Route 1 onto South Glebe Road, and Alexandria wanted two left-hand turn lanes southbound into the Shopping Center. A deadlock was averted with an ingenious "double taper" solution which both municipalities accepted. See Exhibit 7.

#### C. US Route 1 Landscaping

Another impasse was encountered when the Virginia Department of Transportation (VDOT) would not approve Arlington's required landscaping along US Route 1 at the Glebe Road Intersection. The County finally relented in the name of safety.

#### D. Crystal Drive Lane Realignment

At this time, the construction of the Arlington County-approved new curb line and subsequent lane realignment on Crystal Drive is being threatened by the adjacent land owners who contend that the easement that they granted to the County for the construction of Crystal Drive does not allow for a curb changes and lane realignments to accommodate the transit-way. The County is attempting to reach a resolution before it resorts to eminent domain to accommodate the construction of the transit way.

### **3. Reconciling Environmental Myths with Facts and Physical Realities**

#### A. The Myths

When Jack Kent Cooke announced in 1992 that the new Redskins Stadium would be at Potomac Yard, he precipitated a huge public protest against his idea. As he retracted his plans after several weeks of heated public debate, he announced that

the overwhelming environmental problems would keep him from building the stadium along with other reasons. While the local citizens were ecstatic, Potomac Yard became publicly marred by an environmental stigma. Consequently, probably the most anxiety-creating, land-development risk at Potomac Yard was the environmental risk associated with soil contamination.

#### B. The Facts

The Potomac Yard site had been extensively studied, tested, evaluated, and remediated prior to Crescent's acquisition of the site. At one time, the Virginia Public Employment Retirement System (VPERS) owned Potomac Yard through its purchase of the RF&P Railroad stock. Consequently, the Virginia Department of Environmental Quality (VDEQ) felt that it could not do an unbiased evaluation of the Yard, and it asked the United States Environmental Protection Agency (EPA) to opine on the environmental conditions of the Yard. The EPA conducted an Extent of Contamination Study and concluded that the Yard had no threat to human health, except for the Central Operations Area. Subsequently, the EPA also oversaw the remediation of the Central operations area, and issued a "no further action" letter. The reports and documentation associated with this study and remediation is voluminous and available on-line at \_\_\_\_\_---. Following the EPA's "no further action" letter, dated \_\_\_\_, VDEQ issued its own "no further action" letter, dated \_\_. Prior to its acquisition, Crescent employed several environmental firms and law firms to review these studies and the regulatory risk that faced Crescent. Our studies confirmed the above "facts".

#### C. The Realities

We have learned that there is no such thing as "clean dirt," and that all dirt is contaminated to some degree by one constituent or another. Since the type and level of contamination determines how the dirt can be excavated and disposed, we developed a "soil management plan" based on the conventions employed by LCOR Development in the excavation of the Patent and Trademark offices in Alexandria. The plan involves characterizing the soil by laying out a surface grid and systematically boring the site and taking dirt samples at various depths. The soil is then disposed of based on this three-dimensional map of soil conditions and on the regulations governing various levels of contamination. Formal protocols have been established to handle unexpected soil conditions if they should be encountered.



Crescent's soil management plan was submitted to the VDEQ for review and its subsequent approval.

D. Cinder Ballast

The level of contamination of the Potomac Yard soils required no special handling if they remained on site and only limited restrictions if they were hauled off-site for disposal. The exception was the layer of cinder ballast that was generated by the coal burning locomotives and then used for rail road grades. This cinder ballast was governed as a coal combustion by-product and was found in a one- to three-foot layer over most of Potomac Yard. Cinder ballast has excellent structural characteristics and can be re-used in a number of applications. But, because of a high level of arsenic, which was used as an herbicide by the railroads, this cinder ballast, when excavated, should not be available for direct prolonged human contact when re-used. We have set aside the cinder ballast for reuse and, at this time, several landfills are bidding for a chance to use this material for daily cover.

#### **IV. Building Development Challenges**

The permitting process for the construction of 654,000 square feet of office on Land Bay A in Arlington along with the pre-leasing of the office space began in 2001 shortly after Crescent acquired Potomac Yard. During this period, we have also assembled a team for the building development on Land Bay A. See Exhibit 8. I perceive the major challenges that we have faced in this building development process can be grouped into four categories:

1. obtaining municipal approvals,
2. reconciling GSA and EPA and USGBC requirements,
3. confronting neighborhood issues, and
4. accepting changing market conditions.

##### **1. Obtaining Municipal Approvals and Permits**

###### **A. The Arlington Site Plan (4.1) Approval Process**

The Phased Development Site Plan approved for Potomac Yard in Arlington was conceptual in nature, so the County requires that a specific approval for a specific construction project be obtained from the County Board. We started the site plan approval process for Land Bay A in August 2001 and obtained the County Board approval in March 2003. The approval came with 71 requirements in addition to the 48 PDSP requirements. The site plan approval process is directed by a subcommittee of the County Planning Commission, the Site Plan Review Subcommittee. This subcommittee conducts a series of public meetings over several months to examine and evaluate the building plan and it concludes by submitting a report to the Planning Commission. The Planning Commission reviews the project

and reports its recommendation to the County Board. Similar meetings, evaluations and reports are made by the other County Commissions which include:

- The Transportation Commission,
- The Housing Commission,
- The Parks and Recreation Commission,
- The Art Commission, and
- The Environmental and Energy Conservation Commission

#### B. The Building Permit Process

Before beginning construction, a building permit must be obtained from the County Zoning Officer, who confirms that every condition for the PDSP and the 4.1 approval are met. The 4.1 Approval takes at least six months and the building permit approval takes another 18 months, if the developer is lucky. The building permit process becomes double jeopardy as each county staff person can interpret and enforce the regulations as he/she wishes. We obtained the building permit for One and Two Potomac Yard on August 31, 2004.

#### C. All Potomac Yard Meeting

The County Board Chairperson recognized the complexity of the Site Plan approval and building permit process and multiple, overlapping, and conflicting conditions that result from this complexity. Consequently, the County Board Chairperson assigned the Assistant County Manager to watch over the Potomac Yard development process. In response, the Assistant County Manager holds monthly meetings to bring together the various County departments and our Potomac Yard Team to systematically review the issues and challenges facing the land development and building development at Potomac Yard. These monthly meetings have been a godsend, as the Potomac Yard Team and the County departments are collaborating to solve problems and resolve issues. It appears to me that the County's operating premise has changed from how do we stop the development of Potomac Yard to how do we facilitate the development of Potomac Yard.

## **2. Reconciling GSA and EPA, USGBC, FPS, and Arlington County Requirements**

### A. GSA Lease Requirements

The GSA lease requirements are mostly contained to its Solicitation for Offers (SFO) but it also requires compliance with a volume of other conditions. Some conditions are stated in the lease or the lease exhibits and some are included by reference to various federal regulations. The GSA acts as the real estate landlord for the federal government, as it signs the lease agreements and then releases, subleases, or assigns the lease to another federal agency for occupancy. In this case, the tenant is the EPA, which the GSA effectively represents.

### B. EPA Occupancy Requirements

After the GSA executed a lease with us, the EPA developed its Program of Requirements (POR), a 143-page document that outlines what the EPA would like to have in the building. If the POR requirements are different from or in addition to the GSA's lease, then the EPA pays for the changes or additions. This includes such items as a connector bridge between the buildings, revised first floor activities, increased floor loading capacity, additional loading dock requirements, and tenant finish specifications.

### C. Green Building Requirements

Since the GSA requires that the building obtain a Silver rating from the USGBC based on the Leadership in Energy Efficiency Development (LEED) scorecard, the other GSA requirements and the EPA's POR must conform to the USGBC requirement for a Silver Rating. The GSA lease agreement provides that the EPA would cooperate with Crescent to achieve the required points through its tenant improvements (TIs). This means that Crescent must get at least 33 points on the LEED's scorecard. As mentioned earlier, failure to get the Silver Rating would result in 10% decrease in rent! The newness of the USGBC Scorecard requires many interpretations and judgments, the outcome of which won't be known until the final rating at the end of construction.

#### D. Federal Protection Services Requirements

In addition, the Federal Protection Services is reviewing the building development and will recommend what security enhancements, improvements, and/or changes need to be made for the occupancy of the EPA. At this time, Crescent will do the following security enhancements:

- Parking controls and cameras,
- Lobby security equipment and cameras,
- Security interrogation and guard rooms, and
- Concrete bollards around the buildings.

Two Potomac Yard will only be partially occupied by the EPA so the majority of the tenants will be from the private sector. The accommodation of these two groups with differential security expectations will be interesting and present us with further challenges in the future.

Thus, the challenge for Crescent is to reconcile the requirements from the GSA lease, the EPA POR, the USGBC LEED's scorecard, and the Federal Protection Services security measures, and still meet the PDSP and 4.1 conditions from Arlington County. The impossibility of this challenge is compounded by staff changes at GSA, EPA, and Arlington County.

### **3. Confronting Neighborhood Issues**

By definition, an urban, in-fill location has a number of closely located neighbors. At One and Two Potomac Yard, our adjacent neighbors include the CSX rail line, a federally-funded but state-owned bridge, and the Crystal City Hyatt Regency and vacant land, both owned by an investment group. This group also owns the land under Crystal Drive, which is on an easement. See Exhibit 9.

#### A. Tie-Backs

Because of the proximity of the neighbors, the excavation of One and Two Potomac Yard is done with a sheeting and shoring system on all four sides. This system is secured to the unexcavated earth through a series of tie-backs, 60-foot long cables which are drilled and grouted into the earth. Consequently, our tie-backs were under the railroad tracks, the bridge and the street. To avoid drilling into the parking structure under the street and hotel, the tie-backs were replaced with a

raker and bracing system. Securing tie-back agreements with our neighbors was critical to starting excavation. See Exhibit 10.

#### B. Crane Swings

The construction cranes are restricted in their swings because of the railroad tracks and the hotel. Consequently, four cranes rather than two cranes are employed. Also, construction on the vacant lot is to begin in the near future, which means that two additional cranes (six total) will be swinging materials around in a very tight, over-lapping area. A crane swing agreement with our neighbor was also important. See Exhibit 10.

#### C. Water Connection

For several years, the Washington Metropolitan Airport Authority (MWAA), our nearby neighbor to the east, has planned on extending its water line to tie into the Potomac Yard water system. MWAA started construction on this project at the same time that we were completing Potomac Avenue northward and beginning the excavation of One and Two Potomac and began to discharge trucks to the South. While the timing and location of the extension couldn't have been worse, Murphy's Law was just beginning.

The water line extension required MWAA to bore under CSX's rail tracks. When the boring was half-completed, voids were discovered under the tracks. The following occurred:

- CSX stopped MWAA boring contractor.
- CSX and MWAA negotiated a solution.
- The boring contractor couldn't restart because the CSX flagmen weren't available.
- When the CSX flagmen became available, the boring contractor had moved off the site to another job.
- Finally, the boring contractor and the CSX flagmen returned to the half-completed job and resumed work.

A one-week project took two and a half months at the most critical location on Potomac Yard. There's more to the story but enough's enough.

D. Noise, Traffic and Parking

Luckily, CSX and MWAA weren't impacted by the noise from pile-driving and the traffic from 1500 truckloads of dirt leaving the site and parking for over 400 construction workers, but our hotel neighbor and office neighbors were. Our neighborhood outreach program has attempted to maintain a dialogue with our neighbors and to prepare them ahead of time for the next phase of construction challenges. Good fences may make good neighbors, but talking to neighbors is more important.

**4. Accepting Changing Market Conditions**

Any mixed-use project is confounded by the changing markets for each use.

A. Residential Up, Office Down

At Potomac Yard, the residential markets (especially for the condominiums) have dramatically improved; the office market has deteriorated; and, the hospitality market has evaporated since Crescent has acquired the property in 2001. Consequently, hotel plans were put on "indefinite hold", office prospects were hard to find and residential builders were standing in line to buy land.

B. Strange Econometrics

The office rental rates in the Crystal City/Potomac Yard market are at the same levels as they were in 2000. However, the big U.S. Patent and Trademark Offices (PTO) lease has provided strange set of econometrics. At this time the office market in Crystal City is 15% vacant and also 30% available. During 2004, approximately 2 million square feet of space will be vacated in Crystal City as the PTO moves to its new office in Alexandria. Thus, 3 million square feet are available for lease, but only 1.5 million square feet are actually vacant and un-leased. Clearly, 2004 is a transition year in the Crystal City/Potomac Yard market as the Patent and Trademark Office moves and the reality of Potomac Yard becomes a real market presence with 200,000 square feet available in Two Potomac Yard.

C. Converting Office to Residential

Fortunately, a PDSP condition allowed Crescent to adjust to the changing market conditions by converting 300,000 feet of office space to residential space in Land Bays D and E.



## **V. Lessons Learned**

The challenges of developing Potomac Yard have consumed me for the last four years. This is an on-going development and we are confronting challenges daily. The "Lessons learned" are tentative ones, as I relearn and unlearn lessons constantly. The attempt to provide office space in an urban mixed-use development is a noble one. While the building of Potomac Yard is not complete, there are certain lessons learned that I have tentatively learned at this time. I have learned:

1. to embrace the complexity of urban mixed-use developments,
2. to accept the cultural differences between the public and private sectors,
3. to appreciate that private developers and municipalities together are struggling with regional issues, and
4. to go to work everyday...

### **1. Embrace Complexity**

Urban mixed use projects are exquisitely complicated. There are more variables than equations, and some of the variables are random. This indeterminate system must be embraced rather than solved. The complexity cannot be controlled or reduced. Embracing this complexity allows us to attempt rational decision-making without getting frustrated by the lack of resolutions. The complexity must be worked with, danced with, and perhaps even embraced.

## **2. Accept Cultural Differences**

Recognizing and accepting the different cultural values and mores between the public and private sectors can help us deal more effectively with County staff and elected officials. For example, private sector participants are expected to treat discussions and negotiations confidentially until an agreement is reached. However, public sector participants are expected to disclose everything to everyone, especially before an agreement is reached and discussions and negotiations are underway. Another example is the value of private property rights. In the private sector, private property is sacred and what is openly traded in the market place. But in the public sector, private property rights are the residual rights after the greater public good has been met. Finally in the private sector, most participants believe that a "deal is a deal" and the person's integrity is staked on respecting the deal. Conversely, in the public sector, the deal is never done and the agreements that were made are really the starting place for the next round of negotiations. Accepting these cultural differences will enable both sides to work together more effectively without feeling frustrated or threatened.

## **3. Appreciate that Private Developers and Municipalities Together are Struggling with Regional Issues.**

While well-intentioned people in the private sector and the public sector deal with very complex problems and cultural differences, the really big issues are regional ones over which neither party has much control. Issues such as traffic congestion, water pollution, affordable housing, and terrorism are regional issues which require a regional approach across municipal boundaries to be effectively addressed.

Unfortunately, municipalities and private developers are compelled to address these issues at the site-plan approval level. This necessarily results in municipal myopia and suboptimal decision-making. Consequently, private developers may feel oppressed when forced to conform to site plan restrictions that are often token first steps toward solving regional problems. However, municipalities feel compelled to make these requirements to show its citizens that these regional issues are being addressed. Thus, by appreciating this struggle to solve regional issues at the site-plan approval level, we appreciate good intentions for the noble deeds that they are meant to be.

#### **4. Go to Work Everyday**

Finally, I have learned to go to work every day with two things: a good night's sleep and a keen sense of humor. See Exhibit 12. Without a good night's sleep, my sense of humor is compromised, and without a keen sense of humor, I cannot enjoy the folly, craziness and irony that are a critical and daily part of the urban, mixed-use development process.

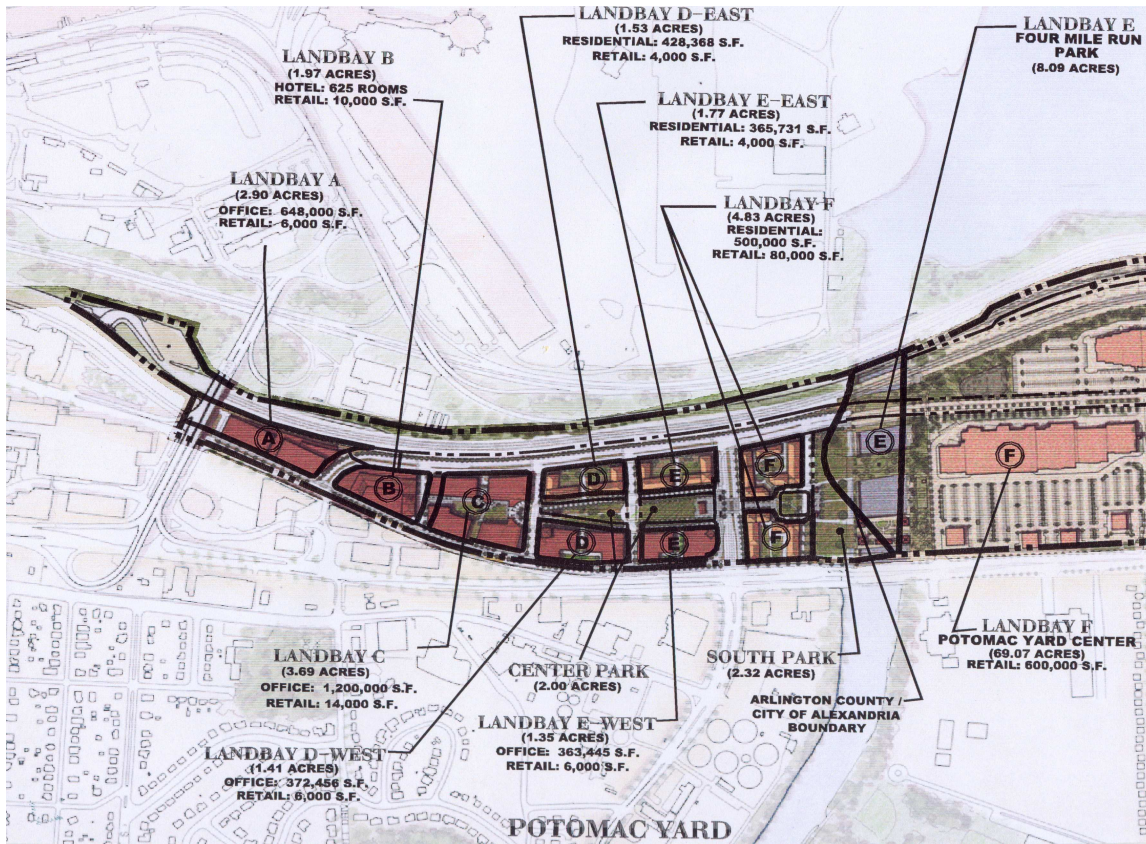
**Exhibit 1**  
**Aerial Photograph of Arlington Potomac Yard's Existing Conditions in 2002**



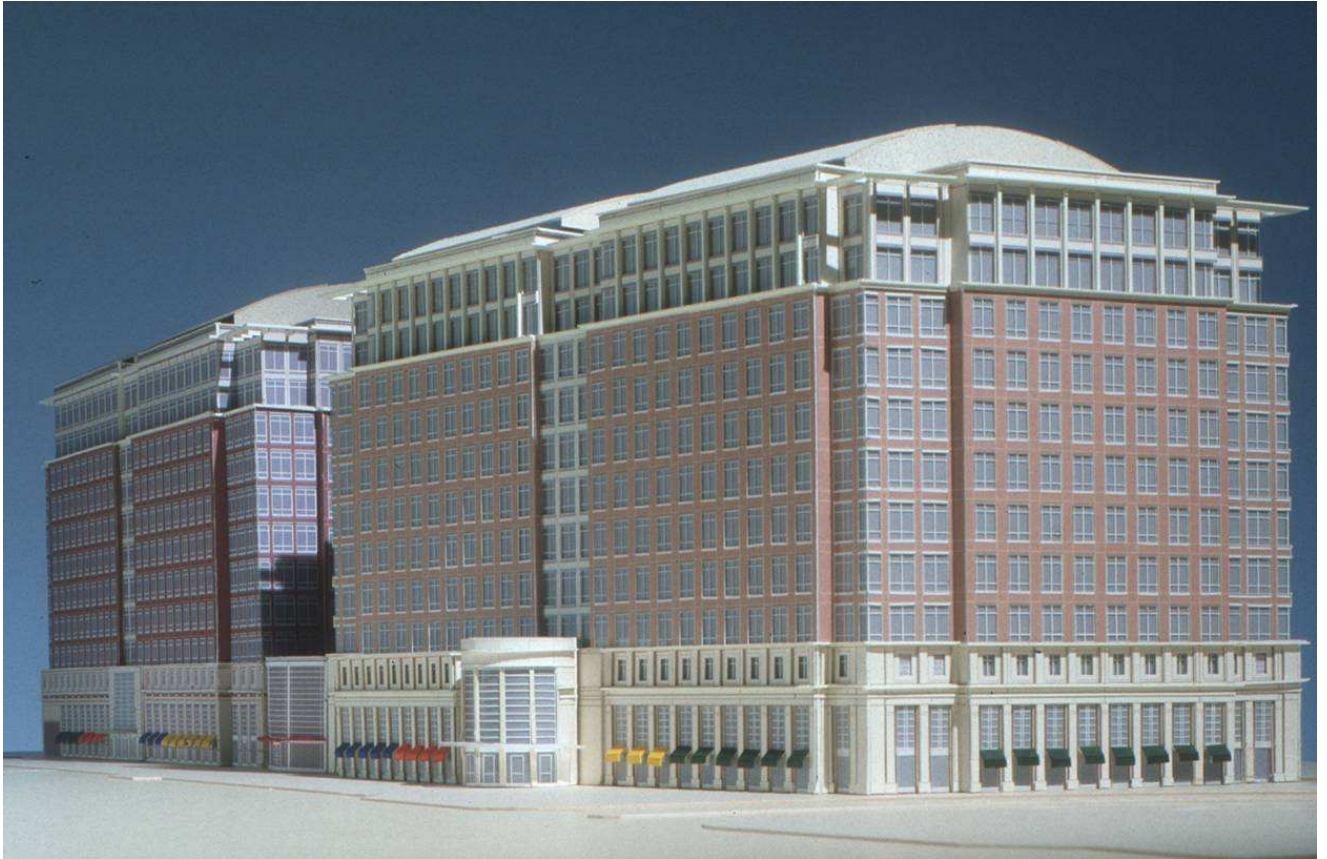
**Exhibit 2**  
**Potomac Yard Land Use Matrix**  
**(in square feet)**

<b>TOTAL</b>	<b>ARLINGTON SOUTH TRACT</b>		<b>RETAIL ALEXANDRIA CENTER</b>	
	<b>PDSP</b>	<b>CDD</b>		
<b>Office (sq ft)</b>	2,880,000	1,900,000	0	4,780,000
<b>Residential (sq ft)</b>	1,000,000	1,927,000	0	2,927,000
<b>Neighborhood Retail (sq ft)</b>	60,000	135,000	0	195,000
<b>Hotels (sq ft)</b>	469,835	469,835	0	939,670
<b>Big Box Retail Center</b>	0	0	600,000	600,000
<b>Total Land Development</b>	4,409,835	4,431,850	600,000	9,441,685

**Exhibit 3**  
**Potomac Yard Arlington Land Bays**



**Exhibit 4**  
**Model of One and Two Potomac Yard**



**Exhibit 5**  
**Land Development Team**

**Architects, Designers and Planners**

Cooper, Robinson & Partners, Land Planners  
Oculus, Landscape Architects  
Lewis Scully Gionet, Park Architects  
Cunningham Quill Architects, Land Planners  
Gannett Fleming, Pump Station Architect

**Environmental Engineering and Consultants**

Earth Tech, Environmental Engineers  
GeoSyntech, Environmental Consultants  
ECS, Ltd. Environmental Consultants  
CH2MHill, Environmental Consultants

**Legal**

Robinson, Bradshaw & Hinson, LLP  
McGuire Woods, LLP  
Land, Clark, Carroll, Mendelson & Blair, LP

**Engineers and Consultants**

christopher consultants, ltd., Civil Engineers  
GeoConcepts, Geotechnical Engineering  
Wells and Associates, Traffic Consultants  
Art in Public Places, Art Consultant  
Jack Reutemann, Consultant  
James Paulsen, Consultant  
Parson Brinkerhoff

**Contractors and Construction Management**

Shirley Contracting Company, General Contractor, Infrastructure  
Huxted Tunneling, Tunneling Contractor  
Case Foundations, Pump Station Contractor  
Ulliman Schutte, General Contractor, Pump Station



**Exhibit 6**  
**Potomac Yard Arlington  
Pump Station**



**Exhibit 7**  
**US Route 1 Bridge: Double Taper Solution**



**Exhibit 8**  
**Potomac Yard Building Development Team**

**Architects, Designers and Planners**

Pickard Chilton Architects, Inc., Design Architects  
Davis Carter Scott, Architects of Record  
Oculus, Landscape Architects  
Lewis Scully Gionet, Park Architects  
Korkoro Carvers, Public Artists  
Metropolitan Architects & Planners

**Leasing, Management and Legal**

Millennium Realty Advisors, Leasing Agents  
The Woodmark Companies, Property Management  
McGuire Woods, LLP, Land Use Attorneys  
Robinson, Bradshaw & Hinson  
Ed V. Gregorowicz, Attorney at Law  
Spaulding & Slye Colliers International, Government Leasing Agent

**Engineer and Consultants**

Girard Engineering, Mechanical, Electrical and Plumbing  
Fernandez & Associates, Structural Engineers  
christopher consultants, ltd. Civil Engineers  
GeoConcepts, Geotechnical Engineering  
Miller Henning Associates, Inc., Acoustical Engineers  
Wells and Associates, Traffic Consultants  
Central Parking Systems, Parking Consultants  
Lerch Bates North America, Inc., Elevator Engineers  
Moran Coventry Lighting Associates, Light Consultants  
Art in Public Places, Art Consultant

**Contractors and Construction Management**

Davis Construction, General Contractor  
DSI Partners, Project Manager  
Arban & Carosi, Inc., Precast Contractors

**Environmental Engineering and Consultants**

Paul Tseng, Commissioning Agent/HVAC Specialist  
Sustainable Design Consulting, LEED Consultant  
Earth Tech, Environmental Engineers

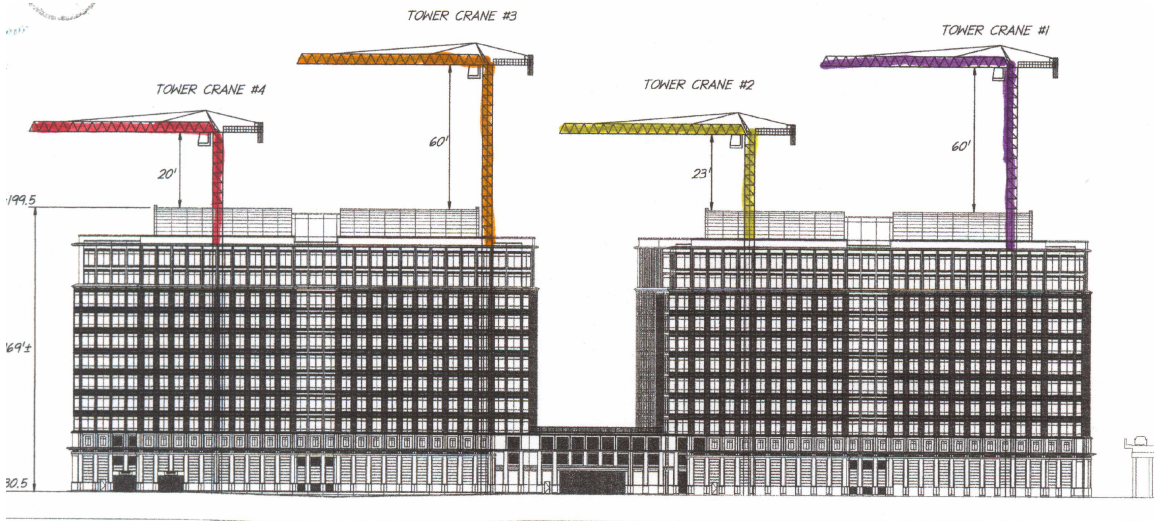
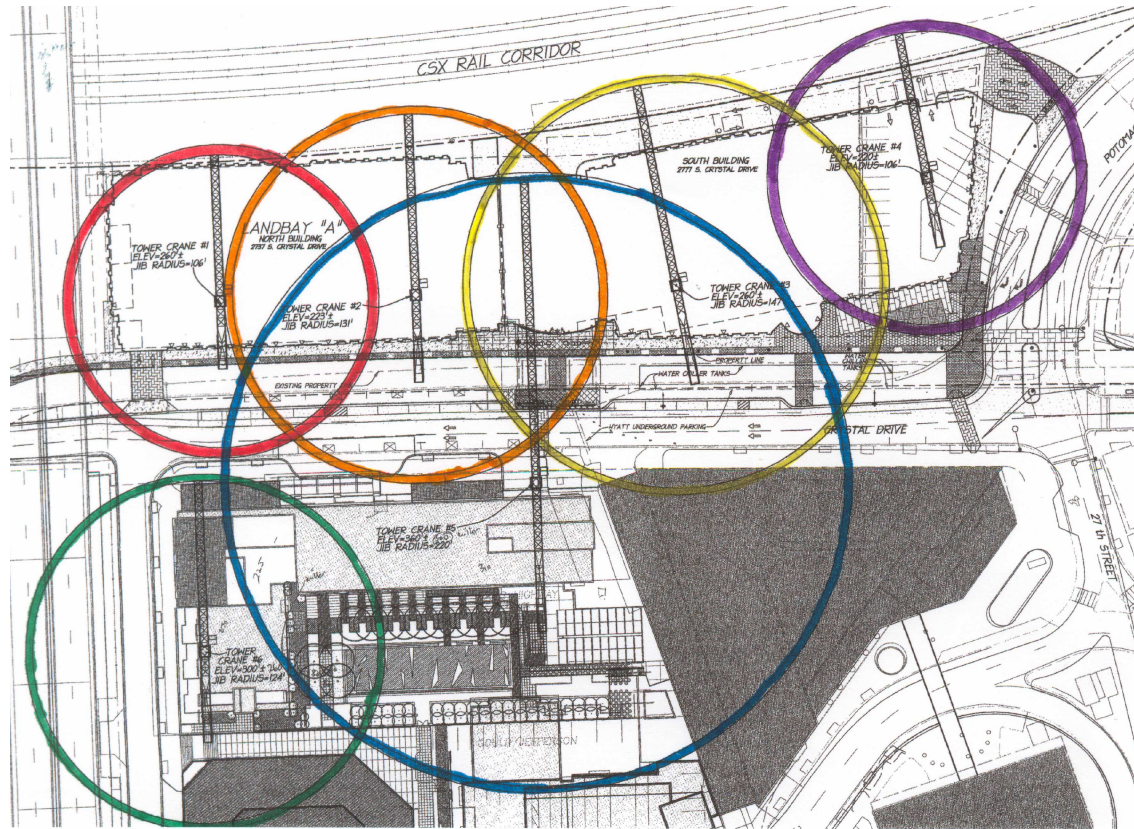
**Exhibit 9**  
**Oblique Neighborhood Photo Montage**



**Exhibit 10**  
**One and Two Potomac Yard  
Sheeting and Shoring with Tie-Back**



**Exhibit 11**  
**Neighborhood Construction Cranes**



SOUTH TOWER

NORTH TOWER

**Exhibit 12**  
**"In the beginning..."**

In the beginning...  
God created heaven and earth.

Quickly, He was faced with an infringement procedure for failure to file an environmental impact statement pursuant to Directive 82/337. He was granted a temporary permit for the project, but was stymied with a cease and desist order for the earthly part. Appearing in front of the High Level Group set up to study the issue, God was asked why He began His earthly project in the first place. He replied that He just liked to be creative.

Then, God said "Let there be light", and immediately the officials demanded to know how the light was to be made. Would there be strip mining? What about thermal pollution? God explained that the light would come from a huge ball of fire. God was granted provisional permission to make light, assuming no smoke would result from the ball of fire; that He would obtain a building permit subject to the standard planning permissions procedures of the different Member States; and, to conserve energy, would have the light off half the time. God agreed and said He would call the light Day and the darkness Night. Officials replied that they were not interested in semantics, but He had better contact the Terminologie et appuis Linguistiques of the SdT for advice.

God said "Let the earth bring forth green herb and such as many seed." The SCOF (Standing Committee on Organic Farming) agreed as long as non-genetically modified seed was used.

Then, God said "Let waters bring forth creeping creatures having life; and fowl that may fly over the earth." Officials pointed out this would require approval from the Advisory Committee on Fishing and the Standing Committee on Management of Water.

Everything was OK until God said He wanted to complete the project in six days. Officials said it would take at least 200 days to review the application and impact statement. After that, there would be a public hearing. Then, it would be 10 to 12 months before...

At this point, God created hell.