Testimony for Case 02-30

Larry Schuette
Washington Canoe Club
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Good Evening:

Thank you for this opportunity. I am the current president of the Washington Canoe Club. I was born in Georgetown, my father was born in Georgetown, my grandmother was born in Georgetown and my Great-Grandfather owned a feed-store in Georgetown, after having been kicked out of Ireland. I've been connected with the Potomac River, the C&O Canal, Georgetown and WCC all my life. For the many rowers in the room, my father was Charlie Butt's coxswain in the late 1940s prior to racing in two Olympics as a member of Potomac Boat Club.

The proposed project would be immediately adjacent to and 96' upstream from the Washington Canoe Club, which is both a District of Columbia Historic Landmark and National Registered Historic Landmark. The Potomac River Gorge, and the C&O Canal National Historic Park are both listed on the 1997 District of Columbia Inventory of Historic Sites. Washington Canoe Club Olympians have represented the United States over 60 times. WCC is the first club listed in the International Canoe Federation Registry of Clubs and was in 1924 was instrumental in getting the sport of Sprint Canoe & Kayak as an Olympic event.

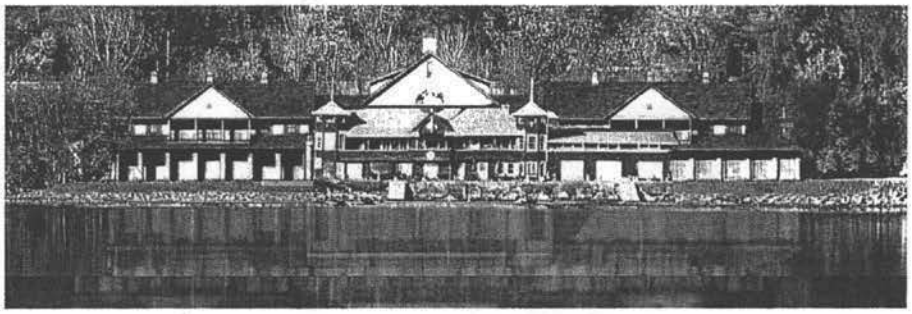
Unfortunately, WCC must strenuously oppose the construction of the proposed boathouse on the land immediately upstream. This is most unfortunate. I highly recommend putting a more modest structure on the site of the old Dempsey's Boathouse. It could easily accommodate the water dependent portions of the GU Program and fit in with the historic boathouse row.

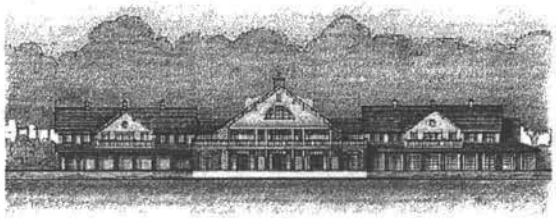
We had been repeatedly assured by the National Park Service and by the architects retained by GU that the structure "would not overwhelm WCC in any way". Obviously architects use a professional vocabulary, but I think you'll agree that a structure that is 7 times the volume within 100' constitutes overwhelming. Words like "Scale and Proportion" were also used, frankly I'm not sure of what Scale and Proportion they meant.

ZONING COMMISSION
District of Columbia
Case 02-30
Exhibit 360

ZONING COMMISSION
District of Columbia
CASE NO.02-30
EXHIBIT NO.360A1

# Georgetown Boathouse





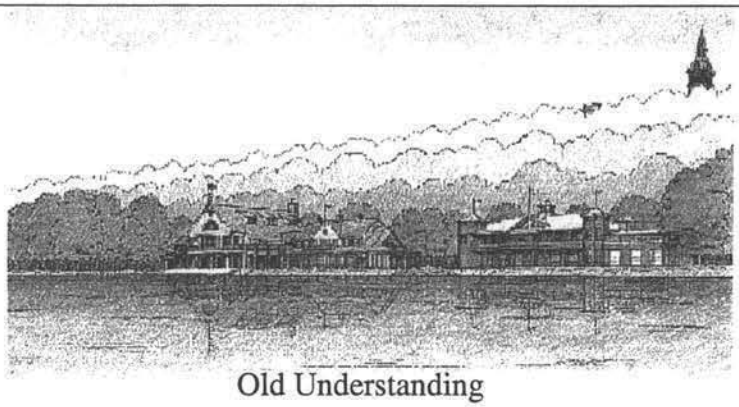
A photo montage showing the relative sizes of WCC and the proposed GU Boathouse

The proposed structure towers 63' above the river and as planned is only 7' from the rivers edge. Since the architect applied "residential scale", I'll do the same: that's over 7 stories above the river. Note that the proposed Clyde's barge was only 40' above the river and was much maligned by the community. In particular, Erik Myers of the Potomac Rivers Sports Foundation was highly successful in getting it removed. Much of the language that was used to remove the barge is relevant to the case for dramatically scaling back the size or moving the GU Boathouse downstream.

Testimony was given on the 19th by GU regarding the size and scope of the structure. Much was made by GU that their boathouse was average in size. My research did not bear that statement out. I will argue that it appears to be the largest boathouse on the East Coast. Only Princeton has similar square footages but only has a 36' high roofline. Because of the 41 and 54' rooflines, by volume the GU boathouse is the biggest by a wide margin. In my review of boathouses, I've not been able to find one that is 54' tall.

Additionally, I was unable to find a University on the East Coast with a 24 person rowing tank in their Boathouse. Most Boathouses do not include a rowing tank, but rather place it on campus (if they have it at all). Some Universities (Navy for example) use the Boat bays as the location for the ergometers in the winter. I only found one University with a 24 person rowing tank. Yale University has a 24 person tank on campus along with their ergometers and exercise equipment. Princeton only has a 16 person tank in their boathouse, while Harvard has two 8 person tanks, others are 10 person or even 8.

During their presentation, Mr. Brangman mentioned that GU held three meetings with WCC. Only at the last meeting in December of 2002 was a frontal view of the building provided (at our request) to show the size of the building relative to the Canoe Club. More over, comments made by Mr. Brangman at the May 19th hearing suggested that WCC comments were responsible for the changes to make the building appear smaller. I'll go on record as stating the only change I can see we made was that we called into question why a BAR was being built in the "exercise room", and it was subsequently stricken from the building after we sent a letter to the National Park Service questioning if a liquor license was being contemplated.



Old Understanding



New Understanding

Why now? Why not before?

The rendering on top is what was shown WCC and the various committees that approved the concept. Likewise it has figured prominently in a campaign by GU and NPS to make the proposed boathouse seem similar in size to WCC and are still available on www.guhoyas.com. See how the near wing of the GU Boathouse appears smaller than WCC. That wing is actually larger than WCC. It is 12 feet taller, and 15 feet wider and contains 15% more floor space. Also on the website is the quote: "Go up the stairs to the Great Room with an amazing view of the Key Bridge and the Potomac - a perfect setting for future crew alumni and parent event", yet we'd been assured that it would not be used for social functions. Obviously Georgetown University is feeling some pressure. The NPS and GU put out an email that assured the community that the facility wouldn't be used for social functions & very recently the website was changed to reflect this new usage plan.

The photo montage on the bottom was created at WCC request and presented at the December 2002 meeting. Only then was the true implication of the structure seen. All presentations made without this "New Understanding" to the various committees were so seriously flawed as to call into question the endorsement made by those fine organizations.

Additionally, upon reviewing documentation we were struck by the number of references to Sailing. Is it Georgetown University's intent as stated in the documentation to run their Sailing program or store their fleet at the proposed Boathouse? That could have a dramatic impact on both rowing and canoe/kayak on the Potomac.

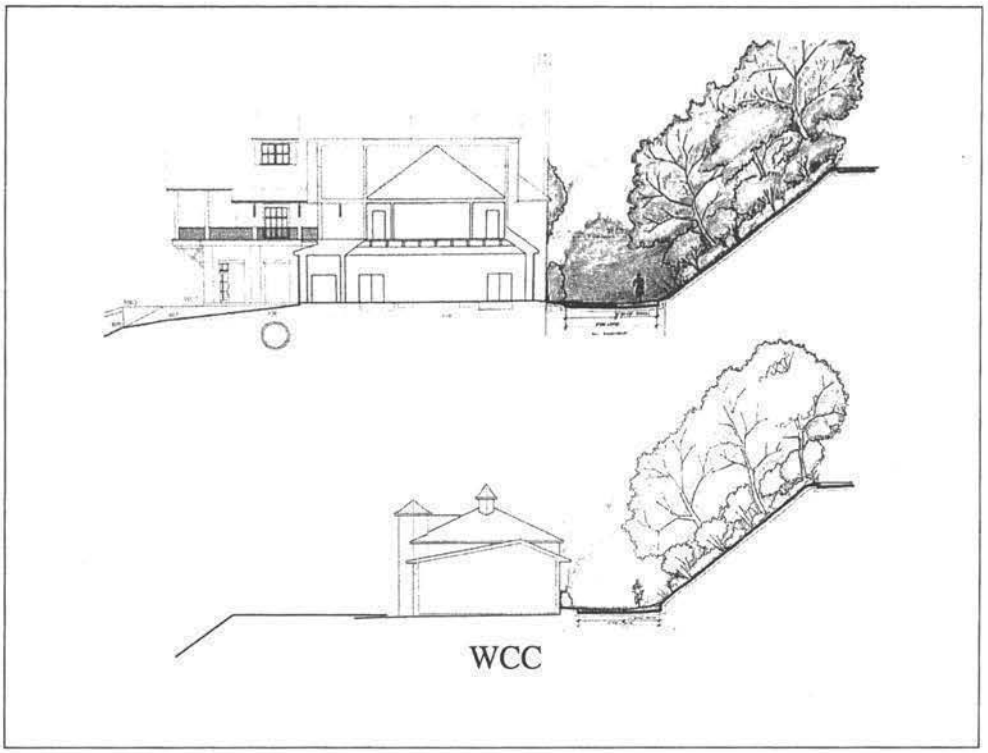


Slope?
C&O Canal?
CCT?

Old Understanding

4

This rendering shows the boathouse from the side. This rendering is from the GU HOYA website. The slope is wrong, the C&O Canal is not evident, and the CCT is missing.



WCC

Here is the new understanding of the proposed structure.

For comparison, the WCC boathouse is shown below.

Obviously the GU Boathouse is much taller, and much deeper. Much has been made of the view of the boathouse from the river. It appears that very little thought was given to the impact on the CCT and C&O Canal. Otherwise the CCT and COCA wouldn't be here tonight.

WCC Strongly opposed the 15' variance and even more strenuously opposes the 7' variance as it will visually block the view upstream from WCC.

Suggest making it at least 35' from river.
Advantages:

Provide consistency with Thompson's Boathouse and WCC.

Would solve the GU permanent pier/ramp issue by giving them more room on land to bring the shells out during a flood.

Would reduce the length of the ramp, pulling the dock in closer to shore.



Notice the narrowness of the site and the extreme steepness of the slope of the Canal Embankment.

Drawings provided by GU show the slope of the C&O Canal embankment as 40 degrees. This is extremely steep and thus not suitable for simple regrading. Any movement of soil to shift the CCT will likely require a retaining wall due to the pressure of the C&O Canal above. A thorough site survey with engineering analysis of the impact to the C&O Canal should be required. I find it hard to believe that

the National Park Service can do a NEPA and issue a FONSI on a land swap with the full prior knowledge of the intended use of the land. This skirting of the intent of federal law (the protecting of historical structures from potential damage) is not consistent with good stewardship.

If the C&O Canal is weakened by the movement, it is possible for the Canal to "Wash Out" during a flood. This wash out could occur directly above the Washington Canoe Club with devastating effect. (an adverse recreational effect)

Likewise, an engineering analysis needs to be done on the impact of the GU boathouse construction on the C&O Canal. As we learned the EA did not include the construction of the GU Boathouse. Because of the magnitude of the structure, it is requested that a full EIS be undertaken. If the C&O Canal collapses it would devastate WCC and a national treasure (the C&O Canal).

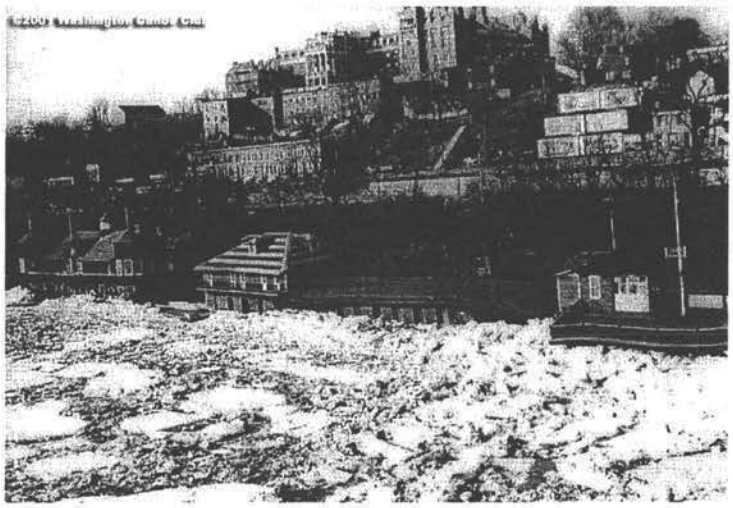
Finally, we are very concerned about the 1000's of trucks that will pass through this cut during construction



WCC in the early 1930s.

Here's an old picture of WCC. I show it to point out the old structures above WCC. Prior to the flood of 1936, there were many small structures dotting the river banks. The flood of 36 fixed that…

Even then the balcony was a favorite place to view the river.



• WCC and Dempsey's Boathouses during the "Flood of '36"

7

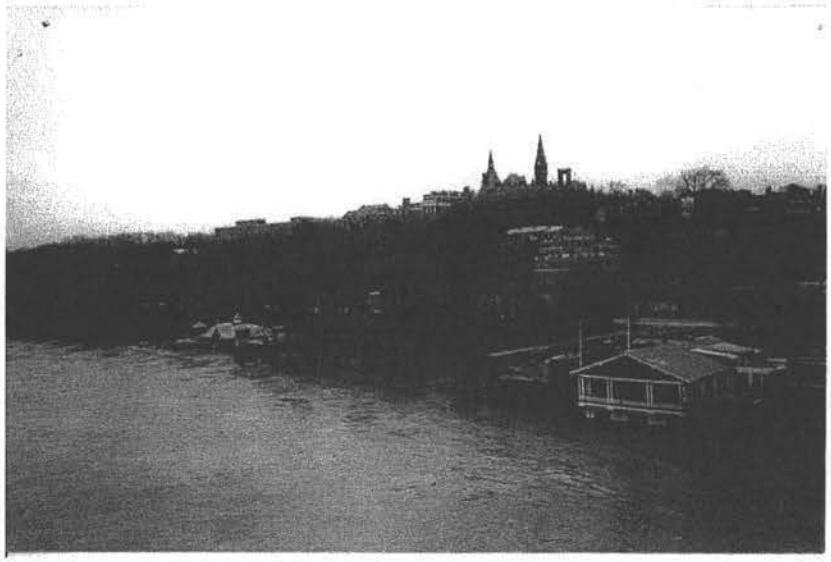
The flood of 36 is the benchmark flood. Since then the river has risen almost as high (within 2'), but usually because of a Hurricane and thus without the ice.



• After the flood – everything upstream was erased.

7

This picture was taken in the late 1930s.



Typical flood – notice the tremendous protection provided by the trees.

WCC requested a hydrological study to assess the impact of the GU Boathouse. Applicants agreed. Non-responsive to-date.

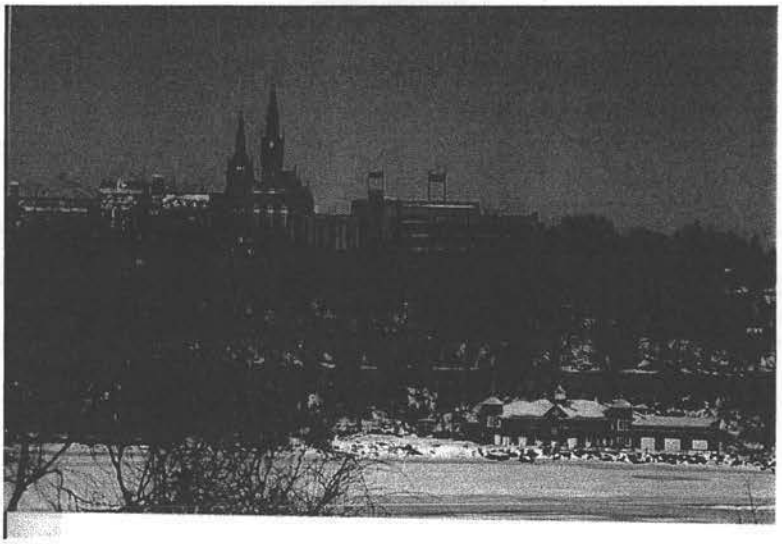
There is a strong possibility and probability of damage to the WCC if permission to build is granted. At the time of the 1936 flood, WCC was only 30 years old. It is now approaching it's 100th year. Until additional studies are undertaken, it is requested that no construction be undertaken. The applicants agreed to undertake these studies, which to the NPS "seemed reasonable". In particular at a December 2002 meeting with GU and NPS WCC requested the following:

1) a hydrological study regarding the flow of the river at flood and the impact of the new structure on the ability of WCC to withstand a flood - which heretofore has withstood floods because of the Parkland upstream from the club,

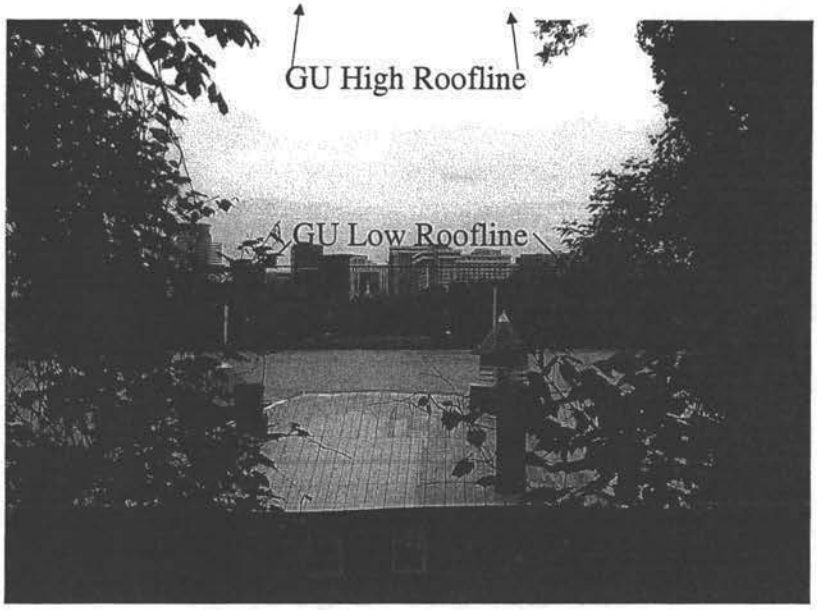
2) an assessment of the possibly damaging increase in sedimentation of the river given the 240' length and 25' width of the proposed docks,

The NPS and GU agreed to these requests, and we anxiously await the results. The NPS assured us in a May 7th letter that the FEMA study undertaken prior to the finalization of the design was sufficient to allay our fears. It has not. Our understanding of the FEMA study referenced by Mr. Parsons was that the structure wouldn't raise the height of the river by more than one foot. The zoning and subsequent development of the Tract should not occur if the results of the hydrological study do not concur that there is no increase of flood risk to the historic WCC structure. Additionally, given that the Environmental Assessment didn't cover the structure or the movement of the CCT, it is requested that a new Environmental Impact Statement be prepared, with zoning contingent upon that EIS. The area where the proposed boathouse is to be built is now a well-established bird refugee, with Bald Eagles, Osprey, Red Shouldered Hawks, Blue Heron and a variety of other birds seen on a frequent basis. None of these birds are listed in the EA.

Because of the extent of the docks proposed (6000 ft^2), it is requested that the new environmental impact statement address the potential for increased sedimentation and the resultant decrease in water quality be undertaken.



Various officials pointed out that the impact on the view due to the proposed structure would only occur during the winter. Vegetation is comes and goes, a building is permanent.




GU "Low" roofline blocks view of Key Bridge, "High" Roofline blocks view of Washington Monument from the towpath.

The most recent renderings and photographs provided by the applicants show how difficult it is to determine the impact of a planned structure on a view. Here is a view from the C&O Canal. Using well established techniques in photogrametric analysis I offer the following:

Using a level camera and based on a point 5' above the towpath, and 66' from the peak of the WCC roof, the look angle is 7 degrees downward to the roofline of WCC (you look down at the roof as it is 4 ½' below the towpath.

For the 41' roof of the GU Boathouse that angle is 1.7 degrees positive (you look up at the roof unless you are 7' tall). Everything under 80' will disappear on the VA shoreline.

The peak of the GU Boathouse has a positive look angle of 13 degrees when you are directly behind it. Because of the 21' elevation and the bend in the towpath it will block the view from the towpath upstream all views from upstream of the Washington monument and Roosevelt Island. Objects under 300' tall will be hidden by the roofline on the VA shore.

Clearly a licensed independent Professional Engineer needs to be retained to do a through "View Analysis" to provide an accurate assessment to the Zoning Commission. Only then will the visual impact be accurately assessed. We request the opportunity to interview and inspect their efforts.

## GU's "Average Boathouse" is not for the Potomac…

GU Boathouse: 11,500 ft^2 of boat storage, 33,200 ft^2 total floor space

WCC: 5,000 ft^2 of storage, 9100 ft^2 total (27% the size of GU)

*From the National Park Service "Facility and Site Analysis for a Boathouse on the Potomac River in Arlington County" Report*

- **Proposed** Arlington County Boathouse: 13,500 ft^2 of storage
  25,000 ft^2 of total space (75% the size of GU)
  indoor storage for 132 rowing shells.
- Alexandria Boathouse: 9,500 ft^2 of storage, 25,000 ft^2 total (75% the size of GU)
- Sandy Run, Occoquan: 7,000 ft^2 of storage, 22,400 ft^2 total (68% the size of GU)
  indoor storage for 175 rowing shells
- Thompson Boat Center: 12,400 ft^2 of storage, 22,500 ft^2 total (68% the size of GU)
  200' overall, 60' and 80' deep. 1800 high school students, 2 Universities
  112 boats stored indoors.
- PBC: 5100 ft^2 of storage, 14,000 ft^2 total (42% the size of GU)

***But floor space is only part of the story – the GU Boathouse is much taller and thus more massive***

The proposed boathouse has a footprint of approximately 19,500 ft^2. This is substantially larger than WCC, Potomac Boat Club, Alexandria Rowing Club or the proposed Arlington Boat House. The cost of this is an imbalanced structure that doesn't complement the shoreline, but rather dominates the shoreline so as to tie in with Georgetown University on the bluff above. This is exactly the concern addressed by the NCPC report from 1995. Note that Thompson's, which is only 70% as large as the GU Boathouse is surrounded by very large commercial buildings, not scenic and historic views. Further Thompson's has a maximum roof height of 30' with a large portion of it only 14'. It would be great if the Zoning Commission would reduce the size of the proposed GU Boathouse to make it consistent with it's neighboring structures. We want to see lots of boathouses, not a super sized one that only ties into the University above and not it's neighbors

Some relevant testimony from the 19th of May:

VICE CHAIRPERSON HOOD: I have just two more quick questions. In looking here at the schematic on A-1.01, I am just wondering if you could get by with something less than what I see here. Again, I go back to my initial statement. When I first looked at it, I thought it was just entirely too large for the waterfront and everything that we have been trying to do down here with the waterfront initiative, like the rowing tank.

MR. BRANGMAN: Excuse me, Commissioner Hood. If I might, I would answer that question a little bit differently. With respect to the size of the facility, if you'll remember, during the presentation when Mr. Muse talked about the overall size of the boat bays at the lower level and the overall size of the rowing tank at the lower level, on the boat bays, I would argue if we make those any smaller than they are, then the vessels that we have to store inside won't fit. So the size of those bays is being driven by the length of those crafts of those shells.

[…]

MR. BRANGMAN: On the rowing tank, I think the correct answer is yes, if we wanted to have less than 24, we could configure a tank that would be smaller.

As we eventually learned, the length of the boat bays is dictated not by the 60' length of the longest boat, but by the desire to store additional gear in the boat bays. What is the cost of that extra storage? That extra storage comes at the expense of the Capital Crescent Trail, WCC and the Potomac River. We were told that the second floor needed to be 14' because of the lengths of the oars and the 100' flood plane. Yet, many boathouses in Europe have a 1/2m deep pit in which the oar is placed, allowing the second floor to be lower. And the flood plane is only 11', meaning that the second floor could be lowered as much as 3'.

GU's "Average Boathouse" is not Average Size for the Eastern Association of Rowing Colleges

- It's comparable to other universities that are similar in ones we compete with, similar to Georgetown and ones we compete with."
- "Those are similar components to other boathouses, again, of universities that we compete with. There are boathouses of universities that we compete against that are much larger. "
- " There are really 16 universities that I'm speaking of, including Georgetown. So the other 15, there's a few of those that are distinctly larger."
- "There's one that is distinctly smaller. And the others are very similar in size to what we're talking about in terms of the boat storage areas."

At the May 19th hearing I asked the GU architect and Mr. Muse if they knew the dimensions of various East Coast Boat houses. They were unaware of the dimensions or sizes.

Testimony was given on the 19th by GU regarding the size and scope of the proposed structure. Much was made by GU that their boathouse was average in size.

In an effort to understand better the requirements of a rowing program, I did some research. My research did not bear the statement that the GU Boathouse is average. I would argue that it is the largest boathouse on the East Coast. Yale and Princeton may have similar square footages, but because of the 41 and 54' rooflines, by volume the GU boathouse is the biggest.

In my review of boathouses, I've not been able to find one that is 54' tall. Nor have I been able to find one that has a 40' ceiling in the exercise room. Additionally, I was unable to find a University on the East Coast with a 24 person rowing tank in their Boathouse. Most Boathouses do not include a rowing tank, but rather place it on campus (if they have it at all). Some Universities (Navy for example) use the Boat bays as the location for the ergometers in the winter. I only found one University with a 24 person rowing tank. Yale University has a 24 person tank on campus along with their ergometers and exercise equipement. Princeton only has a 16 person tank in their boathouse.

## The Boathouses of the Eastern Association of Rowing Colleges

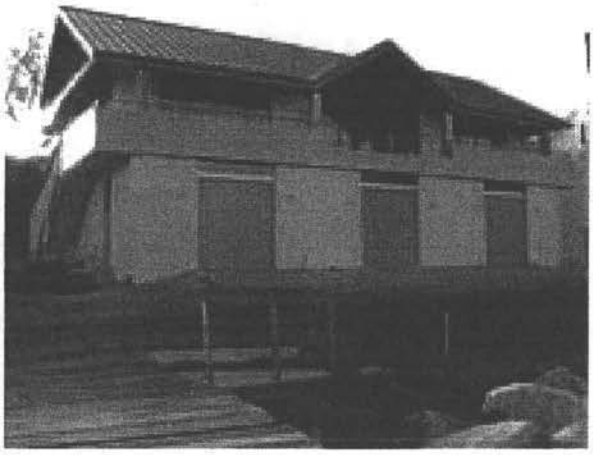
•This data is based on discussions with the Architects of Record, Building Mangers, photos and information available on the internet.

| | | Year Built or Renovated | Student Body | Total Square Footage | Fraction | Height of Roof Line | Length on Shoreline | Include Rowing Tanks | Seats in Tanks | Distinctly Larger | Similar Size | Distinctly Smaller | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Georgetown's Proposal** | | | 6418 | **33,200** | **100%** | 54 | 292 | Yes | 24 | | | | |
| 1 Boston Univ. | DeWolfe | **1999** | 17,819 | **20,000** | **60%** | 40 | 125 | | | | | Yes | Tanks on campus. |
| 2 Brown | Marston | 1956 **1994** | 6,029 | **25,000** | **75%** | 40 | 175 | Yes | 16 | | | Yes | |
| 3 Cornell | Collyer | 1957 & 1970s | 8,361 | **21,000** | **63%** | 35 | 160 | | | | | Yes | Tanks on campus. |
| 4 Columbia | Class of 1929 | **2001** | 6,623 | **10,000** | **30%** | 30 | 75 | | | | | Yes | |
| 5 Dartmouth | Friends | **1986** | 4,047 | **11,400** | **34%** | 30 | 75 | | | | | Yes | Tanks on campus. |
| 6 Harvard | Newell | 1900 | 4,843 M | **19,000** | **57%** | 32 | 150 | Yes | 16 | | | Yes | Shared facility |
| 6 Harvard | Weld | **1906** | 19,337 | **20,000** | **60%** | 44 | 180 | | | | | Yes | |
| 7 MIT | Pierce | **1958** | 4,258 | **17,100** | **52%** | 22 | 95 | Yes | 8 | | | Yes | |
| 8 Northeastern | Henderson | **1990** | 19,588 | **18,000** | **54%** | 35 | 100 | | | | | Yes | Tanks on campus. |
| 9 Princeton | Shea | 1887 & **2001** | 4,663 | **33,500** | **101%** | 34 | 250 | Yes | 16 | | Yes | | Shared facility |
| 10 Rutgers | Class of 1914 | **1961** | 3,717 | **10,000** | **30%** | 24 | 110 | | | | | Yes | |
| 11 Syracuse | Ten Eyck | 1937 & **1988** | 12,366 | **15,000** | **45%** | 30 | 100 | | | | | Yes | |
| 13 Univ. of Penn | Penn | **1876** | 11,686 | **12,000** | **36%** | 30 | 100 | | | | | Yes | |
| 14 USNA | Fisher | **1930** | 4,172 | **17,800** | **53%** | 36 | 110 | Yes | 10 | | | | |
| 15 Wisconsin | Crewhouse | **2003** | 29,697 | **52,000** | **157%** | | | *Yes* | *16* | *Yes* | | | ***As proposed, not built yet*** |
| 16 Yale | Gilder | **1999** | 5,286 | **22,400** | **67%** | 30 | 150 | | | | | Yes | Tanks on campus. |

**Bolded Numbers are per School Website, Architect or Builder of Record**
Others are from measurements, onsite or photogrametric

median boathouse = 16,500 square feet
average boathouse = 20,250 square feet

Columbia College



6,623 undergraduates
3 Bays
10,000 square feet – 30% of GU

From Columbia Website

Rutgers University



3,717 undergraduates
10,000 square feet – 30% of GU
Low profile facility
*"Because the University is located in the Mid-Atlantic region, Rutgers crews can stay on the water longer in the fall and get back on earlier in the spring than their counterparts up north who are frozen in."*

From Rutgers Website

Dartmouth College





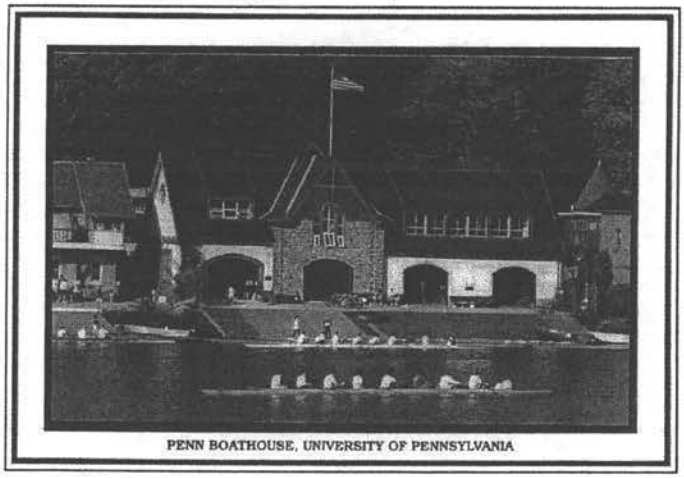
4,047 undergraduates
"most popular sport at school"

3 Bays – 30 shells
small dock, low roofline street side

11,400 square feet – 34% of GU

From Dartmouth Website

University of Pennsylvania



PENN BOATHOUSE, UNIVERSITY OF PENNSYLVANIA

12,000 square feet – 36% of GU
11,686 undergraduates

From Boathouserow.org and Upenn Website

Syracuse University

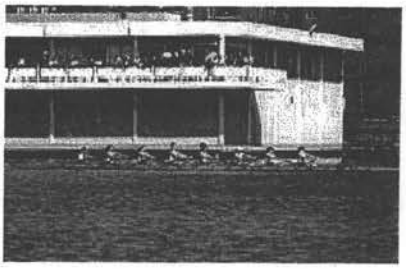


12,386 undergraduates
15,000 square feet - 45% of GU
4 Bays
*"...one of the finest college rowing facilities in the country"*

From Syracuse Website

## MIT Pierce Boathouse

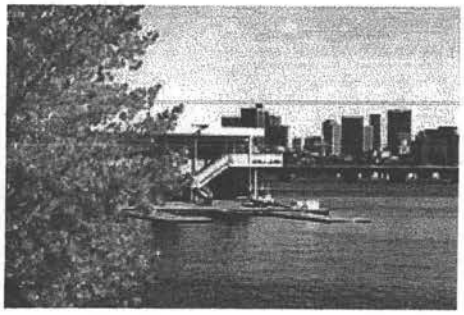




4258 undergraduates

17,100 square feet – 52% of GU

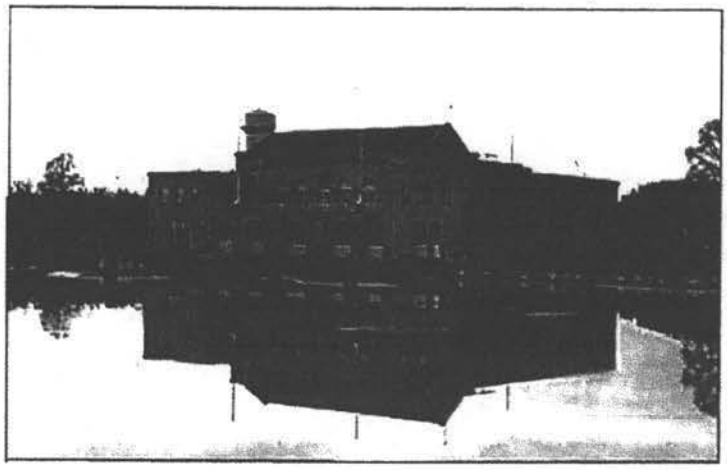
8 seat tank in Boathouse



From MIT Website

Onsite inspection by graduate student from the Mechanical Engineering Department of MIT

United States Naval Academy

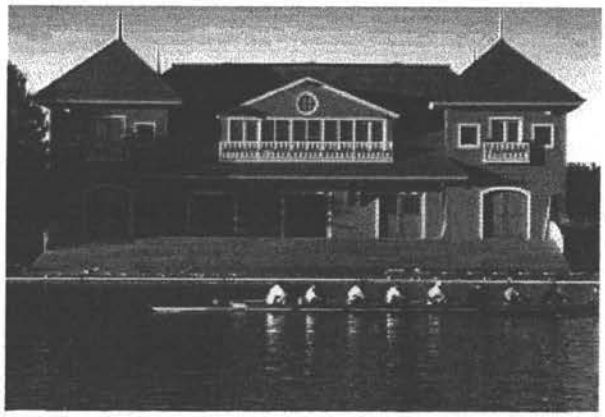


4,172 "undergraduates"
17,600 square feet, 53% of GU

*"Every student is an athlete"*

Discussion with Assistant Rowing Coach and USNA Website

NorthEastern University



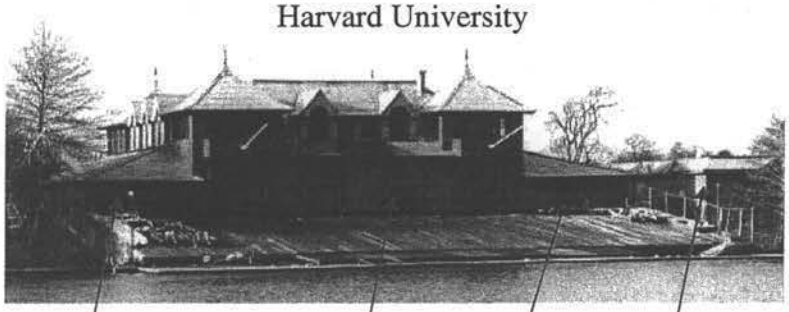
19,600 undergraduates
100' wide, 75' deep, 45' high
18,000 ft^2 (54% of Georgetown)

Known as "Gargantuan" in Boston
*"It is the ideal venue for Northeastern's excellent men's and women's crew programs."*

Onsite inspection by graduate student from the Mechanical Engineering Department of MIT, Northeastern's and Architect's Websites.

The North Eastern University Boathouse is called out in the Exchange agreement as one that the GU boathouse should look like. It is ½ the size.

Harvard University




"Men's" Boathouse
150' wide, 75' deep, 30' high
19,000 ft^2 (57% of Georgetown)

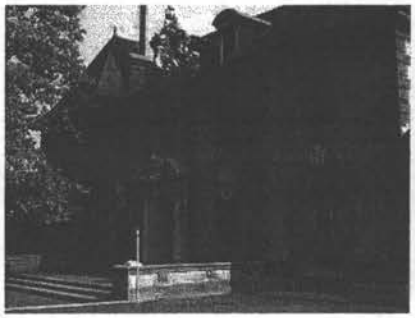
4843 male undergraduates
two 8 person tanks in boathouse

*Also home of the Tufts Men's crews. The Radcliffe Crew row from "Weld" as do the rest of the student body (undergraduate and graduate).*

Corresponded with Olympic Gold Medallist and Harvard University Heavyweight rower regarding Harvard Boathouses

Dimensions by onsite inspection and from conversations with rower.

**Harvard University**





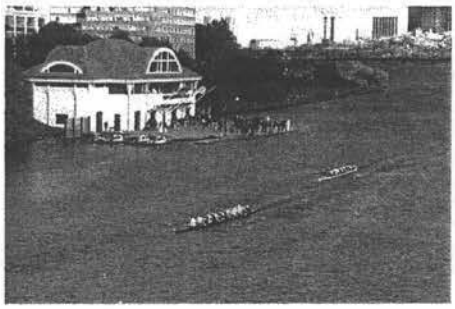
Weld Boathouse
180' wide, 75' deep, 44' high
20,000 ft^2 (60% of Georgetown)

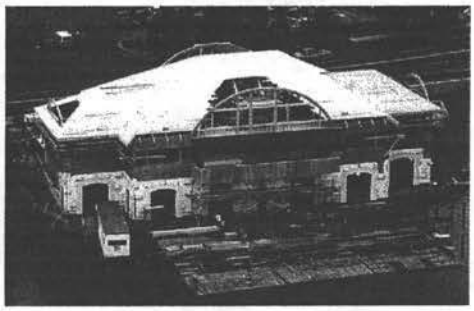
19,337 female undergraduates and graduate students

Boathouse is right on campus, built in 1906

Corresponded with Olympic Gold Medallist and Harvard University Heavyweight rower regarding Harvard Boathouses.

## Boston University





125' wide, 75' deep, 40' high
20,000 ft^2 (per Architect of record)
– 58% of GU
"many compromises to get it on the site"

17,800 undergraduates
16 person rowing tank on campus



The DeWolfe center is an impressive structure, and is substantially smaller.

Spoke with Architects at ARC who designed building. Note how it is sunk into hillside. Built on site of old BU Boathouse, which was the former MIT Boathouse.

Cornell University

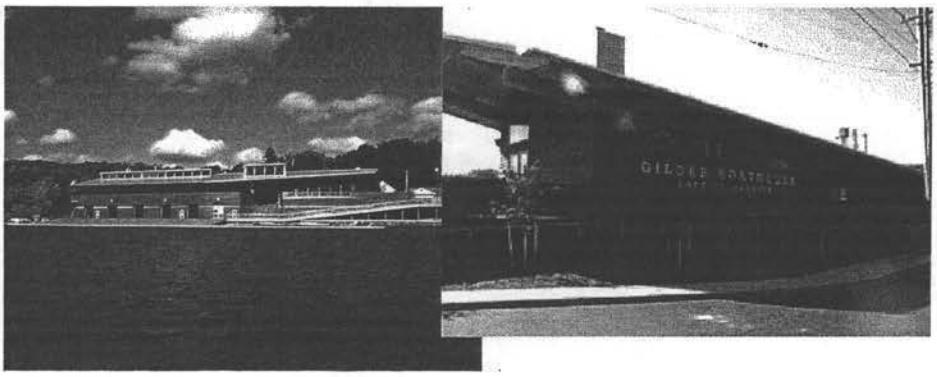


8,381 undergraduates
21,000 square feet – 63% of GU
Two buildings – Two story main building with 3 bays
Two bay boat shed and lockers

*"is a grand facility"*

From Cornell website

## Yale University



150' wide, 75' deep, 30' high
22,400 ft^2 - 67% of Georgetown

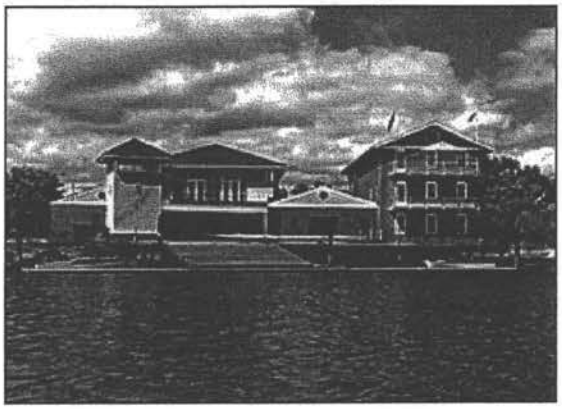
5,300 undergraduates
24 person tank on campus

"state of the art facility", "special education program for the children of Derby"

Henry Reeder is Architect of record. Corresponded with regarding Boston University and Yale Boathouses.

Data from conversations and from Yale Website.

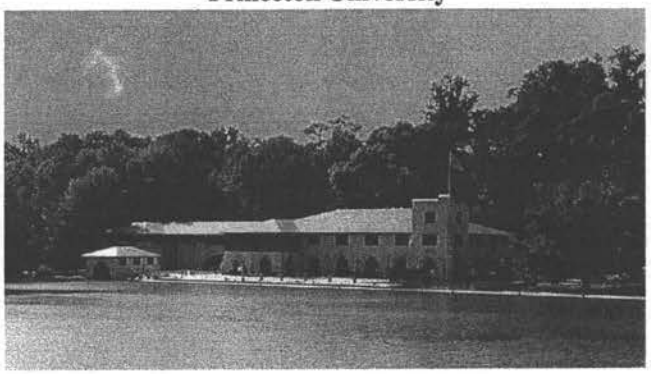
Brown University



25,000 square feet (175' X 75' footprint)
40' tall
75% the square footage of GU.
16 seat tank in building
Lower roofline, shorter
*"Outstanding Facility"*

From architect who renovated the facility and Brown website

**Princeton University**



20,000 ft^2 original building, 13,500 ft^2 addition in 2000
4663 undergraduates
Currently the largest rowing facility on the East Coast
16 person tank – 40'X80', ergs in boathouse
36' roofline, 280' long
7 Boat bays, 19'X 75' each
"Gateway to the University"
"It is enormous" – but smaller than the proposed Georgetown Boathouse

**And is the US National Team Training Center – 50 to 75 National Team members train there every day. Two Boat bays are for National Team members only**

Princeton does have a huge boathouse – but smaller than Georgetown's

In all of GU's discussions, they never mentioned that the US National Rowing Team is a constant user of the facility.

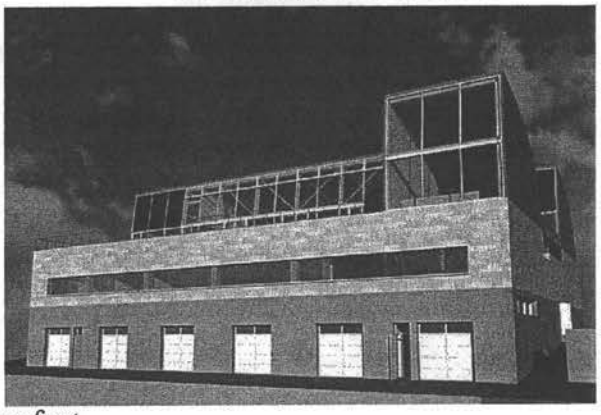
This adds an additional 50 to 75 athletes. Two of the Seven Boat Bays are for the US National Team.

Princeton owns 1400 acres including the north shore of Carnegie lake where the boathouse is built. The Delaware and Raritan Canal Park is on the opposite side of the Carnegie Lake (the south side).

Spoke with facilities department at Princeton regarding structure and acreage.

Data also from Architects and Princeton Websites.

University of Wisconsin



52,000 square feet
29,697 students

157% the square footage of GU
16 seat tank in building

*"Design is 95% complete"*

Per the Univ. of Wisconsin Facilities Website, the design is almost complete.

**Summary**

• WCC very concerned about impact of Boathouse on WCC during construction, during operation and during flood. Potential damage could include total destruction of WCC Boathouse.

•GU's proposed Boathouse was billed as average, it is **65% larger than average**.

• Princeton University Boathouse **is similar in size** – and also houses the US National Team.

•Believe there are many reasons to reject the design from a visual impact and recreational opportunities perspective.

• Tanks and Ergometers are not river dependent uses – GU Gymnasium and Stadium are slated for expansion, they could be placed there.

• Ceiling height of first floor can be reduced by 2' minimum. Univ. of Penn. & MIT use a pit for the Oars as do others.

• No known programmatic reason for 24' high ceiling in second floor exercise room.

• Boat Bays could be 65' long. Many Universities don't use "end of bay storage".

**What To Do?**

•Recommend moving the boathouse downstream of WCC due to the potential damage during flood to WCC, and reduce the visual and recreational opportunities impact to WCC, the C& O Canal and CCT.

• GU should design and build a Boathouse that is truly in keeping with the size of existing boathouses on the Potomac in consideration of the C &O Canal, the waterfront and the Potomac River Gorge.

•When GU does build, we request the opportunity to provide suggestions for Zoning Orders.

Backup Slides



Old Understanding – "GU stands ready to build a 35Kft^2 Boathouse upstream"

New Understanding - The upstream site – 45' wide, 1000' long and underwater…
The 35,500 ft^2 boathouse would be 32' wide, 600' long

We always thought that GU had a piece of land upstream that a boathouse could realistically be built on. The NPS maintains that they'd be powerless to prevent it.

I believe that a boathouse upstream would be like the 3 Sisters Bridge, a rallying point. Even more than the organizations who oppose the site near WCC whose membership numbers 1,500,000 members.

Washington Canoe Club
3700 WATER STREET, NW
WASHINGTON, D.C. 20007

5/16/2003

Mr. John Parsons
Associate Regional Director
Land, Resources and Planning

RE: Your letter of May 7, 2003 – RE: Georgetown University Boathouse

Dear John;

Thank you for the letter of May 7th regarding the Georgetown University Boathouse. In the past, I have noted your tireless efforts, and would like to thank you for them again. Unfortunately, your letter raised many additional concerns regarding the structure proposed.

We've long been aware of the land that Georgetown University (GU) owns upstream. Further, we've finally seen a map showing the land. Frankly, I'm amazed at the land swap as it's proposed. I do not believe that this is in the public interest. I had been assured that GU actually had land that was usable as a site for a boathouse. While not a specific concern to the Washington Canoe Club, I am surprised that the National Park Service would take seriously the claim by Georgetown University that it intends to build on the upstream land. The impediments that NPS could easily place in the way of such a project (if NPS decided to protect the Potomac River Gorge) are such that the project could never be built.

**Construction Effects:**

In your efforts to address the effects of construction on our building you raise some interesting points. I can well imagine that there will be no deep excavation. There will probably be a couple of hundred piles that will probably be driven into the mud with a 50-ton pile-driving hammer. It is this driving of the piles that may cause vibrations in the mud that have the possibility of causing grave structural damage to the historic WCC facility. Is GU aware of any studies that would indicate the amount of vibrational transfer to the WCC Boathouse? You then indicate that an Auger is to be used. I would expect that Caissons are more appropriate than augured pilings. What study of the soil and structural analysis is GU relying on to make vibrational transference calculations from the construction, or are these just assumptions? Why are the piles only 32' deep? I would have expected much deeper, given the size of the facility. In any event, it is clear from your letter that GU is still unsure as to the actual construction technique that will be used to stabilize the concrete slab. I do not believe that the zoning should be approved until these serious construction issues are resolved.

I'm very aware of the work done by Whiting –Turner, having many friends who work, or worked for Whiting-Turner. Moreover, I'm familiar with the Lab School of Washington effort. There are actually two buildings at Lab School of Washington, which are old, but neither is on the historic registry (as is WCC). Additionally, one of the two was damaged during construction. I'm not surprised you weren't aware of this, as most construction companies (the ones still in business) don't like to talk about damage. In other words, I would expect any construction manager to claim that great care will be taken. Unfortunately, WCC is not in a position to take them at their word. Additionally, as a building on the historic registry, the care during construction should be held to the highest possible standards.

The Zoning Commission documentation indicates that approximately 25,000 ft^3 of fill will be required. This is over one hundred dump truck loads of fill. That coupled with the 1000's of yards of concrete and other building materials required means literally thousands trips by heavy machinery in extremely close proximity to the Boathouse. I'm surprised that Whiting-Turner didn't propose a matted roadway, as that provides the least potential of damage to WCC. During construction a gravel road would be a disaster for WCC. Further, if this project proceeds, WCC will insist on the right of approval on the independent inspector and desires to hold discussions with him/her prior to his/her selection.

**On the Water Concerns:**

Our point is that given the close proximity and traditional river routes that paddlers and oarsmen take (for well established reasons) the placement will cause disruptions regardless of the amount of planning and goodwill. Georgetown's eights and other shells will launch in an upstream direction and will return to dock from the downstream, necessarily cutting across our docks where we launch. This will be untenable. If a sailing program is added there, as indicated in the zoning documentation there is no telling how much disruption will occur.

It is interesting that you were told that is it about 100 meters from our dock to the nearest edge of the "rowing" lane. That, of course, is inaccurate. Mr. Johnson did meet to show me a drawing, unfortunately it was hand drawn and with number of unknowns regarding size and scale. To my knowledge, Mr. Johnson has not accurately surveyed the Potomac and determined exactly where the "rowing" lane is. I can, however, believe that GU would say, and promise anything at this point. Unfortunately, if it's not in the written exchange agreement, I don't believe it will stand the test of time.

**Environmental Concerns:**

WCC has a large number of environmental concerns. I strongly request that a supplement be done to the Environmental Assessment due to the significant change in the project since the 1995 Environmental Assessment. While the assessment states that a boathouse will be built on the site, there is no indication of the size and scale of the structure. For the record, the proposed GU Boathouse is seven times the size of WCC (volumetrically). I don't believe that a reasonable person would have expected a structure of such a size, and thus a supplemental is warranted.

Moreover, at the December 2002 meeting with GU and NPS WCC requested the following:

- a hydrological study regarding the flow of the river at flood and the impact of the new structure on the ability of WCC to withstand a flood - which heretofore has withstood floods because of the Parkland upstream from the club,

- an assessment of the possibly damaging increase in sedimentation of the river given the 240' length and 25' width of the proposed docks.

At that meeting you agreed that GU should perform the hydrological study, and GU agreed. I'm still very interested in this study. I have not seen the FEMA study, and certainly FEMA did not contact WCC. I find it hard to believe that FEMA could perform such a study without a site survey of the potentially impacted structure. Was the FEMA study performed after the December meeting?

**Size and Visual Impact:**

Regardless of the trimmings, this building is out of proportion to the other boathouses near Key Bridge. The GU "Fact Sheet" states:

> "For Georgetown alumni, or anyone that appreciates the University skyline, how wonderful it will be to have a University Boathouse aligned with the towers of the Healy Building. It will be a memorable, identifiable landmark. A lasting image."

Obviously, GU is very concerned about augmenting the University skyline. I believe that is the best explanation for the size of the structure. And as you know, the drawings submitted to the commissions and boards offered a perspective that made the new and old buildings appear roughly equal in size. Further, you state that every attempt has been made to control the scale. This did set me back with the question: just how big did GU originally want it? A review of the Zoning Commission documents shows that the proposed Boathouse is as large as can possibly be built in the W-0 zone. You indicate the 100-year flood plain set the height of the building. Yet the building height ranges from slightly over 40' to over 55'. I'd like to quote precise numbers, but unfortunately GU refused our request (that you agreed to) for a complete set of drawings, as was agreed to at the December meeting. While this has made it difficult, I believe I'm close when I quote sizes and dimensions. Finally what is the 100-year flood level at the proposed site? What government requirements demand that the building be twice as long as WCC and three times as long as PBC? With only 6,000 undergraduates just how many crews is GU going to field in collegiate rowing? As far as meeting programmatic " requirements," that is a simply ludicrous statement. PBC has fielded Olympic teams with much, much less. As have a number of great Universities.

Finally, I'm well aware of the National Park Service's ability to encumber development, when it finds such encumbrances are in the public interest. If NPS had wanted to restrict the visual impact of the structure on the C&O National Historic Park, and WCC it could have easily done so.

**Post Construction:**

Obviously we are still very concerned about the use of the facility post construction. The NPS has the ability to encumber the building with restrictions. Those encumbrances about future usage are the only way to ensure that GU's current statements about the facility and its future use will be followed. A discussion with Mr. Johnson made it clear that GU was uninterested in such a codicil to the exchange agreement.

VR & thank you very much,
/s/
Lawrence C. Schuette
President, WCC
PO BOX 25449
Washington, DC 20375

United States Department of the Interior

NATIONAL PARK SERVICE
National Capital Region
1100 Ohio Drive, S.W.
Washington, D.C. 20242

IN REPLY REFER TO:

L14 (NCR-LRP)

MAY 7 2003

Mr. Lawrence C. Schuette
President, Washington Canoe Club
P.O. Box 25449
Washington, D.C. 20375

Re: Georgetown University Boathouse

Dear Mr. Schuette: Larry

I apologize for the long delay in responding to your letter dated January 1, 2003. The National Park Service (NPS) would like to express our appreciation to you and your membership for meeting with us and Georgetown University to review the plans for their proposed boathouse on December 11, 2002.

We realized before the meeting that your membership might have questions about the project and it was our hope that we would have been able to answer as many of those questions as possible through such a meeting. From your letter, you have also either asked for further clarification or raised a number of issues which we will respond to under the same headings within which you raised them.

As you know Georgetown University owns land up river west of the Washington Canoe Club (WCC) which is the subject property for the exchange with the Park Service for the site adjacent to you. We deem the up river site more desirable for addition to our parkland holdings and not for development as a boathouse site. The University also holds a number of easements appurtenant to that site which we believe would be much more disruptive to the waterfront and to the Capital Crescent Trail than the site adjacent to the WCC.

**"Concerns regarding the effect of new construction to our Historic Building"**

You have raised a number of concerns related to site excavation, building foundations, construction vehicles, service roads, etc. and their potential affect on the WCC.

Unlike the Ritz Carlton project, which you may be familiar with, that has recently been completed along K/Water Street, the Georgetown Boathouse will not require deep excavation since the majority of the foundation system is slab on grade. The only portion of the project that

will require shallow excavation is the rowing tank. The University does not anticipate blasting of any rock for the construction of this project.

Not only is the University's contractor and design team cognizant of the close proximity of the WCC, but also of the 84" sanitary sewer line which runs directly through the GU construction site. The construction team is reviewing methods and procedures for either piles or caissons, which are typical of deep foundations for ocean and river side sites, to select the system that will cause the least disruption to the existing structures in the area. Currently, the design recommendation is for drilling pipe piles down approximately 32 feet to disintegrated rock.

The University's team will construct a temporary roadway specifically designed to carry the weight of construction vehicles. This will likely be a gravel roadway, allowing vehicles to enter the area at slow speeds with the assistance of flag-men. In addition to protecting the structure of the WCC, the safety of the users of the Capital Crescent Trail must be taken into consideration at all times. Excess vibration will be minimized and pedestrian safety will be maximized by a well maintained traffic lane with vehicles moving at very slow speeds.

Whiting-Turner, the University's construction manager, has done many projects in close proximity to historic structures both on Georgetown University's Campus and in the Georgetown community with great success. Muse Architects and the Whiting-Turner construction team that is involved with the Georgetown Boathouse project completed a project with similar conditions at the Lab School of Washington several years ago. Construction surrounded the historic Castle Building, and similar augering of piers and much more extensive excavation work were components of that project. Additionally, the school continued to operate year round as construction occurred throughout the campus. Great care was taken to protect the surroundings and the people, and the project was successfully completed.

On previous historic (and non-historic) projects where construction has occurred within close proximity to a sensitive structure, Whiting-Turner has hired an independent inspector to do a thorough pre-construction survey to document the existing conditions and regularly monitor and re-inspect the structure throughout the course of construction to ensure that no damage is done to the facility. Whiting-Turner is prepared to do the same with the WCC for the Boathouse project if you concur.

**"Concerns to on-the-water changes to the WCC Facility"**

With regard to the on the water impact of the Georgetown boathouse I would ask that you work with Tony Johnson, head coach at Georgetown, and the Potomac River Safety Committee to see if and how these issues can be resolved. Those of us that are not experts in these issues, nor on the water as those of you that are involved in the canoeing and rowing are, need to rely on those of you who are experts in this area.

I have been told, however, that it is approximately 100 meters from the WCC docks to the nearest edge of the rowing lane between Key Bridge and the Three Sisters, which is a greater distance than between the Three Sisters and the District of Columbia shore. That seems like a sufficient area for training for the canoes, as well as a racecourse.

It has been suggested to me that a buoy line be placed in the river in an area where there is potential congestion to mark the edge of the lanes used normally by rowing shells, or the edge of the area used primarily for canoeing. I urge you to discuss this with Tony.

**"Regarding environmental concerns to the WCC building and the Potomac River"**

To date, the project has undergone extensive review by the District of Columbia Environmental Regulatory Agency. The requirements by that office include soil erosion control measures during construction and a storm water management structure, including a sand filter to slow and control impervious area runoff. The project has also been reviewed by the U.S. Army Corps of Engineers which has determined that there are no jurisdictional wetlands on the site or habitats that will be disturbed by the introduction of the building to this site. "The wetlands that are on the National Park Service tract are not of the kind that are considered to be beneficial to the preservation or improvement of the water quality of the Potomac River or the Chesapeake Bay." This assessment was written in a letter to NPS dated October 16, 1995, from George Harrison of the Potomac River Basin Permit Section of the Army Corps.

The Army Corps has also reviewed and provided design guidelines with the stone rip rap shore stabilization that is proposed for the entire shore line along the property, as well as the dock design. The project will fully comply with these guidelines.

In addition, a Finding of No Significant Impact was determined for the environmental assessment of the proposed development that was executed as part of the exchange agreement between Georgetown University and the Park Service.

**"Regarding the size and visual impact of the GU Boathouse"**

The designers conceived of the buildings massing in three parts, in deference to the scale of structures adjacent to the site. Gabled roofs, materials of cedar shingle and stone, and porches and decks link this new boathouse to the boathouse traditions of the past as well as boathouses that currently exist along the Georgetown waterfront. In addition, covered porches, arcades, and traditional detailing provide a residential scale to the building that is also in keeping with the residential scale of other buildings along this portion of the Georgetown waterfront. The project has received extremely favorable reviews by the Historic Preservation Review Board, Old Georgetown Board, Commission of Fine Arts, Georgetown Waterfront Commission, the Georgetown ANC and the C&O Canal National Historical Park Advisory Commission.

Every attempt has been made to control the scale of this building given the Federal Emergency Management Agency (FEMA) requirements for the second floor to be above the 100 year flood elevation, as well as the programmatic requirements of boathouses of this type. The roof ridge of the western wing of the Georgetown Boathouse is only approximately 5 feet taller than the roof elements of the WCC.

**"Concerns regarding the loss of land to the WCC"**

As you know, the WCC leases its land from the NPS and will continue to do so for the foreseeable future. We have no desire to take away or diminish in any way WCC's use of the current site. That is why as part of our discussions we have offered to extend your land assignment on the east of your boathouse in an effort to shift uses to the west. The University, as part of its plan, has agreed to landscape and maintain the property between the two boathouses in such a way that it would not preclude WCC from enjoying the use of that property. In addition, the University will not be utilizing any portion of the land that they will own for parking purposes. The NPS wishes to remove all parking from waterfront sites and considers it to be inappropriate for land uses that should be contributing to the natural vista of the Potomac River. In fact we are planning for the eventuality of no parking on sites west of the Aqueduct Bridge. Like the facility at Thompson's Boat Center a short-term public parking area is proposed in the right-of-way of Water Street from 34th Street to the aqueduct to accommodate your needs as well as other recreational users. Of course, access for emergency vehicles, deliveries and those that are disabled would be allowed to the WCC.

**"Flood Effects to the WCC Building"**

As stated above, the Georgetown Boathouse has been reviewed by FEMA and the University has not received any comments that indicate any concerns with respect to neighboring structures, flood currents, or hydrodynamic issues.

**"Post Construction Concerns"**

The permanent service road that is being proposed is currently designed to be macadam. It would be detailed and constructed as any other road system would be, and as such, should not have any adverse affect on the WCC.

The use of the boathouse shall be as a training facility for Georgetown University's men's and women's crew program. As part of Georgetown University's crew team mission, the facility may also be used as a base for rowing clinics, both in the rowing season and during the summer. The University has assured us that they have no plans or desire to use this facility otherwise. They have a conference center (Leavey Center) which is the social center of the University. The Athletic Department currently manages McDonough Gymnasium and Yates Fieldhouse and has been effective in maintaining those facilities as athletic venues and would do the same with the boathouse.

The dimension that the boat ramp and dock will extend into the river depicted on the drawings is approximately 70 feet rather than the 100 feet that your letter references. The University has little ability to control this dimension. It is a function of the size of the crew shells, the height of the deck grade above the water, and maximum desired slope of the access ramp to ensure that rowers would be able to manage their launches and retrieval of their shells.

In summary, we believe that this proposed boathouse will not cause or contribute to many of the issues originally outlined in your correspondence to me. We feel that the Georgetown University Boathouse will be an added value to the Potomac waterfront and will be an appropriate neighbor to the WCC for many years to come. We hope that we have addressed your concerns and look forward to your support as we move forward with this important project. I would be pleased to schedule a meeting with you and/or club members to further discuss the proposal.

Sincerely,

John G. Parsons
Associate Regional Director
Lands, Resources and Planning

cc:
Alan Brangman
Georgetown University

Washington Canoe Club
3700 WATER STREET, NW
WASHINGTON, D.C. 20007

1/13/03

John Parson
Associate Regional Director of Land Use
National Capital Parks -- Central
900 Ohio Dr. SW
Washington, D.C. 20024-2000

Dear Mr. Parsons,

The Board and members of the Washington Canoe Club would like to express their thanks to you and Sally as well as the members of the Georgetown University team for your time and energy in coming to the WCC for the first public meeting of what will likely be a protracted process in presenting details for the planned GU boathouse. As you could clearly see, the membership of the WCC expressed multiple concerns about the new facility. As is the case in a "Town Hall" type of meeting, the concerns raised were many, varied and rightfully awarded equal weight. This letter seeks to solidify and clarify for you the major concerns that the WCC has with the proposed new facility.

**Concerns regarding the effect of new construction to our Historic Building**

The WCC is very concerned about the effect of this massive construction project occurring in such close proximity to our Historic Building. It is our position that little or no consideration has been given to what effect the new construction would have on our nearly hundred-year-old wooden building. The process of digging footers and drilling or blasting bedrock to make the footprint will have a significant effect upon the ground in the surrounding area. Our club may not be sturdy enough to withstand the year and a half to two-year construction program that has been presented. Additionally, we are **extremely** concerned about the effect of the massive and continuous construction vehicles driving past the entire back wall of our building. Of particular concern is the fact that the plans as presented, have the roadway **closer** to our building than the Capital Crescent Trail currently is. The WCC is unaware of any studies being performed by third party participants that have ensured that no ill effects will occur to the physical building of the WCC as a result of this construction project. As the WCC is currently identified as a Historic Structure in Washington DC, it does not seem unreasonable to require that Georgetown and the Parks Department guarantee to the WCC that our Historic Building will not be adversely affected by this construction project. Please note that we are not requesting that a plan of compensation be created to reward the WCC for damages if the new construction adversely effects the Historic Building, but rather to guarantee to the WCC that no damage will occur. This level of commitment seems to be appropriate to protect a Historic DC landmark.

**Concerns to on-the-water changes to the WCC Facility**

The second major concern of the WCC is the effect the GU boathouse will have to the WCC padding, racing, and training programs. Our traditional racing lanes currently begin just upstream from and on the D.C. side of the Three Sisters Islands and end at the WCC as a continuous straight course on the DC side of the river. The WCC is very concerned that the 85' deep ramp and dock assembly that is in the current building plans will thwart the WCC's ability to run our regattas on the DC side of the river. The ramp/dock structure of GU's boathouse will extend so far into the river that our traditional racing lanes will need to be shifted out into the river towards Virginia. This shift will have a ripple effect to all boats that use the river, not only on regatta weekends but also during regular training sessions. The area directly on front of the planned GU boathouse is a favorite overnight mooring area for summertime motorboats and yachts. If the boathouse is built where it is planned then these overnight-mooring slips will also be impacted. Additionally, if left as planned the GU crew shells will pass directly in front of the WCC as they prepare to return to the docks at the end of practice. The shells will not only cross the end of our racecourse but also will also affect WCC's ability to entrance and exit to the river. As currently planned the boathouse is **immediately** to the West of the WCC. The effect this has to the WCC is that our boats will have to leave our docks and immediately move toward the center of the river to avoid the GU boathouse and its massive docks. There is already heavy boat traffic on the river and the current agreed upon rowing/canoeing traffic pattern would need to be re-evaluated and likely altered.

**Regarding environmental concerns to the WCC building and the Potomac River**

The WCC is very concerned of the new construction's effect on the flood plane of the river and the WCC, particularly in the event of a flood. The fact that an indoor rowing tank is planned to be built within this facility is of greatest concern. The detrimental effect of chlorinated water being continually leached into the flood plane through a sand trap would appear to go against environmental laws. Additionally, in the event of a flood the chlorinated water will spill into the Potomac along with all of the chemicals that are typically stored in such a facility, in order to maintain it. Our final environmental concern lies in the fact that the GU boathouse will be built on a flood way in an area of the National Park Land that has had no new construction for the entire length of the river west of Key Bridge for quite a long time. This land was intended to be kept natural and free and members of the WCC have often times seen Bald Eagles, Osprey, hawks of several varieties and a host of land mammals on the habitat that the GU building will occupy.

**Regarding the size and visual impact of the GU Boathouse**

The Board of the WCC was very grateful to GU and the Muse Corp. for the new pictorial that digitally placed the two buildings next to each other and presented a 90-degree angle of the structures rather that the perspective view which had been the only previous drawing. The WCC requested this new 90-degree illustration due to concerns that although the GU structure appeared suitably sized from the perspective view, from the scale drawings the GU building was nearly a third taller and twice as wide as the WCC! The new view of the buildings, which we were able to see for the first time at the December 11 meeting, clearly validated our concerns.

The proposed structure is immense! It is so tall as to block the view of the river for a hiker who is on the Canal Towpath! Additionally, it is so close to the WCC that it appears to dwarf the WCC. Since the WCC has been on the same site for nearly one hundred years and currently has historic status it would seem to be appropriate that any new construction that takes place would be visually compatible with our structure. However the proposed GU building is not in keeping with the size of **any** of the current boating facilities on the Potomac. It is our great concern that the DC Fine Arts Commission approved the current plans for the proposed GU boathouse without the benefit of this 90-degree angle view, which more honestly reflects the impact that the size of the new building will have to the DC waterfront. As one of our members commented, when the GU boathouse was compared to WCC "It looks like a whale about to swallow a minnow"

**Concerns regarding the loss of land to the WCC**

The current plans for the GU boathouse indicate that a portion of the land that the WCC leases from the NPS will be used to support an attractive front entrance to GU's new facility. This loss of land both concerns and puzzles the WCC. To our knowledge we were not requested by either the NPS or the GU to relinquish this parcel of land nor were we notified of the proposed loss until GU made a presentation at our club and their new building was on our leased land! Since then the building is no longer on our leased land but the loss of the land continues to be a part of the proposal. The WCC has been a good tenant to the NPS and it is against our wishes to have our leased land be confiscated for the proposed new structure. Additionally, the land immediately West of our property has historically been used by the canoe club for overflow parking during events that bring a large crowd. This arrangement has been going on for decades and during the last two to three years the WCC has been issued special use permits for this land by the DC government when additional parking has been required.

**Flood Effects to the WCC Building**

Due to the enormous size of the proposed facility and the number of trees that will be removed to host this building the WCC is very concerned of the effect the building will have to our historic structure in the event of a flood. As we all are aware, the Potomac overflows its banks on a fairly regular basis in this area of the river. Previously, the trees west of the Canoe Club have acted as a filter to stem the flow of water and debris before reaching the WCC. With this new facility removing approximately an acre of trees, we are unsure of the negative impact that will result in the river's speed, direction, and debris filtering. At December 11$^{th}$'s presentation, the Muse Corporation's engineers indicated that the design of the first floor of the proposed structure would be " a flow through" design. This design was described as opening the doors and windows of the building allowing the river to freely flow through, uninterrupted in the event of a flood. This design, while good for GU, could have devastating consequences to our turn of the century structure. We consider it imperative that a hydrology study be under taken to study the effect of the proposed facility on the WCC in the event of a significant flood.

**Post Construction Concerns**

In the event that the proposed were to actually be built as designed, the WCC has significant concerns regarding the use of the facility. As was aforementioned a large concern is the fact that the vehicular access to the GU Boathouse will be on a newly constructed path that would lie closer to our building than the Capital Crescent Trail. Of particular concern with this plan is the fact that the vehicular access path will not be paved. Over time, use of the road will push against our building's foundation, possibly damaging it. Another concern is that although the facility is not a single use building. The building is being touted on the GUHoyas website as a party facility, complete with Bar. Is a liquor license being contemplated? How many social functions will be allowed at the facility per year? Additionally, GU Alumni who live in the DC area or are visiting will be using the facility as well. Both of these would indicate that the building would have year round usage rather than a traditional school year schedule as was suggested at our meeting. Lastly, although mentioned previously, it needs to be expressed again that we cannot state strongly enough the deleterious impact the GU boathouse would have to our on the water training and racing. The idea that the dock structure and ramps will extend almost 100' into the river will severely effect the use of the river.

The Board and membership of the WCC would like to express our thanks to the NCAPS as well as the GU team for coming to the WCC and presenting the plans. The WCC agrees with the notion the Potomac River is an exceptional natural resource that should be utilize by as many and varies human powered craft as possible. We only wish that that goal is accomplished in a reasonable and fair manner. We would like to request a second meeting with you, Mr. Parsons to discuss the concerns of the WCC as outlined in this letter. We are at your convenience and I can be reached at (202) 767-6814.

Thank you,

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President, WCC
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Washington, DC 20375

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# FACILITY & SITE ANALYSIS FOR A BOATHOUSE ON THE POTOMAC RIVER IN ARLINGTON COUNTY AND VICINITY







PREPARED FOR
THE NATIONAL PARK SERVICE

PREPARED BY
EDAW / RKK

AUGUST 2002



# FACILITY & SITE ANALYSIS FOR A BOATHOUSE ON THE POTOMAC RIVER AT ARLINGTON COUNTY AND VICINITY

Prepared for:

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**August 2002**



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# Executive Summary

This study was initiated specifically at the request of Congress for assessing the potential siting of a boathouse (rowing facility) within Arlington County along the Potomac River. Based on that direction, the National Park Service (NPS) is considering allowing the construction and operation of a rowing facility on the Potomac River that would include rowing equipment (boats) storage and training facilities for the three Arlington County high school rowing programs. In addition, the facility may provide storage facilities and river access for others. The facility would be located along the Virginia side of the river on lands administered by the George Washington Memorial Parkway (GWMP) or nearby.

This study is intended to determine the potential of locating such a boathouse/rowing facility at three areas along the Potomac River. These areas are:

- The Rosslyn waterfront
- Downstream of the 14th Street Bridge, &
- Along the shoreline of Daingerfield Island.

**Project Scope**

This study includes the identification of a minimum and a maximum practical program for the potential boathouse. These two sizes/programs are used to analyze the study areas.

The report also includes a facility and site analysis of four alternative sites at the identified locations. The sites are the Rosslyn Waterfront Lower Site, Rosslyn Waterfront Upper Site, south of CSX/14th Street Bridges and Daingerfield Island. The key factors for assessing the potential of siting an Arlington County Boathouse at these sites are physical conditions, visual/cultural resources, environmental impacts, economics and operational issues.

The final piece of this study is a synopsis of public comments received in a public scoping session in the Winter of 1999/2000. The public scoping session was conducted by NPS, where comments were sought on four potential locations for the boathouse.

Subsequent to this study, NPS will determine how/if to proceed further. If one or more sites appear to be able to accommodate the boathouse, NPS may proceed with a NEPA study and a National Historic Preservation Act Section 106 on the site(s).

**Program/Project Requirements**

A number of steps were undertaken to develop a program for the boathouse. These include a review of a study prepared by Arlington County's Water-Based Recreational Facility Task Force in 1995, feedback from crew coaches at the three Arlington County public high schools, and a study of three area boathouses and one area boat club. Based on these, this report suggests that a potential boathouse on any of these sites should include, at a minimum, existing boat storage needs and immediate expansion plans of the crew teams at the three Arlington County public high schools. In addition, the boathouse should include exercise areas, lockers, showers and storage space for the three schools, boat-repair area, minimal office space, access for trailers, school buses and emergency vehicles, gas storage area and outdoor rigging areas. The maximum facility should include all of these amenities along with additional boat storage area for other high school crew teams in the area, individual rowers and/or community rowing programs.

For all of the boathouse alternatives, the access road could be paved or of a material that provides access to the trailer/ bus/ emergency vehicular traffic. A footprint of ± 10,000 SF would accommodate the minimum program. This size would allow a potential configuration of four storage bays and a repair bay. Of the four potential bays, the three high schools would require 2 and 2/3rd bays. The remaining bays would provide for any expansion needs that the schools may have beyond the immediate future, or could be used for some community rowing programs. A footprint of ± 14,000 SF would accommodate the maximum program and would allow a potential configuration of six bays for storage of large boats, and a repair bay. In both cases, other than some equipment storage space and space for storing gas, other amenities could be located on a partial second floor.





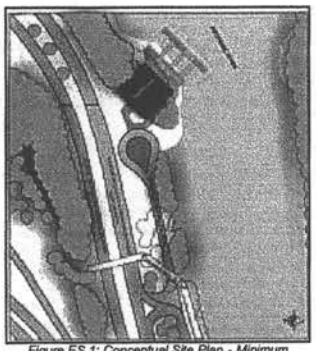


*Figure ES.1: Conceptual Site Plan - Minimum Program, Rosslyn Waterfront Lower Site*

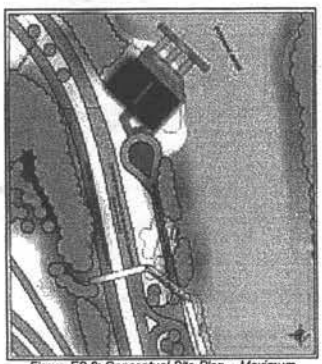


*Figure ES.2: Conceptual Site Plan – Maximum Program, Rosslyn Waterfront Lower Site*

**Facility and Site Analysis**

Four alternatives were analyzed for the potential of locating a boathouse. The analysis included an assessment of potential environmental constraints, conditions of water for rowing, transportation access, required infrastructure improvements and potential visual impacts. Two conceptual site plans were prepared for each site. One plan examines the potential of locating a boathouse with the minimum boathouse program and the second plan examines a boathouse with the maximum program. Each site is described as follows:

Rosslyn Waterfront Lower Site

A proposed minimum and maximum boathouse, that would have a footprint that ranges from 10,000 SF to 14,000 SF, could be accommodated at the lower Rosslyn site (see Figures ES.1 and ES.2). There are a number of improvements that would be necessary for these plans to work. These include the following:

- A new road and drop-off location that would provide boathouse access for trailers, school buses and emergency vehicles.
- To configure a turning radius for exiting trailers, buses and emergency vehicles, the existing pedestrian bridge would have to be reconstructed on the eastern portion of GWMP. The proposed configuration, illustrated in the conceptual site plan, ensures that there is no conflict between movement on the Mount Vernon Trail and the new access drive.

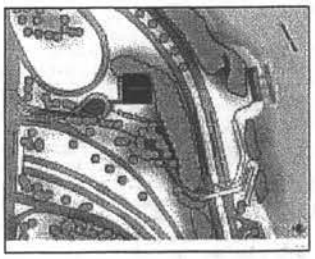


*Figure ES.3: Conceptual Site Plan - Minimum Program, Rosslyn Waterfront Upper Site*

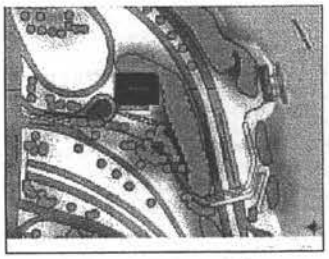


*Figure ES.4: Conceptual Site Plan – Maximum Program, Rosslyn Waterfront Upper Site*

Rosslyn Waterfront Upper Site

A proposed minimum and maximum boathouse, that would have a footprint that ranges from 10,000 SF to 14,000 SF, could be accommodated at the upper Rosslyn site (see Figures ES.3 and ES.4). As the plans illustrate, the boathouse and rigging area could be constructed at the upper level with a staging area and the docks at the lower site. These schemes would require rowers to take their boats to the river and back each time they go rowing. There are a number of measures and improvements that would be necessary for these plans to work, including the following:

- The site is privately owned. To construct a boathouse the site would have to be acquired.
- The Mount Vernon Trail currently provides pedestrian access across GWMP at this location. This trail is heavily used by bicyclists, joggers and pedestrians. Rowers could use this trail, and its pedestrian bridge, to carry their boats from the boathouse to the river. However, the daily use of the trail by rowers carrying their boats, and cyclists and/or joggers using the trail, could result in conflicting situations including potential accidents. To avoid such conflicts, a second path designed specifically for the use of rowers, along with a second bridge across GWMP, could be required.
- An access road would be required off North Lynn Street for school buses, trailers and emergency vehicles.

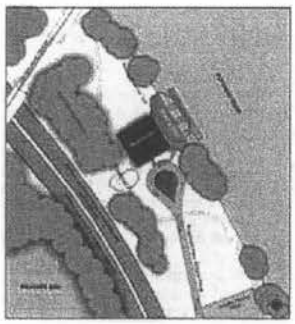


*Figure ES.5: Conceptual Site Plan – Minimum Program, 14th Street Bridge Site*

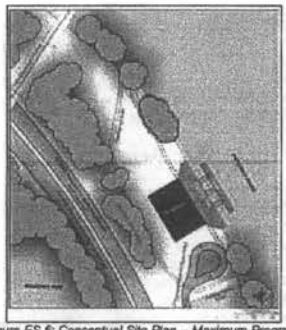


*Figure ES.6: Conceptual Site Plan – Maximum Program, 14th Street Bridge Site*

CSX/14th Street Bridges Site

A proposed minimum and maximum boathouse, that would have a footprint that ranges from 10,000 SF to 14,000 SF, could be accommodated at the 14th Street Bridge site (See Figures ES.5 and ES.6). As the plans illustrate, the boathouse could be constructed near the CSX Bridge, at the northern end of the Gravelly Point area. The two plans are slightly different as in they locate the smaller boathouse slightly to the north compared to the larger boathouse. There are a number of measures and improvements that would be necessary for these plans to work, including the following:

- A new road and drop-off location would be required to provide boathouse access for trailers, school buses and emergency vehicles. This road could be located between GWMP and the existing playing fields to the east.
- Portions of the existing Mount Vernon Trail would need to be relocated away from the river to create space for the boathouse.





Daingerfield Island Site

A proposed minimum and maximum boathouse, that would have a footprint that ranges from 10,000 SF to 14,000 SF, could be accommodated at the Daingerfield Island site (see Figures ES.7 and ES.8). As the plans illustrate, there is sufficient space on the eastern-shore of the Island to develop a boathouse. The suggested conceptual layout locates the proposed docks and boathouse approximately 400 feet south of the existing docks that are used by the Washington Sailing Marina. The plan conforms with the Development Concept Plan (dated 1983) for the Island which identifies this area as a Development Zone for the Island. A number of measures and improvements would be necessary for this plan to work, including the following:

- A new road would be required off the existing road network to provide access to the proposed boathouse.
- Apart from the construction of the road and bus/trailer drop-off, a change of contract would be required with the concessionaire who is responsible for the management of the marina. As part of this management agreement, the concessionaire maintains the internal roads and provides 24-hour security to the area.

**Synopsis of Public Comments Received**

The input received during the public scoping session, summarized in Chapter 4, helped identify the various issues with locating a boathouse along the Potomac River.

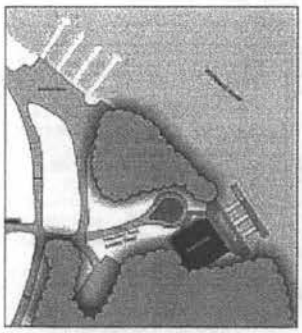


*Figure ES.7: Conceptual Site Plan – Minimum Program, Daingerfield Island Site*

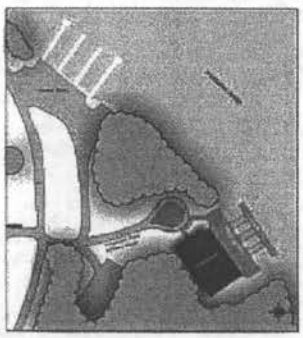


*Figure ES.8: Conceptual Site Plan – Maximum Program, Daingerfield Island Site*

Comments received fall under two major categories. The first category includes issues relevant to the potential program, need and management of a boathouse facility. The second category are those that are specific to each location.

There is significant difference in opinion regarding the preferred location and program of such a facility. Comments related to the potential program include encouraging boathouse and river access to the general public and not just restricted to the use of the Arlington high schools. Comments related to the project also include suggestions of alternate locations such as Potomac Yard and at the existing Columbia Island Marina.

Site specific comments regarding the sites under consideration relate to rowing conditions, proximity to the public high schools, transportation access, environmental issues, aesthetic concerns and cultural/historical factors. Most commentators agreed that water conditions in vicinity of the Rosslyn waterfront (also identified as the Theodore Roosevelt Island site) were the safest for rowing. Some suggested that weather conditions and conflicting uses downstream made rowing more difficult at the other sites. Other comments indicated that the Daingerfield site was not within Arlington and would take the longest to get to from the three public high schools.

**Comparison Between Sites**

Table ES.1 compares the site plans, improvements required to render them viable and their potential impacts on various resources:

**Table ES.1: Alternative Site Comparison**

| | ROSSLYN WATERFRONT (LOWER SITE) | | ROSSLYN WATERFRONT (UPPER SITE) | | 14TH STREET RAILROAD BRIDGE AREA | | DAINGERFIELD ISLAND SITE | |
|---|---|---|---|---|---|---|---|---|
| | MINIMUM PROGRAM | MAXIMUM PROGRAM | MINIMUM PROGRAM | MAXIMUM PROGRAM | MINIMUM PROGRAM | MAXIMUM* PROGRAM | MINIMUM PROGRAM | MAXIMUM PROGRAM |
| **Rowing Conditions** | | | | | | | | |
| Depth of Water | Shallow close to the shore / may require minimal dredging | | | | Sufficient Depth | | Sufficient depth | |
| Potential Conflicts | Established 'no-wake' zone reduces potential for conflicts | | | | No established 'no-wake' zone | | Proximity to sail boats / no established 'no-wake' zone | |
| Potential Practice Days Lost due to Weather | Less than one day per week during Spring months | | | | Two to three days per week during Spring months | | Two to three days per week during Spring months | |
| **Potential Significant Environmental Impacts** | | | | | | | | |
| Approx. Area of Disturbance | 1.02 acres | 1.23 acres | 1.38 acres | 1.46 acres | 2.08 acres | 2.07 acres | 0.83 acres | 0.98 acres |
| Approx. Area of Vegetation Impacted (treed area) | 20, 200 SF | 28,700 SF | 39,000 SF | 41,300 SF | 11,500 SF | 9,600 SF | 35,400 SF | 42,100 SF |
| Topography (Approx. Amount of Required Cut) | 20,000 cu.ft. | 28,000 cu.ft. | 35,000 cu.ft. | 63,000 cu.ft. | - | - | - | - |
| Approx. Areas of Wetlands Disturbed | 5,400 SF | 8,300 SF | 7,800 SF | 7,800 SF | 7,600 SF | 7,700 SF | 5,500 SF | 5,900 SF |
| **Transportation** | | | | | | | | |
| Average Travel Times from the Three Schools (Depart Schools at 3:15 PM) | 15 minutes | | 14 minutes | | 17 minutes | | 17 minutes | |
| Average Travel Times to the Three Schools (Depart Sites at 6:00 PM) | 15 minutes | | 16 minutes | | 15 minutes | | 18 minutes | |
| Transit Access | Rosslyn Metro about 0.33 miles from the site | | Rosslyn Metro about 0.25 miles from the site | | Metro not easily accessible | | Metro not easily accessible | |
| **Infrastructure Improvements** | | | | | | | | |
| Water Service | Approx. 100 feet of new service | | Approx. 100 feet of new service | | Approx. 2,400 feet of service** | | Approx. 900 feet of new service | |
| Sewer Service | Approx. 900 feet of new service | | Approx. 500 feet of new service | | Approx. 2,400 feet of service** | | Approx. 1,000 feet of new service | |
| Electrical Service | Approx. 100 feet of new service | | Approx. 450 feet of new service | | Approx. 2,400 feet of service** | | Approx. 1,000 feet of new service | |
| Access | Realignment of pedestrian bridge, new access road (±770 feet in length) | | Construction of a new pedestrian bridge and trail, new access road (±575 feet) | | Construction of new access road (±1,825 feet), relocation of MV Trail (±600 feet) | | Construction of new access road (±440 feet) | |
| **Cost of Development (Order of Magnitude)** | ± $6.2 million | ± $7.4 million | ±$6.0 million | ±$7.1 million | ±$5.7 million | ±$6.8 million | ±$5.0 million | ±$6.2 million |

Other resources that were examined for potential impacts include wildlife, historical, cultural and visual resources.
*The maximum plan is located slightly south of the minimum plan to provide a comparison of sites within the 14th Street Bridge area.
** The new service is identified from a Comfort Station proposed to be constructed close to Gravelly Point parking area.

# 1 INTRODUCTION

This study was initiated specifically at the request of Congress for the potential siting of a boathouse (rowing facility) within Arlington County along the Potomac River. Based on that direction, the National Park Service (NPS) is considering allowing the construction and operation of a rowing facility on the Potomac River that would include rowing equipment (boats) storage, and training facilities for the three Arlington County high school rowing programs. In addition, the facility may provide storage facilities and river access for others. The facility would be located along the Virginia side of the river on lands administered by the GWMP or nearby.

## 1.1 PROJECT PURPOSE

This study is intended to assess the potential of locating a boathouse/rowing facility at three areas along the Potomac River. Specifically, these areas are indicated in Figure 1-1 and identified as follows:

- Rosslyn waterfront, immediately upstream from the Theodore Roosevelt Island (TRI) parking lot
- Down river and adjacent to the CSX Railroad Bridge (downstream of the 14th Street Bridge), and
- Along the shoreline of Daingerfield Island.

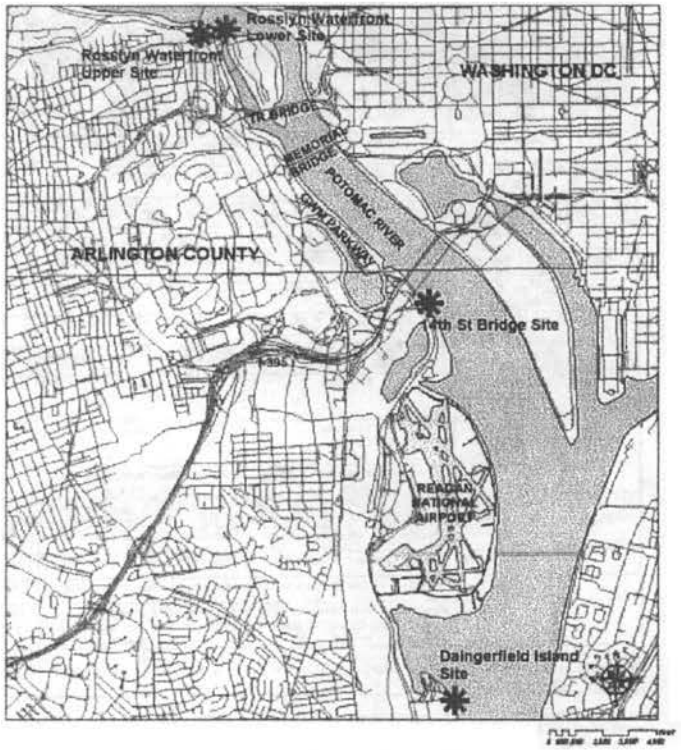



*Figure 1.1: Study Area Locations*





## 1.2 SCOPE OF THIS STUDY

The project scope included identifying a minimum and maximum practical program for the potential boathouse that would be used to analyze the study areas. The proposed minimum and maximum program are provided in Chapter 2.

Chapter 3 provides a facility and site analysis of the Alternatives for the boathouse. The key factors for assessing a potential Arlington County Boathouse are physical conditions, visual/cultural resources, environmental impacts, economics and operational issues.

In the winter of 1999/2000, NPS conducted a public scoping session where comments were sought on four potential locations for the boathouse. All of these areas are located on the western shore of the Potomac River. This study required a synopsis of the public comments received. These are provided in Chapter 4.

Subsequent to this study, NPS will determine how/if to proceed further. If one or more sites appear to able to accommodate the boathouse, NPS may proceed with a NEPA study and potentially a National Historic Preservation Act Section 106 review on that/those sites.

## 1.3 PROJECT BACKGROUND AND NEED FOR THE STUDY

There have been considerable efforts on the part of the NPS, Arlington County and a large number of agencies and individuals to locate a rowing facility along the Potomac River. NPS was and is interested in locating boathouses along the Potomac River in the District and Virginia. This study was initiated at the request of Congress for the potential siting of a boathouse (rowing facility) within Arlington County. NPS has extended the study to include one site a short distance from the Potomac River, in Rosslyn and another site in the vicinity of Arlington County, at Daingerfield Island in Alexandria, Virginia. Congress has also directed the NPS to determine from this study a preferred alternative. However, prior to conducting a National Environmental Policy Act (NEPA) study, NPS needs to determine the basic viability of such a facility, and if determined so, identify the most appropriate sites. Therefore, this study is a facility and site analysis and not a NEPA document.

Arlington County desires to provide greater general access for its citizens to the Potomac River. The NPS manages the Virginia Riverfront of the Potomac River from the American Legion Bridge in the north to Mount Vernon to the south. Currently, public access to the waterfront is available via the Mount Vernon Trail, trails on TRI, Columbia Island Marina, Four Mile Run and Gravelly Point. Two areas that are not within the jurisdiction of the George Washington Memorial Parkway (GWMP), the unit of NPS responsible for managing the NPS lands along the river, are the Reagan National Airport and the City of Alexandria waterfront. Currently, Arlington County residents use area boathouses, all of which are located in Washington DC, for rowing activities. The three Arlington County public high schools row out of these facilities as well: Wakefield High rows out of the Capitol Rowing Club along the Anacostia River; Washington-Lee rows out of Potomac Boat Club along the Potomac River; and Yorktown High rows out of Thompsons Boat Center also along the Potomac River. Existing reports prepared by the County, and conversations with area rowers, indicate that there is a growing demand for rowing facilities in the area. In response to this demand and from support from the US Congress and Arlington County, NPS authorized this study to assess the potential of locating a boathouse/rowing facility along the Potomac River to service the Arlington County high schools and its residents.

# 2 PROGRAM/PROJECT REQUIREMENTS AND CRITERIA

A number of steps were undertaken to develop a program for the boathouse. These included a review of the study prepared by Arlington County's Water-Based Recreational Facility Task Force in 1995, feedback from crew coaches at the three Arlington County public high schools, and a study of the sizes, boat storage capacities and amenities at three area boathouses and one area boat club. This chapter provides a summary of the findings and identifies the minimum and maximum program for the boathouse.

## 2.1 REVIEW: WATER-BASED RECREATIONAL FACILITY TASK FORCE'S REPORT, 1995

In 1993, the Arlington County Board appointed an 11-member Task Force to study the feasibility of a water-based recreational facility to be located between GWMP and the Francis Scott Key Memorial Bridge. The Task Force made recommendations in a study, *Feasibility Study for a Boathouse Facility Located Between GWMP and Francis Scott Key Memorial Bridge*, in 1995.

### 2.1.1 Building Program

The Task Force recommended a boathouse on the Arlington County shore that would be approximately 25,000 square feet in size. As per the Committee's recommendations, this boathouse would have primary spaces as identified in Table 2.1. The Task Force looked at accommodating rowing programs at Arlington County's three public high schools and to broaden recreational access to the Potomac River for Arlington County's residents, workers and visitors. Recommended programs include: space for the three high schools rowing programs; community based rowing and paddling programs, boat storage, canoe and shell rental; community room rental; lockers, showers, restrooms; a vending machine area; viewing decks; and, a small efficiency apartment. The Task Force also recommended offering environmental education program and establishing a nature center oriented towards river ecology and exhibits.

**Table 2.1: Boathouse Program Proposed by the Arlington County Task Force**

| Proposed Use | Net Area |
|---|---|
| Shell Storage Area | 13,560 SF* |
| Mechanical Room | 1,200 SF |
| Lobby And Staircase/Elevator Area | 1,600 SF on the first floor + 400 SF on the second floor |
| Four Offices | 400 SF; 100 SF each |
| Efficiency Apartment | 400 SF |
| Community Room/Fitness Area | 2,000 SF |
| Locker Rooms / Toilets | 2,300 SF |
| Storage | 200 SF |

*Store a total of 132 rowing shells (36 eights, 24 fours, 16 doubles/pairs and 56 singles). Of these, the three Arlington County public high schools would have storage space for of 33 shells.

### 2.1.2 Parking

The Task Force recommends using the existing 100± parking spaces at the TRI site. In addition, 25 new spaces are proposed, adjacent to the proposed boathouse, for maintenance, emergency vehicles, deliveries, and for persons with disabilities. The study states that there is potential for 40 parking spaces at this location. In addition, the site to the west of the GWMP has potential capacity for a 70-space parking lot with two spaces for buses and a bus turn-around. Also, nearby Rosslyn provides the opportunity for parking in parking garages (2,754 spaces), hotels (1,200 spaces) and limited on-street metered spaces that have one and two hour limits. The nearest parking garage is an eight-minute walk and there is a Metro stop that is 10 minutes (walking) from the boathouse site.





The study anticipated that approximately 300 high schools students would row during the Spring months, mostly from 2:30PM to 5:30PM. The study discusses that the high school students would generate limited parking needs since the schools would continue to transport students to practice by bus or encourage them to run or bicycle as part of their training schedule. It would take the students approximately 14 minutes to bicycle from Washington-Lee High School and 25 minutes from Yorktown High School. (Students at Wakefield High School would not be able to bike as they are much further away.) During Fall months, there are fewer students (approximately 90) who participate in rowing programs. There is no busing provided by the Schools during the Fall, and the students would probably carpool, bicycle, run or use the Metro to practice.

Community rowers would generally use the boathouse prior to 8:00AM and after 5:30PM on weekdays and weekends.

### 2.1.3 Environmental Concerns

The Task Force identified potential effects on TR Island, including impacts to plant life (including threats to native species from introduced exotics), impacts on wetland birds (nesting species and those which use the island during migration), and impacts to other flora and fauna. The Task Force also recognized that other potential effects to the Potomac River include compliance with Arlington County's Chesapeake Bay Preservation Ordinance, impacts to the River's hydrology, impacts to the fish population, impacts to water quality, and the effects of additional trash and refuse generated by facility users. Potential effects to the VA shoreline which would need to be evaluated include impacts to threatened plant species, removal of existing trees, effects on the viewshed, impacts of site lighting (both to wildlife and the viewshed), impacts from increased pedestrian traffic, and construction related impacts.

## 2.2 SUMMARY OF CASE STUDIES

Four area boathouses and one boat club were examined to identify existing programs, storage areas and amenities provided. This information is summarized in Table 2.2 and was used to help develop and provide comparison with the proposed boathouse.



*Figure 2.1: Alexandria Boathouse*



*Figure 2.2: Potomac Boat Club*



*Figure 2.3: Sandy Run, Occoquan*



*Figure 2.4: Thompson Boat Center*

Table 2.2: Summary of Area Boathouses

| | ALEXANDRIA | POTOMAC BOAT CLUB | SANDY RUN, OCCOQUAN | THOMPSON BOAT CENTER |
|---|---|---|---|---|
| Indoor Boat Storage Area / Bays | ± 9,500 SF / 5 bays | ± 5,100 SF / 5 bays | ± 7,000 SF / 6 bays | ± 12,400 SF / 7 bays |
| Number of Boats Stored (Inside and Outside) | Eights=21 / Fours=10 / Dbles=10 / Sgles=±7 | Eights=7or8/Fours=12 / Dbles=16/ Sgles=100 | ± 175 inside / ± 30 outside | Eights=85 / Fours=32 / Dbles=±20/Sgles=±50 |
| Boat Repair Area | Part of Storage Bays | ± 700 SF | None indoor | None indoor |
| Lockers / Showers | ±1,750 SF | ± 1,600 SF | None | Yes / ± 4,200 SF |
| Outdoor Rigging Area | ±600 SF | None | Significant amount | Yes |
| Office Space | ±1,500 SF – Office & Multipurpose Space | ± 1,000 SF | Less than 250 SF | Less than 500 SF |
| Parking | Street / City | Less than 10 spaces + On-street parking | Significant amount | ± 80 shared spaces |

## 2.3 ARLINGTON COUNTY PUBLIC HIGH SCHOOLS – EXISTING CONDITIONS

Three coaches (one from each school) were contacted to identify the existing conditions and needs of their rowing programs. The three schools currently have 27 boats and anticipate adding six new boats in the near future. The types of boats at each school are identified in Table 2.3 later in this chapter. The following section provides a description of how the three programs currently function.

### 2.3.1 Wakefield High School

Wakefield currently rows out of the Capitol Rowing Club on the Anacostia River. During regular season, its boats are stored outside, under a vehicular traffic bridge. During off-season, the boats are stored within the bulwark of the bridge, an area originally meant for storing bridge maintenance equipment. According to the coach, this area has become a roosting place for birds so that all stored boats and equipment must be wrapped for protection. There is no electricity so storage-related activities are performed using a flashlight. The outdoor area is unfinished and there is one small shed to store equipment. There are no public facilities and the area is noisy due to the traffic on the bridge.

- **Program:** The crew had 20 members during the last season and is anticipated to be larger during the coming season. The largest number has been 50 students. There are men's and women's teams, both rowing coxed fours. Along with the team boats, the school has two coaching launches.
- **Regattas:** The crew participates in approximately 10 regattas during a season, all of which are out of town. The school takes between two and four boats to a regatta, on a team owned trailer. Arlington County provides a truck and driver for each regatta. The trailer is stored on school grounds.



*Figure 2.5: Capitol Rowing Club*

- **Training:** The crew trains with ergometers, exercising and rowing on the Anacostia River. The team trains during the Spring high school athletic season, in





the afternoon, five or six days a week, and for 2.5 hours per day. If they had better and closer facility, they would add a Fall program or extra hours.

- **Rowing Conditions:** The coach indicated that they need at least two kilometers of water, preferably straight, 200 meters wide and three to four feet deep. The crew looses approximately 10 to 15 percent of the rowing days due to inclement weather. Ideal conditions for rowing practice, as per the coach, include temperatures above 50F, winds below 15 mph and water that is free of wakes from motorboats.
- **Rowing Season:** Rowing season is officially in the spring, from the end of March to the beginning of June, but can also be in the Fall as a club sport. General boating season begins at the end of May and ends in September.
- **Conflicts:** Right-of-way on the water between different types of boats, and wake from other boats are concerns.
- **Travel-times:** Travel runs that simulated vehicles going for practice from the school to the boathouse and returning from the boathouse to the school after practice (conducted during the week of January 18th, 2002) indicate that it takes 18 minutes from the school to the rowing club and 21 minutes to return.

### 2.3.2 Washington-Lee High School (WL)

WL currently rows out of the Potomac Boat Club (PBC) on the Potomac River. All of its shells are stored indoors and the coaches' launches are stored outside. The school team has been rowing out of PBC since 1949, when the team was founded, and has access to one storage bay for the eights and one for the fours. The school has access to a large ballroom where ergometers are stored during the Spring season only. Other than bathroom facilities, the students don't have access to locker rooms. In exchange for storing shells, the PBC members have unlimited access to the school's equipment, which puts heavy wear on the school's equipment.

- **Program:** The crew had 75 members during the last season. The largest number was 122 participants, in 2000. The program consistently averages 80 students. There are men's and women's squads, subdivided into experienced and novice rowers.
- **Regattas:** The school will participate in nine regattas in the 2002 spring season, out of which three would be outside the northern Virginia area. Six boats are transported on average for a typical regatta. These are transported on a trailer that is approximately 40 feet in length and towed by a one-half ton pick-up truck owned by Arlington County. The trailer is stored at the school.
- **Training:** Most rowing programs endeavor to practice on the water in shells each day. Time not spent on the water is spent doing weight training, ergometer workouts, running and stair or hill climbing. WL keeps its training equipment at PBC during Spring. All such equipment is stored at WL during other times of the year and is moved using private vehicles. Practice times are between 3:30 PM and 6:30 PM during the weekdays and at various times during the morning on Saturdays. During the school's Spring Break, the team usually practices twice a day, once in the morning and once in the afternoon.
- **Rowing Conditions:** The ideal conditions for rowing are flat water, no wind, limited or no current, and limited or wakeless motorized boat traffic. An established traffic pattern is also important. Wind often plays a strong role and affects the conditions on wide bodies of water. The longer the body of water, the more advantageous since workouts are typically in the five to 45 minutes range. Depth is not a critical issue; however, FISA, the world governing body of competitive rowing specifies a minimum depth of six feet for racecourses. Typically, WL has its crews on the water for 1.5 hours per session, 6 days a week. The amount of time on the water is dependent on the planned workout, experience level of the crew, and weather conditions. WL loses approximately between one and two weeks on the water each spring season due to weather/water conditions. Crew that practice during other times of the year are less apt to lose water time. Spring has the most variable weather conditions for rowing.
- **Rowing Season:** For scholastic teams, the season runs from the end of February to the end of May. Collegiate teams train from the beginning of September to the

beginning of June. Club teams and individual scullers train and race year round. Nearly all of the teams and individuals are off the water from mid-November until the end of February.

- **Conflicts:** Motorized pleasure craft is the biggest threat. This is especially true below Memorial Bridge where there are no speed restrictions on boaters. In any case, according to the coach, pleasure boaters often have little knowledge of the fragileness of the rowing boats, and often they don't follow a standardized course which puts both parties at risk.

- **Travel-times:** Travel runs that simulated vehicles going for practice from the school to the boathouse and returning from the boathouse to the school after practice (conducted during the week of January 18th, 2002) indicate that it takes 15 minutes from the school to the rowing club and 22 minutes to return.

### 2.3.3 Yorktown High School

- **Storage:** Yorktown currently rows out of the Thompson Boat Center (TBC). The school stores all of its boats – 7 eights and 3 fours – at the Center, of which two eights are stored outside and the rest are stored inside. The school has a closet for storage at the TBC where it stores safety equipment, spare parts, tools and cox-boxes. Gas is stored in an outdoor storage area.

- **Program:** Yorktown had 80 team members during the last rowing season. The maximum number has been 90. There are four categories of teams – Varsity Boys, Varsity Girls, Freshman Boys and Freshman Girls.

- **Regattas:** The team participates in regattas every weekend, from the end of March to the end of May, three of which are out of town and a few at the Occoquan. The school owns a trailer that is hauled by a pick-up truck. The trailer is 40 feet in length, and as wide as a normal truck. It is stored at Washington Lee High School.

- **Training:** The crew starts its training in January, at school, for two hours a day, Monday through Friday, until they are able to get on the water in late February or March. Then the students spend one hour training at school and one hour training on the water. The training equipment includes free weights, benches and ergometers. This equipment is stored in a closet that is shared with the track team in the basement of the school.

- **Practice** times are from 5:30 AM to 7:30 AM and from 3:15 PM to 6:00 PM from Monday through Friday and from 6:00 AM to 12:00 PM on Saturdays. Practice is six days a week until the racing season starts, then it is five days a week.

- **Rowing Conditions:** The coaches seek water that is a few miles long (3 to 6 miles each way), that is protected from the wind, and is free of large boats travelling at high rates of speed. The crew misses maybe one day a week in March, and after that maybe one or two days a month. The best weather is a 70F-degree day with a slight drizzle of rain which keeps the water flat and powerboats away.

- **Rowing Season:** The high school rowing season is from late February to the end of May. There is also club rowing season

**Table 2.3: Existing Shells and Anticipated Expansion Plans at the Three Public High Schools**

| School | Existing Shells | | | | Anticipated Expansion Plans |
|---|---|---|---|---|---|
| | Eights | Fours | Two-Man | Total | |
| Wakefield | 1 | 4 | 0 | 5 | 1 additional Eight + 1 additional Four |
| Washington-Lee | 8 | 3 | 1 | 12 | 1 additional Four + 1 additional Two-Man shell |
| Yorktown | 7 | 3 | 0 | 10 | 1 additional Eight + 1 additional Four |
| **Total Shells** | **16** | **10** | **1** | **27** | **2 additional Eights + 3 additional Fours + 1 additional Two-Man shell** |





that goes from June through November, in which a number of the students participate.

- **Travel-times:** Travel runs that simulated vehicles going for practice from the school to the boathouse and returning from the boathouse to the school after practice (conducted during the week of January 18th, 2002) indicate that it takes 16 minutes from the school to the rowing club and 22 minutes to return.

## 2.4 POTENTIAL OTHER DEMAND

Based on discussions with area rowers and the boathouses, there is a significant demand for rowing programs, as well as storage spaces in the area. This demand is both from individual rowers, and schools that are either looking to expand, establish a rowing program or reduce their travel times to rowing facilities. Three schools that have been identified are Bishop O'Connell High School in Arlington County, which currently rows out of the Thompson Boat Center, Langley High School in Fairfax County, which rows out of Sandy Run boathouse, and McLean High School in Fairfax County, which rows out of Thompson Boat Center. Also, amongst the area boathouses, PBC has identified a waiting list of between 120 and 130 persons who are awaiting to become members of the club, and 40 people who are awaiting storage space for singles.

If the potential boathouse is constructed and the three Arlington County public schools are relocated, some space would become available at the PBC, Thompson Boat Center and the Capital Rowing Club, which would help defray some of the existing demand. In addition, Georgetown University is planning to construct a boathouse upstream from Key Bridge. Once that boathouse is constructed, additional rack space would become available in the area. All current indications, based on conversations with rowers and boathouses, are that the existing and growing demand will fill up all of the spaces that will become available.

## 2.5 BOATHOUSE PROGRAM DEVELOPMENT

### 2.5.1 Typical Equipment Sizes

#### *a. Boat Sizes*

Current rowing shells vary in size from 24'-6" to 58'-0" in length (see Table 2.4) and can weigh up to 234 lbs. To store the long boats (eights and fours), a shelf space of approximately 58 feet in length is required.

**Table 2.4: Typical Boat Sizes**

| *Boat Type* | *Boat Length* | *Wt. (lbs)* | *Manuf.* |
|---|---|---|---|
| Singles | 24'– 6" to 26'– 10" | - | HBW |
| Doubles /Pairs | 30'– 8" to 33'– 2" | - | HBW |
| | 33'– 0" to 33'– 4" | - | Vespoli |
| Quad/ Fours | 38'– 4" to 43'– 4" | - | HBW |
| | Coxless 41'– 0" to 43'– 4" | 103 to 136 | Vespoli |
| | Coxed Fours 43'– 4" to 44'– 0" | 108 to 135 | Vespoli |
| Eights | 56'– 6" to 57'– 10" | - | HBW |
| | 56'– 0" to 58'– 0" | 193 to 234 | Vespoli USA |

*Note: Weight is for a fully rigged boat.*
*HBW- Hudson Boat Works*

#### *b. Trailer Sizes (Manufacturer – Vespoli USA)*

- *Special* – 41 feet long, configured to carry a combination of 15 big boats, five high by three wide.

- *Longhaul* – 39 feet long. When towed by a ¾ ton pickup truck, it will carry nine one-piece eights on the upper three racks and three fours or a combination of smaller boats on the lower racks. When towed by a van, it will carry six one-piece eights on the upper two racks and six fours or a combination of smaller boats on the lower two racks.

- *Transporter* – 36 feet long, configured to carry nine shells. The two top racks will carry six one-piece eights and the lower rack will carry three fours or a combination of smaller boats.

- *Fours Carrier* – 32 feet long, designed to carry six fours when towed by either a van or a pickup truck.

#### *c. Storage Dimensions*

A typical boat storage area consists of boat-racks and area for storing oars. Boat-racks are typically stacked 20 feet apart, although, as in the Alexandria Boathouse's case, the racks are stacked 25 feet apart, which allows space for boats to be repaired in the aisles. The vertical dimension of the racks depends on the height of the ceiling, however, the lowermost shelf is 2 feet 9 inches off the ground and then each shelf above that is 2 feet apart. Oars are usually stacked vertically, with the longest oar being approximately 12

feet 6 inches. This dimension often dictates the internal height of a boathouse.

### 2.5.2 Amenities to be Included

The following facilities are proposed to be included at a minimum within the boathouse:

***a. Boat Storage for the three Public High Schools***

Table 2.3 describes the number and types of boats owned by the schools and the number and types of boats desired in the near future. Each coach indicated that if they had additional storage space, it is likely that their program would expand with additional boats beyond those desired in the near term. To establish the minimum program, it was determined that storage space for the existing number of boats, which are the maximum that the schools have owned, along with those desired in the near term, would establish the space needs for the smallest boathouse.

In addition to the crew boats, there are motorized boats used by coaches. In most of the existing boathouses, these are stored outdoors during the rowing season. For the proposed boathouse, these boats could be stored outside during rowing season and brought into the boathouse during non-rowing seasons. These boats require gasoline, which is typically stored outside the main boat storage area. In this study, it has been assumed that a special gas storage room, separated from the main boat storage area by a firewall, could be provided adjoining the main building.

***b. Boat Storage for Community Programs***

Other than the high schools, it is prudent to have some boat storage space for community rowing programs. Since the high schools will only officially be on the water during the spring months, the boathouse should be used for other community rowing programs during the remaining portion of the rowing season. As is the case in the other boathouses in the area, the high school students could continue participating in rowing activities through non-competitive programs organized as part of the community rowing programs.

Other than the three high school programs, the only other official rowing program that could be identified in Arlington County is based in Bishop Denis J. O'Connell High School. Conversations with area boathouses, Arlington County Department of Parks, Recreation and Community Resources, and persons familiar with rowing activities in the area, indicated that while there are no official groups or organizations that are registered as being Arlington based, a large number of residents participate in the various programs offered by the area boathouses, including, but not restricted to, the Thompson Boat Center. However, it was impossible to document the actual number of Arlington residents who row in the area.

While it is feasible for some of the high school boats to be used for community rowing programs, it is likely that there would be additional boats that would be part of such a program. Based on the existing programs in the area, such boats would consist of singles, doubles, fours and some eights.

In addition to community rowing boats, if possible, there should also be some space for individuals to store boats. Most individuals in the area have singles or doubles.

***c. Exercise area and Storage***

Some space should be provided within the boathouse for exercise equipment for each school. Potentially, some of this equipment could be shared between the schools and community members. In addition, there should be separate storage space for each school to store equipment such as cox-boxes, etc.

***d. Lockers and showers***

Some space for showers and lockers should be included in the boathouse. While there could be a common shower area shared by the three schools, individual lockers in a common space should also be provided.

***e. Outdoor rigging area***

There should be some external rigging space between the boathouse and the river to provide area for rigging boats prior to taking them into the water and washing boats before returning them to the storage racks.

***f. Parking***

At a minimum, a bus/trailer drop-off area should be provided to allow easy vehicular transportation of the crew teams during daily practice, and of the boats during regattas.





### 2.5.3 Minimum and Maximum Program

Based on this analysis, a footprint of ±10,000 square feet should be considered as a minimum for the boathouse. Such footprint would allow a potential configuration of four storage bays for long boats (±48 shelves, where the storage floor allows six shelves to be stacked vertically) and one repair bay at the ground level. The three high schools would require two and 2/3rd bays or 32 shelves. The remaining bays could accommodate any expansion needs that the schools may have beyond the immediate future, or could be used for some community rowing programs. A footprint of ± 14,000 SF should be considered as a maximum for the boathouse as it would allow a potential configuration of six bays for storage of large boats (72 shelves), and a repair bay. In this case, three bays (40 shelves) would be available to accommodate future needs of the three schools, other schools that may be interested in locating here and/or community rowing programs. In both cases, other than some equipment storage space and space for storing gas, other amenities could be located on a partial second floor. Table 2.5 provides a detailed listing of the suggested minimum and maximum programs. Figure 2. 6 compares the footprints of the proposed Arlington boathouse and other area boathouses.

**Table 2.5: Minimum and Maximum Program for the Boathouse**

| | Minimum Program | Maximum Program |
|---|---|---|
| Total Footprint / Area | ±10,000 SF (100' x 100') / ± 15,000 SF | ±14,000 SF (140' x 100') / ± 19,000 SF |
| Boat Storage | ± 6,400 SF (4 bays – stores 48 long boats) | ±11,200 SF (6 bays – stores 72 long boats) |
| Boat Repair Area | ± 1,600 SF (1 additional bay) | + 1,600 SF ( 1 additional bay) |
| Storage Area | ± 1,500 SF | ± 1,800 SF |
| Exercise Area | ± 2,000 SF (2nd Floor) | ± 2,000 SF (2nd Floor) |
| Lockers/Showers | ± 2,000 SF (2nd Floor) | ± 2,000 SF (2nd Floor) |
| Outdoor Rigging Area | 4,000 SF | 9,100 SF |
| Office Space | Less than 500 SF | Less than 500 SF |
| Parking | Space for trailer turnaround/emergency access | Space for trailer turnaround/ emergency access |
| Dock/Float | Approx. 150 feet in length to allow two eights to use the dock simultaneously | Approx. 150 feet in length to allow two eights to use the dock simultaneously |
| Gas Storage | 100 SF | +100 SF |

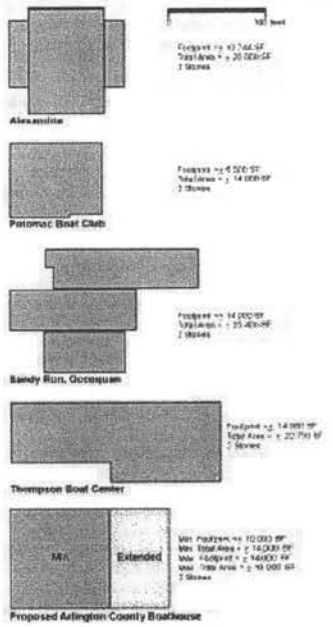



*Figure 2.6: Comparison Between Proposed Boathouse Program and Area Boathouses*

# 3 SITE EVALUATIONS

This chapter provides an analysis of each site and evaluates the potential of locating a boathouse based on the minimum and maximum boathouse program established. It is divided into three parts – the first discusses the existing conditions at each site, the second describes the conceptual site plans, and the third provides an assessment of the potential impacts of locating a proposed boathouse on each site.

There are four alternative sites that have been examined. These are:

- Rosslyn Waterfront – Lower Site
- Rosslyn Waterfront – Upper Site
- Immediately south of the CSX Railroad Bridge
- Eastern Shoreline of Daingerfield Island, to the south of the existing marina

## 3.1 ROSSLYN WATERFRONT SITE – LOWER LEVEL

### 3.1.1 Existing Conditions

#### *3.1.1.1 – Physical Conditions*

***a. Existing Land Use***

The Rosslyn lower level site is located east of the GWMP and north of the existing TRI parking lot (see Figure 3.1, Existing Conditions Map). The site is currently vacant and vegetated, and under NPS ownership.

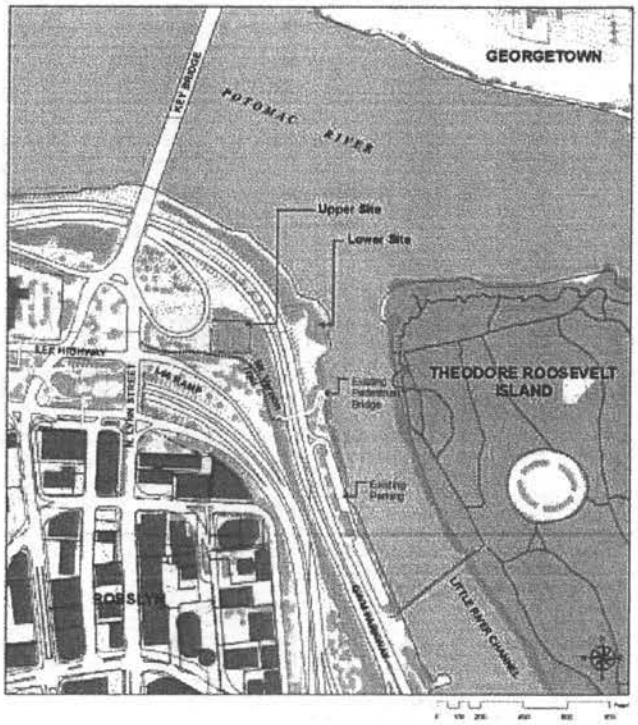



*Figure 3.1 Existing Conditions, Rosslyn Waterfront*





***b. Infrastructure***

- Water Mains: Record drawings of the GWMP indicate that a 30-inch water main exists adjacent to the curb of the GWMP northbound roadway. A 6-inch ductile iron waterline also exists north of the Mount Vernon Trail pedestrian bridge. A concrete vault for this waterline is also in the vicinity. Modifications to this 6-inch line may be required depending on the roadway and site layout.
- Electrical / Telephone Service: A 4-inch two-way electric conduit, which is concrete encased, enters the site from the west approximately 300-feet north of the MVT bridge. It is unknown as to what this service is feeding and if there is telephone service within this conduit. Further investigation with the utility companies will be required to determine if it is capable of serving a potential boathouse.
- Sanitary Sewer: There does not appear to be any sanitary sewer existing on site. Record drawings indicate that the closest sanitary sewer line is the sewer main in Rosslyn Circle. Therefore, it is anticipated that a new sewer force main connecting the lower site to Rosslyn Circle would be required.

#### *3.1.1.2 – Environmental Conditions*

- Floodplains: According to FEMA mapping, the lower Rosslyn site for the potential boathouse is designated an area of minimal flood potential (FEMA 1982).

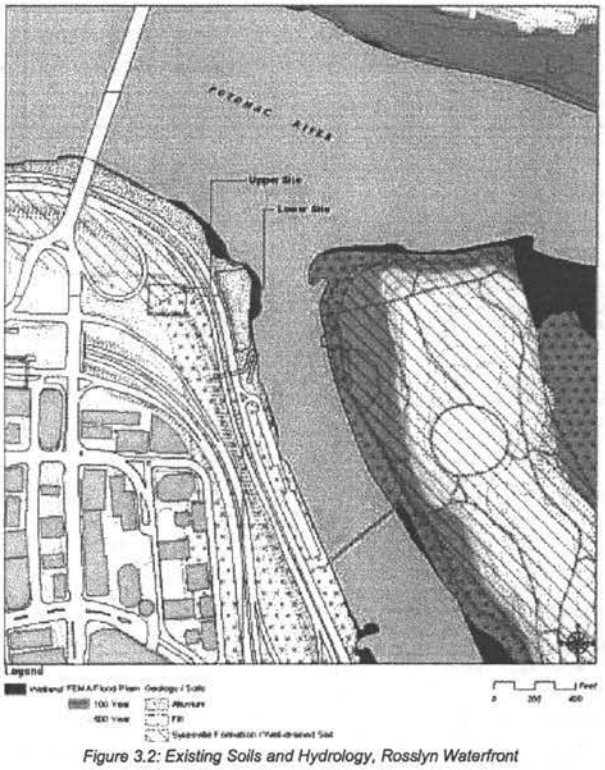



*Figure 3.2: Existing Soils and Hydrology, Rosslyn Waterfront*

- Wetlands: National Wetland Inventory data indicates that there are wetlands at the Potomac shoreline along the majority of the length of the site.

- Soils: Soils on the site are likely Udorthents. Udorthents usually include materials that have been reworked by machinery in the past and consist of loamy materials that have been placed over soils of varying drainage classes on terraces and flood plains. Udorthents may also include relatively undisturbed alluvial soils that have been shaped to some extent. The permeability of Udorthents is highly variable (Hydel 2001). The soils on the site are well vegetated and do not exhibit signs of serious erosion. The riverbank does not exhibit bank loss, root exposure, or tree fall (see Figure 3.2).

- Geology: There are no noticeable significant geologic features on the site. The underlying geology is alluvial material (Fleming 1994).

- Vegetation: Vegetation on the lower Rosslyn site includes common suburban tree species, understory species, and grassy areas in a corridor along the river. Vegetation exhibits edge characteristics such as prominent vine growth. A letter from the Virginia Division of Natural Heritage, dated December 10, 2001 states that no natural heritage resources or State Natural Area Preserves have been documented at the site. An additional letter from Natural Heritage dated February 11, 2002 states that Virginia Mallow, a very rare riverside

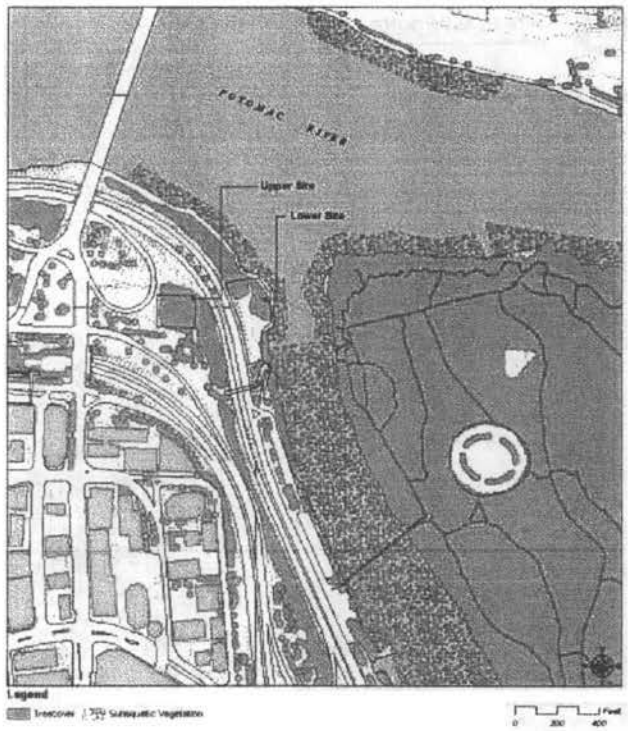



*Figure 3.3: Existing Vegetation, Rosslyn Waterfront*





perennial, has been identified within a two-mile radius of the site. The letter further states that, due to its relatively unaltered character, the site presents habitat more suitable for supporting rarities than do the other potential sites for the boathouse, and recommends an inventory of suitable habitat on the Lower Rosslyn site (see Figure 3.3).

Subaquatic vegetation growth in the Potomac River has been shown to increase the biological productivity of the Potomac ecosystem. Shoreline surveys of peak annual subaquatic vegetation growth, conducted in September and October of 2000, found extremely dense SAV surrounding TRI (Ryan 2001) (see Figure 3.3).

- Wildlife: Wildlife on the site likely includes common urban species such as small mammals and birds. Larger animals would not likely utilize the narrow forest on the site for permanent habitat. However, since the forest is contiguous with forest along the Potomac it is possible that larger species could utilize the forest corridor for movement. A letter from the Virginia Division of Natural Heritage, dated December 10, 2001 states that no natural heritage resources or State Natural Area Preserves have been documented at the lower Rosslyn site. An additional letter from Natural Heritage dated February 11, 2002 states that Pizzini's amphipod and Stygobromus sp. 15, could be located on the site if seeps occur there. Both of the very rare crustaceans were documented to the north of the site in a 1996 inventory. The letter further states that, due to its relatively unaltered character, the site presents habitat more suitable for supporting rarities than do the other potential sites for the boathouse, and recommends an inventory of suitable habitat on the Lower Rosslyn site.

- Topography: The topography on this site is characterized by moderately steep slopes at the western extent of the site, along the retaining wall for the GWMP. The steep slopes fall to relatively flat ground that gradually descends to the riverbank at the Potomac.

- Stormwater: In general, stormwater flows from west to east across the site from the GWMP retaining wall towards the Potomac River. There is no evidence of channelization or pooling of stormwater on the site.

- Noise: The site is located within the flight path of the Reagan National Airport. However, planes are relatively high at this location, compared to the 14th Street and Daingerfield Island sites, and have a reduced noise related impact.

### *3.1.1.3 – Operational Factors*

#### *a. Transportation (Access and Parking)*

The subject site is located to the east of the GWMP. Existing access is provided from the northbound lanes of the parkway by means of right-in / right-out movements. This portion of the parkway is access controlled, with interchanges to the north and south of the site. The posted speed limit along the parkway is 40-mph, with observed free flow speeds near 50-mph throughout much of the day. The parkway has a 2-foot shoulder on either side of the traveled way near the site.

- Access: The existing entrance to the site from the northbound lanes of the parkway is located approximately 1,125 feet north of the entrance ramp from I-66. The beginning of the taper to the deceleration lane to the site entrance is located approximately 75 feet north of the end of the taper from the I-66 ramp acceleration lane. The relatively close spacing between the merge and diverge areas results in somewhat of a weaving condition. Combined with the relatively short deceleration length of 500 feet (followed by a tight, 25-foot radius curve), the existing entrance may be problematic for larger vehicles, particularly those with trailers.

  The existing acceleration lane from the site is 300 feet long, followed by a 300-foot taper. Due to the fact that the parkway only has a two-foot shoulder and a closed section (curb-and gutter), larger, heavier vehicles that might otherwise have used a shoulder to "extend" their merge area must accelerate from a stopped condition to approximately 40-mph in only 300 feet. This may be problematic for vehicles pulling loaded boat trailers.

  There is no access to the site from the southbound lanes of the parkway. To reach the site, southbound vehicles can use the ramp to Memorial Drive, proceed around the circle/roundabout and then

follow the ramp back to northbound GWMP. This route sends motorists approximately one mile out of their way and is somewhat circuitous, but not overly indirect. Similarly, vehicles exiting the site that wish to head southbound on the parkway have a similar route to follow; proceeding about one-mile north, exiting at Sprout Run Parkway, and following the ramp to the U-turn which places motorists directly back on the parkway in the Southbound direction. This route would send motorists about two miles out of their way.

- Parking: The existing parking lot is divided into two halves, the northern portion having 31 spaces (on only one side due to lot size) and the southern portion having 67 regular spaces and 5 handicap spaces. There is little, if any, room within these lots for a large vehicle (bus, truck or car with trailer) to turn around, and these are not expected to park here.

  The lots tends to be overcrowded in the spring, summer and fall months Overflow parking is difficult at this site, due to the lack of usable land near the site for temporary parking on grass.

***b. Rowing Conditions***

- Depth of Water: There is sufficient water depth for rowing, a few feet from the shoreline. Based on the Tidal Map for the Potomac River, during low tide, the area towards the Little River Channel has a depth of approximately one-foot. However, immediately north of the Little River Channel, the depth increases with the deepest portion near the Georgetown side measuring approximately 39 feet.

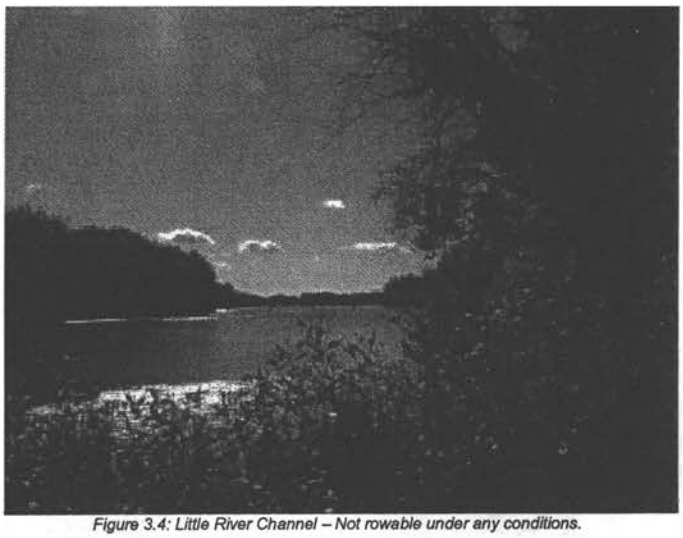


*Figure 3.4: Little River Channel – Not rowable under any conditions.*

- Available Course: Rowers from this location would have immediate access to the waters north of Key Bridge up to Fletcher's Cove and Chain Bridge, and south to Woodrow Wilson Bridge and beyond.
- Safety: The area north of Memorial Bridge has a 'no-wake' zone that requires boat traffic to travel at speeds below five mph. This reduces potential conflicts with powerboats and cruise-boats that frequent the Washington Harbor. There are two other boathouses, the Potomac Boat Club (PBC) and Thompson's Boat Center that are located across the shore from this site. These provide quick emergency assistance in case there is a need on the water. In addition to these,





Georgetown University is proposing to construct a new boathouse, upstream from the PBC.

- Days lost due to Weather: The coaches who row in this area indicated that they lose between one and two weeks of rowing in the Spring season. Between the beginning of February and end of May (17 weeks), the approximate period when the High School rowers practice on the water, that averages out to less than one day per week.

***3.1.1.4 – Cultural/Visual Conditions***

***a. Cultural Resources***

Potential archeological resources on the site include possible locations, in undisturbed areas of the Potomac riverbank, for artifacts from prehistoric Native American settlements (Arlington County 1993). There is also submerged structural debris within the river, adjacent to the site, from a causeway built from the VA shoreline to the John Mason's (Roosevelt) Island during colonial times, that allowed access to ferry conveyance from the island to Georgetown (Cissna 1990). In addition, a number of structures were known to have existed in this area, below the Aqueduct and above the causeway, some of which may have been associated with Mason's Ferry Landing. See Figure 3.5. The GWMP is a National Historic Register property that is in proximity to the project site.

***b. Visual Conditions***

The site is vegetated with a combination of trees and lawn (see figures 3.12, 3.14, 3.16,

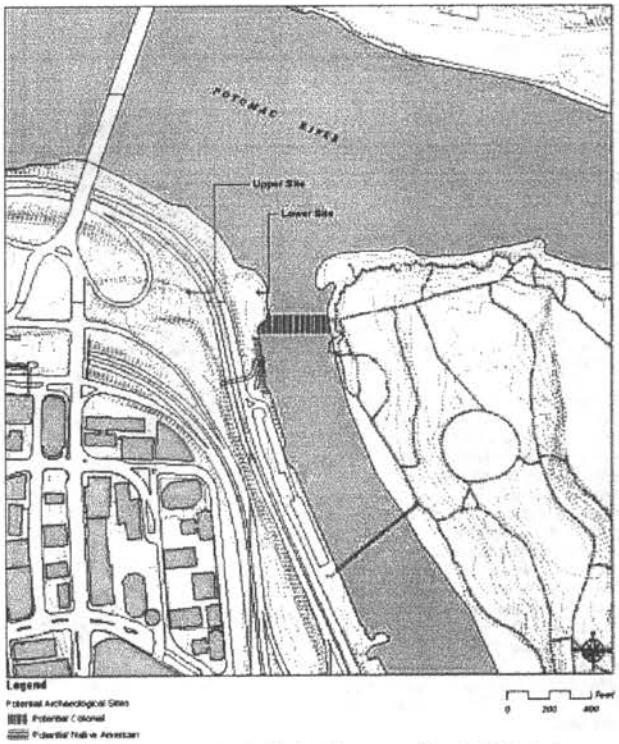



*Figure 3.5: Existing Historical/Cultural Resources, Rosslyn Waterfront*

3.18 and 3.20). It is visible from the river, from some areas on TRI, from the parkway, Key Bridge and from Georgetown, across the river. Visually, the site contributes to an uninterrupted, vegetated shoreline along TRI.

### 3.1.2 Conceptual Site Plans

Two conceptual plans were prepared to test the potential of locating a boathouse at this site. Figures 3.6 and 3.7 illustrate a smaller boathouse with a footprint of 10,000 SF. Figure 3.8 illustrates a larger boathouse with a footprint of 14,000 SF. In both plans, a new access road with a drop-off area is proposed off the existing entrance/exit location to the TRI parking area. The coaches' boats would be tied to the dock during the rowing season. During non-rowing periods, these boats could be stored at the proposed boathouse.

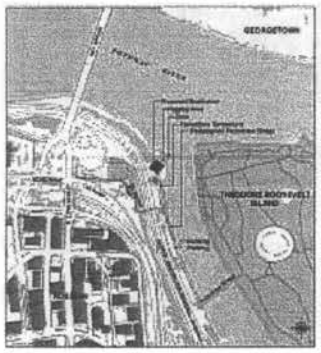



*Figure 3. 6: Conceptual Site Plan*

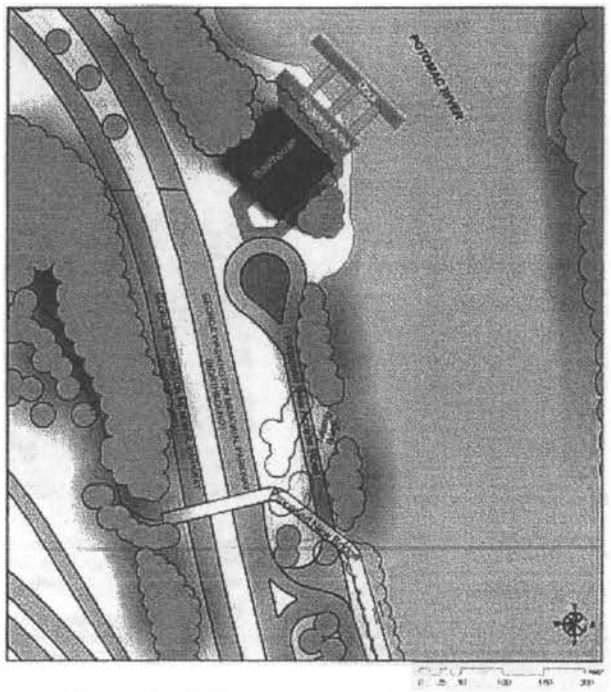



*Figure 3.7: Enlarged Conceptual Site Plan, Minimum Program Boathouse*





### *3.1.3 Site Analysis*

Summary: A boathouse, based on the proposed minimum and maximum program, with a footprint that ranges from 10,000 SF to 14,000 SF, could be accommodated at the lower Rosslyn site. There are a number of improvements that would be necessary for these plans to work. These include the following:

- A new road that would provide boathouse access to trailers, school buses and emergency vehicles. This road should be configured to allow ingress and egress from the site area. A bus drop off location is proposed at the end of the new access road.
- To configure a turning radius for exiting trailers, buses and emergency vehicles, the existing pedestrian bridge would have to be reconstructed on the eastern portion of the GWMP. Reconstruction should take into account the required clearance below the bridge for large vehicles and a gradient of 8.33 percent on the bridge to allow for handicap accessibility. The proposed configuration, illustrated in the conceptual site plan, ensures that there is no conflict between movement on the Mount Vernon Trail and the new access drive. Due to the proximity of the proposed and existing alignments of the pedestrian bridge, pedestrian use of the bridge would not be available during re-construction.

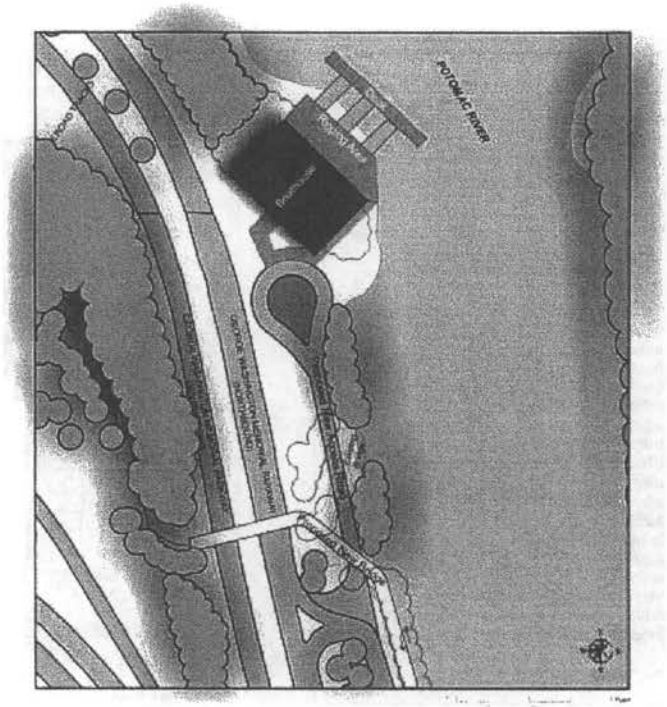



*Figure 3.8: Conceptual Site Plan, Maximum Program Boathouse*

### *3.1.3.1 – Physical Conditions*

#### *a. Existing Land Use*

The boathouse would result in developing a predominantly open space area.

#### *b. Infrastructure*

- Water Mains: It is anticipated that 100-feet of new 4-inch water service for the boathouse can be connected to the existing 6-inch main. One new fire hydrant is likely to be required for fire protection.
- Electrical / Telephone Service: For purposes of this study, it is assumed that new telephone and electric services will be required to serve the boathouse. These services are assumed to be approximately100-feet in length.
- Sanitary Sewer: it is anticipated that a new sewer force main connecting the lower site to Rosslyn Circle would be required. This 4-inch force main would need to be bored or jacked under the GWMP. Approximately 900-feet of 4-inch force main would be required. A pump/lift station would also be required for the boathouse.

A summary of the new utility services, that are likely to be required for the boathouse, is as follows:

- 900-feet of 4-inch ductile iron sanitary sewer force main
- 150-feet of bored/jacked sewer pipe
- one ejector pump/lift station
- 100-feet of 4-inch ductile iron water main
- 100-feet of two-way 4-inch PVC electric conduit with handbox
- 100-feet of two-way 4-inch PVC telephone conduit with handbox
- 100-feet of 15-inch RCP storm drain
- one fire hydrant
- two storm drain inlets
- one storm drain manhole
- two sanitary sewer manholes

### *3.1.3.2 – Environmental Conditions*

- Floodplains: Contrary to the FEMA designation, observations of topography at the potential development site, and NPS photos of past flood levels, indicate that the site would likely be inundated under 100-year flood conditions. To decrease the likelihood of flood damage to the potential boathouse facilities, the habitable areas of the structure, such as the shower/locker areas, could be located on the second floor.
- Wetlands: As shown on the conceptual site plan, foundations for the potential boathouse and roadways at the lower Rosslyn site would be in areas adjacent to or within existing riparian wetland areas at the Potomac shoreline. As discussed above, the addition of fill material in these areas could be required to construct sound foundations. In accordance with Section 404 of the Clean Water Act, the discharge of fill into wetlands could require permitting by the Army Corps of Engineers. The delineation of the wetlands on and near the project site would be compulsory in order to predict and minimize impacts to these areas by fill material. Construction of the smaller boathouse could disturb approximately 5,500 square feet of wetland area while construction of the larger boathouse could disturb about 8,300 square feet of wetland area. In contrast to construction for building foundations, the placement of beams at the river edge to support decking would not likely have any major impacts to wetland resources.
- Soils: The soils on the lower Rosslyn site provide a good substrate for vegetative growth and exhibit a moderate potential for erosion. To preserve soil for the growth of vegetation and to reduce the potential for soil erosion and sedimentation, the development of the potential boathouse facilities should retain the maximum practicable amount of undisturbed surface soil area. Development of the smaller boathouse would likely disturb approximately 1.02 acres of surface soil while development of the larger boathouse would likely disturb about 1.23 acres of surface soil.
- Geology: The lower Rosslyn site for the potential boathouse is underlain by alluvial material. As this substrate has been composed by repeated deposition of material over time, it could be inconsistent in composition and structure. Sample geologic borings would be required prior to detailed design and construction to provide a detailed understanding of the existing geologic material under the development site. If the existing substrate would not provide





sufficient structural support for construction of the boathouse and roadways, additional fill material or structural measures could be necessary to support the boathouse facilities.

- Vegetation: Some vegetation on the lower Rosslyn site would be removed by the boathouse development. The smaller boathouse would clear approximately 20,200 square feet of treed area and the larger boathouse would clear about 28,700 square feet of treed area. Based on visual surveys and Virginia Natural Heritage Department records, the trees that would likely be removed are not rare, threatened or endangered species. Performance of a site inventory of suitable habitat for rare species, as recommended by the Virginia Natural Heritage program, would allow further identification of potential impacts to critical habitat.

  The dense SAV growth near the lower Rosslyn site for the potential boathouse could significantly interfere with rowers utilizing the facilities. Removal of the SAV would effectively decrease this interference, but could be detrimental to the Potomac River ecosystem. If operation of the potential boathouse at the lower Rosslyn site would necessitate rowing through SAV, means of coping with the complications while not negatively impacting the Potomac River would be necessary.
- Wildlife: There is no documented critical habitat on the lower Rosslyn site for the potential Boathouse and there are no records of rare, threatened or endangered species on the site. Accordingly, the development of the potential boathouse would not likely disturb sensitive wildlife species. Performance of a site inventory of suitable habitat for rare species, as recommended by the Virginia Natural Heritage program, would allow further identification of potential impacts to critical habitat. To preserve the potential for animal utilization of the site, the boathouse facilities should not completely block north-south passage across the site. Common urban species inhabiting the site should readily be able to utilize other similar habitat along the Potomac River, in proximity to the site, if disturbed by development of the boathouse.
- Topography: The potential boathouse at the lower Rosslyn site would be built at the eastern portion of the site so minimal disturbance or regrading of the steep slopes along the parkway retaining wall would be required. There may be some minimal addition of fill material to regrade the site near the eastern slopes that descend to the river. The construction of the roadway associated with the boathouse would require cutting into the steep western slopes by the GWMP retaining wall. As per the conceptual site plan, the smaller boathouse would require approximately 20,000 cubic feet of cut, while the larger boathouse would require about 28,000 cubic feet of cut.
- Stormwater: Construction of the potential boathouse facilities at the lower Rosslyn site would increase the amount of impervious surface on the site. As per the conceptual site plan, the smaller boathouse would add approximately 25,000 square feet of impervious surfaces while the larger boathouse would add approximately 29,000 square feet of impervious surfaces. This addition of impervious surfaces would increase the potential runoff volume on the site. The proximity of the facilities to the Potomac River would require development of stormwater measures to effectively restrict any infiltration of uncontrolled runoff into the Potomac River.
- Noise: This area is likely to experience the least amount of aircraft noise of any of the sites considered since planes are at a much higher altitude.

### *3.1.3.3 – Operational Factors*

#### *a. Transportation (Access and Parking)*

Provision of the drop-off area for buses, trailers and emergency vehicles at this site seems difficult for several reasons under existing conditions:

- Vehicles must be able to pass beneath or around the existing pedestrian bridge/ramp structure. This may be possible in two locations; east of the parkway and west of the pedestrian ramp (passing beneath the pedestrian bridge) or west of the entrance to the pedestrian ramp (passing between the columns supporting the switch-back ramp).

- If the first option is selected, turning radii will be problematic, if not impossible, especially for larger vehicles exiting the boathouse and entering the northbound lanes of the parkway.

- If the second option is selected, overhead clearance is very likely to be an issue and turning radii for exiting vehicles may still be an issue, although probably to less of an extent compared with the first option.

- Reconstructing the pedestrian bridge as indicated in the site plan would provide clearing space beneath the bridge and an adequate turning radius for buses, trailers or emergency vehicles.

- Travel Times: During the week of January 18, 2002, travel times were obtained between the site and the three public high schools. Vehicles departed the schools at approximately 3:15 PM to simulate vehicles leaving the schools and traveling to after-school practice. Vehicles departed the boathouse site at approximately 6:00 PM to simulate vehicles leaving the boathouse after practice and returning to school. These times were based on information received from the coaches of the rowing teams at Washington-Lee and Wakefield High Schools.

- Transit Access: The closest Metro Station at Rosslyn is about 0.33 miles from the site, a walk of about 10 minutes. There is currently no bus service to the site.

Table 3.1

| School | Travel Times to Site Depart 3:15 PM | Travel Times from Site Depart 6:00 PM |
|---|---|---|
| Washington Lee | 14 minutes | 13 minutes |
| Yorktown | 18 minutes | 13 minutes |
| Wakefield | 13 minutes | 18 minutes |
| Average Travel Time | 15 minutes | 14 min 40 sec |

***b. Rowing Conditions***

- The water in the area where the docks are proposed is fairly shallow towards the shore but gets deeper a few feet into the river. There may be some need for minimal dredging to provide sufficient depth near the shore, or the docks could be floated towards the deeper portion of the river.

- Since this area lies within an existing 'no-wake' zone, the potential for conflict with powerboats and other motorized vehicles is minimal. However, there are two existing rowing boathouses, Thompsons and Potomac Boat Club within a mile of the proposed boathouse, and Georgetown University is in the process of developing plans for an additional boathouse upstream, which could result in a large number of rowing shells using this area and could cause potential conflicts between the various practicing teams.

- The teams would potentially lose less than one day on the river each week, due to inclement weather conditions.

***3.1.3.4 – Cultural/Visual Resources***

***a. Cultural Resources***

Historic maps and photos indicate that the lower Rosslyn site is on fill land added into the Potomac River for development between 1868 and the early 1900s (aerial photos dated 1939 & 1952, and a map from 1868 & a map from early 1900s). According to these records, boathouse facilities developed at the site, would not likely be within undisturbed potential locations for Native American artifacts. The boathouse facilities would also likely be north of, and thus not disturb, the location of remnants from the historic causeway. Thereby development of the potential boathouse would not be expected to directly disturb these resources. Performance of careful historic and archeological studies of the project site and adjacent areas, prior to initiation of construction, as would be required as part of a Section 106 Review, would help to insure against the loss of potentially valuable cultural resources due to development of boathouse facilities.

The GWMP and TRI would not be directly affected by construction of the boathouse facilities at the lower Rosslyn site. The visual character associated with the historic properties could be affected by the development as discussed regarding the visual simulations of the conceptual plan.

***b. Visual***

To assess potential visual impacts of the proposed boathouse, simulations of the boathouse were prepared and overlapped with existing images. The locations of the





images were determined based on their level of visibility from public places (see Figure 3.9). The existing boathouse at Alexandria was used as a model for the simulated architectural style of the proposed boathouse.



*Figure 3.9: Location of Photo Simulations*



*Figure 3.10: Existing View from Southern End of Key Bridge*

*View 1:* From the pedestrian walkway at the southern end of the Francis Scott Key Bridge, the GWMP, adjacent vegetation, vegetation within TRI and bits of the Little River Channel are visible (see Figure 3.10). From this location, the boathouse will be visible, as illustrated in Figure 3.11. A portion of the boathouse's roof and rear wall would be visible. The boathouse will displace a small stand of existing trees increasing the visibility of the TRI's shoreline.

The existing vegetation will most likely obscure the dock area. There is potential to introduce supplemental plantings consistent with existing species, along the shoreline to the south of the boathouse. However, it is unlikely that adding vegetation would reduce the visibility of the boathouse from this location.

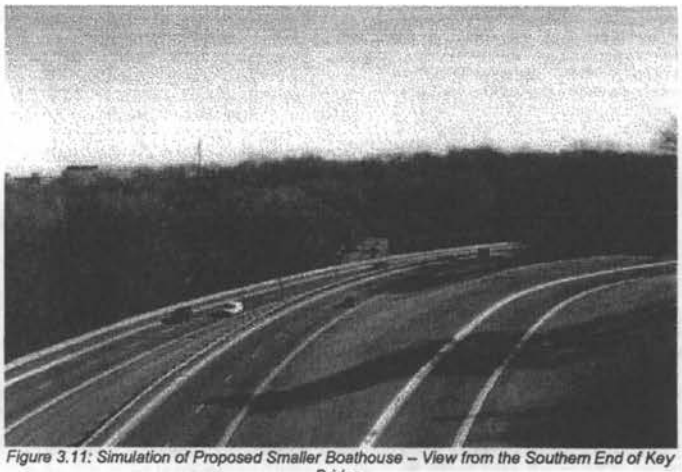


*Figure 3.11: Simulation of Proposed Smaller Boathouse – View from the Southern End of Key Bridge*



*Figure 3.12: Existing View from Northern End of Key Bridge*

*View 2:* From the pedestrian walkway at the northern end of the Key Bridge the Potomac River, Rosslyn skyline and the vegetation edge along the GWMP is visible (see Figure 3.12). From this location, approximately two thirds of the boathouse along with the dock will be visible (see Figure 3.13). This will change the existing vegetated character of the shoreline.

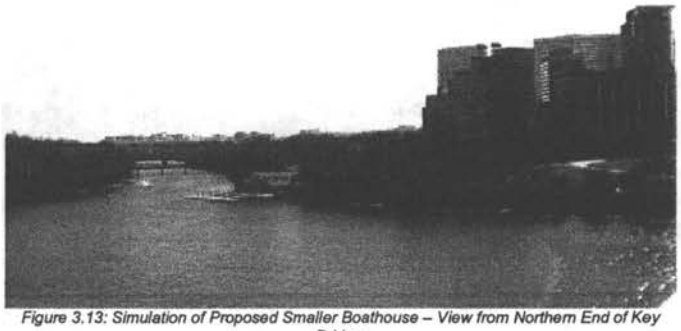


*Figure 3.13: Simulation of Proposed Smaller Boathouse – View from Northern End of Key Bridge*





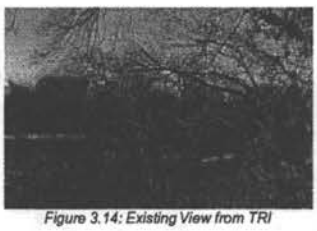


*Figure 3.14: Existing View from TRI*

*View 3:* From the existing hiking trail within TRI, the Little River Channel, portions of the boathouse site, existing vegetation along GWMP and some portions of existing buildings in Rosslyn are visible (see Figure 3.14). Nearly all of the proposed boathouse will be visible from this location during winter months (see Figure 3.15). During summer, the boathouse will be slightly more obscured by existing vegetation.

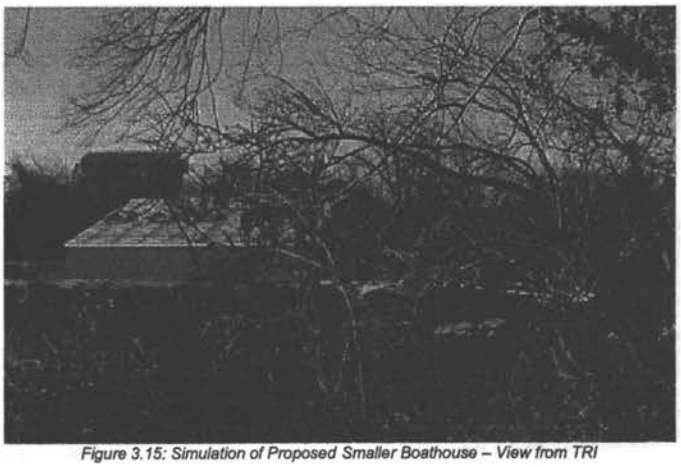


*Figure 3.15: Simulation of Proposed Smaller Boathouse – View from TRI*



*Figure 3.16: Existing View from the Georgetown Area*

View 4: From across the Potomac River, along Water Street in Georgetown, the Potomac River and the existing vegetation along GWMP create a foreground for multistoried structures in Rosslyn. From this location, the entire dock area and most of the boathouse would be visible.

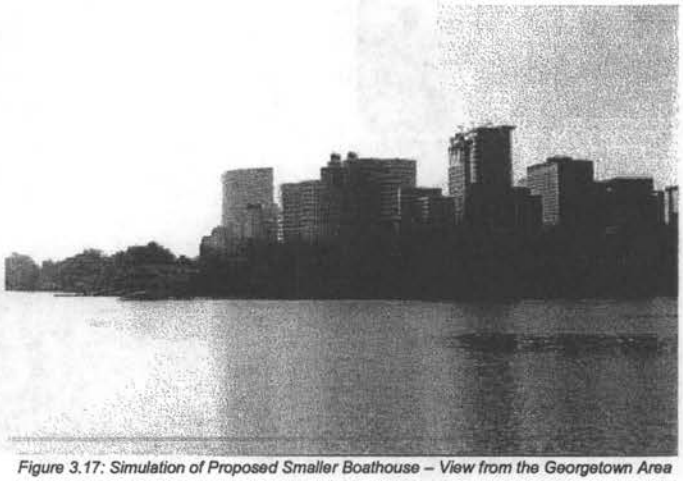


*Figure 3.17: Simulation of Proposed Smaller Boathouse – View from the Georgetown Area*







*Figure 3.18: Existing View from GWMP Northbound*

*View 5:* This view is from the center median of the GWMP looking north from underneath the existing pedestrian bridge (Figure 3.18). From this location, the entire upper level of the boathouse would be visible (see Figure 3.19) and would change the existing character of the drive along the GWMP. In addition, the Georgetown area, which is currently obscured behind existing vegetation, would become more apparent when the vegetation is removed. Potential for adding vegetation to screen the boathouse is restricted due to limitations of space between the proposed boathouse and GWMP.

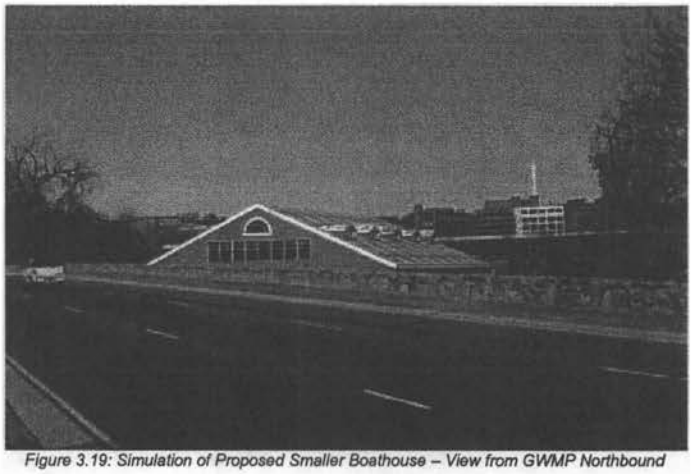


*Figure 3.19: Simulation of Proposed Smaller Boathouse – View from GWMP Northbound*



*Figure 3.20: Existing View from the Existing Pedestrian Bridge to TRI*

*View 6:* From the existing pedestrian bridge leading to TRI, looking north, the vegetated shoreline along GWMP, portions of Key Bridge, the Little River Channel and portions of the vegetation on TRI are visible (see Figure 3.20). From this location, portions of the dock area, one third of the front of the boathouse and the reconstructed pedestrian bridge (from Rosslyn) would be visible (see Figure 3.21). The simulation shows the displacement of the shoreline trees due to the realignment of the pedestrian bridge to Rosslyn and the boathouse. Removal of existing trees also will result in increasing the visibility of Key Bridge from this location.

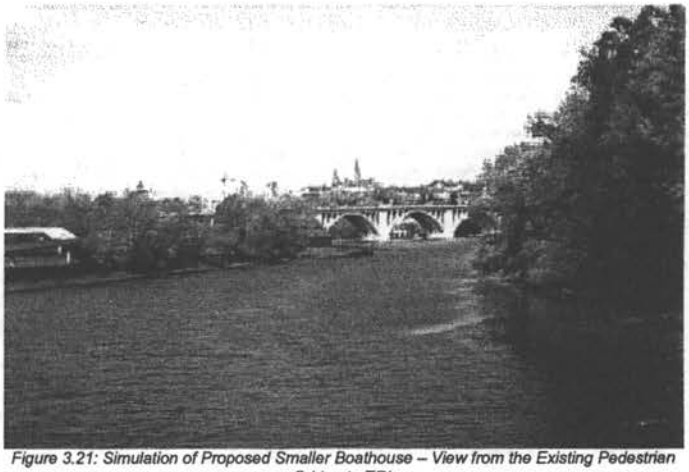


*Figure 3.21: Simulation of Proposed Smaller Boathouse – View from the Existing Pedestrian Bridge to TRI*





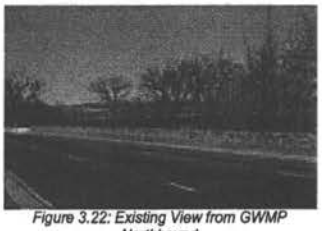


*Figure 3.22: Existing View from GWMP Northbound*

*View 7:* This view illustrates the potential view of the larger boathouse from the center median of the GWMP looking north from underneath the existing pedestrian bridge (see Figure 3.22). The increased size compared to the minimum scenario results in a greater view of the larger boathouse (see Figure 3.23 and compare with Figure 3.19).

### *3.1.3.5 – Order of Magnitude Cost*

A preliminary cost estimate of the conceptual plans, prepared for comparison purposes only, indicates that the redevelopment of this site with a potential boathouse could cost the following:

**Table 3.2: Preliminary Cost Estimates**

| | Smaller | Larger |
|---|---|---|
| Boathouse @$200/SF | $3.0 million | $3.8 million |
| Site Improvements* | $1.77 million | $1.9 million |
| 30% Contingency | $1.43 million | $1.7 million |
| **Total** | **$6.2 million** | **$7.4 million** |

* includes an estimate of $1,248,130 for improvements to the existing pedestrian bridge.

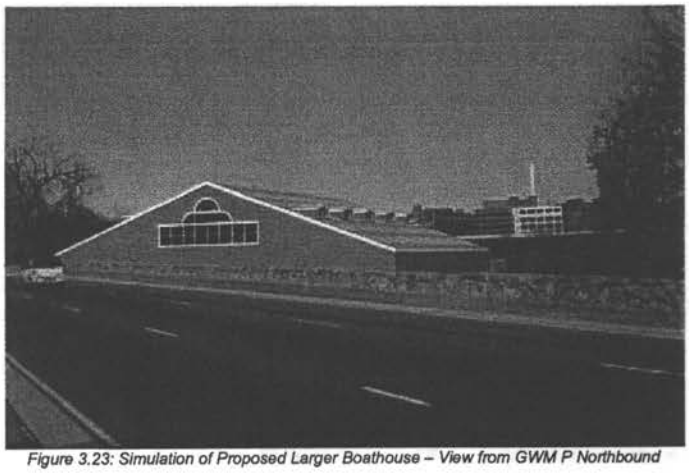


*Figure 3.23: Simulation of Proposed Larger Boathouse – View from GWM P Northbound*

## 3.2 ROSSLYN WATERFRONT – UPPER LEVEL

### 3.2.1 Existing Conditions

#### *3.2.1.1 – Physical Conditions*

***a. Existing Land Use***

The Rosslyn Waterfront Upper Level site is located to the west of GWMP, and to the east of North Lynn Street in Rosslyn. See Figure 3.1. The site is privately owned and sits isolated between Virginia Department of Transportation and NPS lands. It is currently vacant. This site provides an opportunity to locate the boathouse away from the river, with docks located adjacent to the river at the Rosslyn Waterfront Lower Level site.

***b. Infrastructure***

- Water: Record drawings of the GWMP indicate that a 16-inch waterline exists on the east and the north side of the site. A 12-inch waterline may also exist on the south side of the site. However, it is unclear as to whether this 12-inch line was abandoned when the former government garage facility was demolished. Nonetheless, it is likely that the new boathouse would be able to connect to the 16-inch line.

- Sanitary Sewer: Record drawings of the GWMP indicate that a 6-inch sanitary sewer force main may exist near the intersection of the abandoned driveway and N. Lynn Street. This sewer served the former government garage. However, it is unclear as to whether this force main was abandoned when the garage facility was demolished.

- Electrical/Telephone: Record drawings for the GWMP indicate the existence of overhead electric lines on the south side of the site. This service appears to have served the former government garage facility. It is assumed that the final siting of the boathouse facility and site improvements would not require relocation of the overhead electric lines. The size and capacity of this system is unknown at this time. Coordination with the utility companies would be required to determine if service is available. An underground telephone system exists in N. Lynn Street. Its size and capacity are unknown at this time.

#### *3.2.1.2 – Environmental Conditions (See maps 3.3, 3.4 and 3.6)*

- Floodplains: According to FEMA mapping, the upper Rosslyn site for the potential boathouse is designated an area of minimal flood potential (FEMA 1982).

- Wetlands: National Wetland Inventory data does not indicate any wetlands on this site. While it appears runoff may temporarily collect in the forested depression on the site during storms, NPS has conducted studies that indicate soils in this area do not exhibit hydric condition, thereby affirming the NWI indication of no wetlands on the property.

- Soils: Soils on the hillside site are likely similar to Glenelg loam. Glenelg soils are deep, strongly sloping, well-drained materials common on ridges and convex side slopes in the Northern Piedmont physiographic region of Arlington County (Hydel 2001). The site soils are moderately sloping and relatively well vegetated. A small stormwater channel has been eroded from the base of the steep southwestern slopes through the forested area on-site to the eastern depression. If similar to Glenelg loam, the site soils could be micaceous, which would indicate higher erosion and slough potential.

- Geology: No significant geologic features are evident on the site. The underlying geology is Sykesville Formation, a precursory malange of the Mather Gorge Formation, the prominent formation exposed around Chain Bridge and Great Falls (Fleming 1994).

- Vegetation: Vegetation on the upper Rosslyn site includes common suburban canopy and understory species in a western forest patch, and a grassy area on the eastern portion of the site. The forest growth exhibits edge characteristics such as prominent vine growth. A letter from the Virginia Division of Natural Heritage, dated December 10, 2001 states that no natural heritage resources or State Natural Area Preserves have been documented at the site. An additional letter from Natural Heritage dated February 11, 2002 states that highly altered sites, such as the upper Rosslyn and 14th Street Bridge sites, would present habitat less suitable for supporting rarities than the other potential boathouse sites.





- Wildlife: Wildlife on the upper Rosslyn site likely includes common urban species such as small mammals and birds. Since major roadways confine the small patch of forest on the site, larger species are not likely to utilize the forest patch for movement. A letter from the Virginia Division of Natural Heritage, dated December 10, 2001 states that no natural heritage resources or State Natural Area Preserves have been documented at the site. An additional letter from Natural Heritage dated February 11, 2002 states that highly altered sites, such as the upper Rosslyn and 14th Street Bridge sites, would present habitat less suitable for supporting rarities than the other potential boathouse sites.

- Topography: The upper Rosslyn site lies on moderate slopes descending from west to east. The southwestern extent of the site exhibits steeper slopes descending from the elevation of the adjacent jogging trail to a depression on the eastern portion of the site.

- Stormwater: Stormwater flows from west to east across the site toward the GWMP. Some slight channelization of stormwater is evident originating at the base of the steep southwestern slopes. Under heavy storm conditions it appears stormwater may collect on site where this small channel reaches a forested depression to the east.

- Noise: Noise conditions are the same as for the Rosslyn Waterfront Lower site.

#### *3.2.1.3 – Operational Factors*

***a. Transportation (Access and Parking)***

This site is located in Rosslyn with potential vehicular access from the northbound lanes of North Lynn Street (US 29) rather than from the GWMP. The access would be located between the exit ramp from westbound I-66 and the exit loop ramp from the southbound lanes of the GWMP.

- Access: Regionally, the proposed site would be directly accessible from several major roadways including the eastbound and westbound lanes of I-66* (*see ensuing discussion in following paragraph), the eastbound and westbound lanes of Lee Highway, and northbound and southbound US 29. Access to the site from the GWMP, while not direct, would be relatively straightforward; most likely motorists would use Spout Run and Lee Highway as a connection.

  Vehicular access to the site would be provided from the northbound lanes of N. Lynn Street, immediately adjacent to and north of the intersection of N. Lynn Street and the exit ramp from westbound I-66. Currently, there is a curb cut and an unused paved road that provides access to the site.

  The relatively close spacing along N. Lynn Street between the entrance to the proposed boathouse and the existing signalized intersection at the exit ramp from westbound I-66 may be problematic for larger vehicles. Specifically, it may be difficult for vehicles, especially those pulling large trailers, which use the exit ramp from westbound I-66 to turn right onto N. Lynn Street and then immediately turn right again into the Boathouse site. If it is not possible to achieve a sufficient turning radius in the design of the proposed site access, those vehicles could, instead, travel on a short but circuitous path using nearby local roads to reach the site:

  - From the I-66 westbound ramp, continue straight across N. Lynn Street onto westbound Lee Highway
  - At the next intersection, turn left onto southbound US 29
  - At the next intersection, turn left onto eastbound Lee Highway
  - At the next intersection, turn left onto N. Lynn Street
  - Turn right into the site driveway

  Local access to the site from other directions should not be problematic. Likewise, access from the site should be straightforward as well. While the site is located along a one-way northbound street, vehicles can easily gain access to the west, south and east within one block of the site via local roads.

- Parking: A paved area currently exists at this location. This area is in a state of disrepair, with poor pavement condition and overgrown vegetation. A cursory

review of the site showed that parking could be provided in a space approximately 320-feet long by 55-feet wide. This space could provide parking for approximately 60 vehicles with standard size spaces, or fewer, larger spaces if provision is made for vehicles with trailers.

***b. Rowing Conditions***

Rowing conditions are the same as the Rosslyn Waterfront Lower Site.

***3.2.1.4 – Cultural/Visual Conditions***

***a. Cultural Resources***

There are no known archaeological features on or adjacent to the upper Rosslyn site. Arlington County historic photos and maps indicate that the site had been previously developed by the early 1900s, thus greatly reducing the potential for undisturbed prehistoric artifacts on the site (Arlington County, 2001). Artifacts from this initial period of development could potentially be present on the site. The GWMP is a National Historic Register property that is in the vicinity of the project site.

***b. Visual Conditions***

The site is largely wooded (see Figures 3.28 and 3.30). It is part of a larger vegetated and wooded area to the east of Rosslyn. The area where the boathouse may be located is visible from Rosslyn, Key Bridge, portions of TRI, from the off-ramp off GWMP southbound, from the river and from Georgetown.

### 3.2.2 Conceptual Site Plan

Two conceptual plans were prepared to test the potential of locating a boathouse at this site. Figures 3.24 and 3.25 illustrate a smaller boathouse with a footprint of 10,000 SF. Figure 3.26 illustrates a larger boathouse with a footprint of 14,000 SF. Docks and a staging area are proposed at the river's edge. In both plans, a new access road is proposed off North Lynn Street, with a drop-off area to the east of the boathouse. In both cases, the boat storage bays are assumed to open to the east. A staging area is proposed at the upper level. To avoid potential conflicts with users of the Mount Vernon Trail, a second pedestrian bridge and a new trail is proposed. These schemes would require rowers to either carry their boats, or use some form of a small towing vehicle, to bring the boats to the river and back each time they go rowing. The coaches' boats would be tied to the dock during the entire rowing season. During non-rowing periods, these boats could be off-loaded at another existing boathouse (e.g. Thompsons) and brought back via a trailer to be stored at the proposed boathouse.

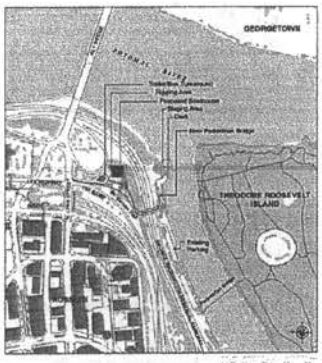



*Figure 3.24 Conceptual Site Plan*

### 3.2.3 Site Analysis

*Summary:* A boathouse, based on the proposed minimum and maximum program, with a footprint that ranges from 10,000 SF to 14,000 SF, could be accommodated at the upper Rosslyn site. However, there are a number of measures and improvements that would be necessary for these plans to work.

- The site is privately owned. To construct a boathouse, the site would have to be acquired.
- The Mount Vernon Trail currently provides pedestrian access across the GWMP at this location. This trail is heavily used by bicyclists, joggers and pedestrians. Rowers could use this trail, and its pedestrian bridge, to carry their boats from the boathouse to the river. However, the daily use of the trail by rowers taking their boats, often before sunrise or after sunset, and cyclists and/or joggers using the trail, could result in conflicting situations including potential accidents. To avoid such conflicts, a second path designed specifically for the use of rowers, along with a second bridge across GWMP, could be constructed. The appearance of this bridge could be similar to the existing bridge.





- An access road would be required off North Lynn Street for school buses, trailers and emergency vehicles. Historically there was a street that existed at this location. Property ownership records indicate that Arlington County may still retain the original right-of-way for this street, which would help to re-establish a street to serve the proposed boathouse.

***3.2.3.1 – Physical Conditions***

***a. Existing Land Use***

The boathouse would result in developing a wooded area. The dock and staging area would also result in adding a fairly active use in an area that is vegetated and minimally used.

***b. Infrastructure***

- Water: It is assumed that the new water service would need to be approximately 100-feet in length and consist of 4-inch ductile iron pipe. One new fire hydrant is likely to be required for fire protection.
- Sanitary Sewer: For purposes of this study it is assumed that a new force main would be required to serve the boathouse and connect to an existing sewer main in Rosslyn Circle. A pump/lift station in the boathouse would also be required to tie into this force main sewer. Approximately 500 -feet of new 4-inch force main sewer would be required to serve the boathouse.

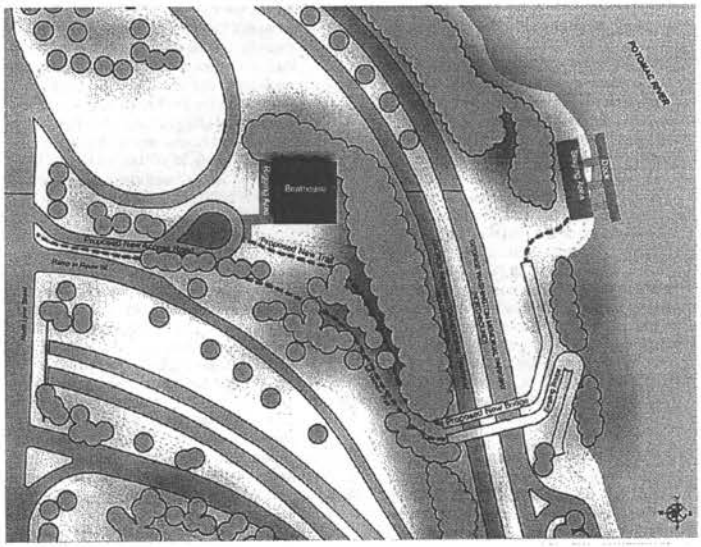



*Figure 3.25: Enlarged Conceptual Site Plan, Minimum Program Boathouse*

- Electrical/Telephone: For purposes of this study it is assumed that new telephone and electric services will be required to serve the boathouse and connect to existing electric/telephone facilities in N. Lynn Street. These services are assumed to be approximately 450-feet in length.

A summary of the new utility services are as follows:

- 500-feet of 4-inch ductile iron sanitary sewer force main.
- 1 ejector pump/lift station
- 100-feet of 4-inch ductile iron water main
- 450 -feet of two-way 4-inch PVC electric conduit with handbox
- 450 -feet of two-way 4-inch PVC telephone conduit with handbox
- 200-feet of 15-inch RCP storm drain
- one fire hydrant
- two storm drain inlets
- one storm drain manhole
- two sanitary sewer manholes

Note: It is assumed that the staging area and dock do not require utility services.

### *3.2.3.2 Environmental Conditions*

- Floodplains: In accordance with the FEMA designation and observations of topography at the potential development site, the site would not be inundated by 100-year flood conditions.

- Wetlands: There are no wetlands located on the upper Rosslyn site. Therefore development of the potential boathouse facilities on the site would not result in direct impacts to wetlands. There would be approximately 7,800 square feet of wetlands along the shoreline that would be impacted due to the construction of the staging area and docks.

- Soils: The sloping, well-drained soils on the upper Rosslyn site provide a suitable substrate for vegetative growth while exhibiting a high potential for erosion. To preserve the sensitive site soils for the growth of vegetation and to reduce the potential for increased soil erosion and sedimentation, development of the potential boathouse facilities should retain the maximum practicable amount of undisturbed soil area. Development of the smaller boathouse would likely disturb approximately 1.33 acres of area while development of the larger boathouse would likely disturb about 1.41 acres of area.

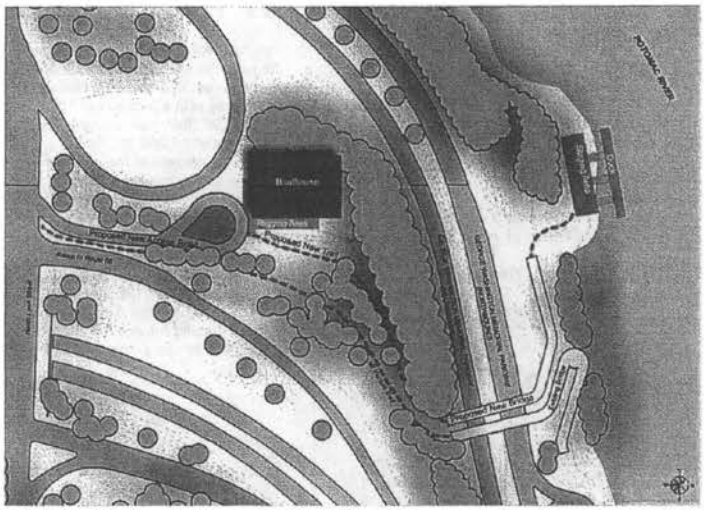



*Figure 3.26: Enlarged Conceptual Site Plan, Maximum Program Boathouse*

- Geology: Many examples of past development upon Sykesville formation geology within Rosslyn indicate that development of the potential boathouse facilities on the upper Rosslyn site would not likely be complicated by adverse geologic structural conditions. Since the Sykesville formation is composed of a variety of materials and could be inconsistent in composition and structure, geologic borings conducted prior to construction would provide the necessary detailed understanding of structural conditions under the development site.





- Vegetation: Some vegetation on the upper Rosslyn site would be removed by development of the potential boathouse facilities. The smaller boathouse would clear approximately 39,000 square feet of treed area; the larger boathouse would clear about 41,220 square feet of treed area. Based on visual surveys and Virginia Natural Heritage Department records, the trees that would likely be removed are not rare, threatened or endangered species and are not part of critical habitat.

- Wildlife: There is no documented critical habitat on the upper Rosslyn site and there are no records of rare, threatened or endangered species on the site. Accordingly, development of the potential boathouse at the site would not likely disturb sensitive wildlife species. Common urban species inhabiting the site should be readily able to utilize other similar habitat along the Potomac River, in proximity to the site, if disturbed by development of the boathouse.

- Topography: The potential boathouse facilities at the upper Rosslyn site would be built on the northwestern portion of the site, thereby minimizing disturbance of the steeper slopes at the southwestern extent of the site. The addition of fill material on the eastern slopes that descend toward GWMP would likely be necessary to provide an adequate foundation for the boathouse. Per the conceptual site plan, construction of the smaller boathouse would require approximately 35,000 cubic feet of fill while the larger boathouse would require about 63,000 cubic feet of fill.

- Stormwater: Construction of the potential boathouse facilities at the upper Rosslyn site would increase the amount of impervious surface on the site. The smaller boathouse would add 28,000 square feet of impervious surfaces while the larger boathouse would add approximately 32,000 square feet of impervious surfaces. This increase in impervious surfaces would increase the potential runoff volume on the site. The presence of sensitive sloping soils would necessitate stormwater controls to effectively prohibit accumulated runoff from eroding soils on the site. Stormwater management measures would be required to prevent adverse changes to the predevelopment stormwater quantity and quality conditions at the site.

- Noise: This area is likely to experience the least amount of aircraft noise as planes are at a much higher altitude compared to the 14th Street and Daingerfield Island sites.

### *3.2.3.3 – Operational Factors*

#### *a. Transportation (Access and Parking)*

Three potential constraints related to traffic and access issues were identified for this site:

- Vehicular access to the site from the westbound exit ramp from I-66 for large vehicles (possibly buses) or vehicles pulling trailers; direct access may not be possible due to restricted turning radii.

- Since no parking is proposed, it is likely that automobiles will be able to use the existing parking spaces in the GWMP parking lot, accessible from the GWMP, or other existing parking spaces in downtown Rosslyn.

- Travel Times: During the week of January 18, 2002, travel times were obtained between the site and the three public high schools. Vehicles departed the schools at approximately 3:15 PM to simulate vehicles leaving the schools and traveling to after-school practice. Vehicles departed the site at approximately 6:00 PM to simulate vehicles leaving the boathouse after practice and returning to school. These times were based on information received from the coaches of the rowing teams at Washington-Lee and Wakefield High Schools.

Table 3.3

| School | Travel Times to Site Depart 3:15 PM | Travel Times from Site Depart 6:00 PM |
|---|---|---|
| Washington Lee | 11 minutes | 14 minutes |
| Yorktown | 16 minutes | 14 minutes |
| Wakefield | 15 minutes | 19 minutes |
| Average Travel Time | 14 minutes | 15 min 40 sec |

- Transit Access: The closest Metro Station at Rosslyn is about 0.25 miles from the site, less than 10 minute walking distance. There is currently no bus service to the site.

***b. Rowing Conditions***

Rowing conditions on the river would be identical to those described for the Rosslyn lower site. In addition, locating the boathouse at the Rosslyn upper site would require students/rowers to take their boats daily to and from the river, a walk of approximately 900 feet.

***3.2.3.4 – Cultural/Visual Resources***

***a. Cultural Resources***

Since there are no known archaeological resources on the upper Rosslyn site, the development of the potential boathouse would not be expected to result in impacts to archaeology. Performance of careful historic and archeological studies of the project site and adjacent areas, prior to initiation of construction, would help to ensure against the loss of any potential, valuable cultural resources due to development of boathouse facilities.

The GWMP would not be directly affected by construction of the boathouse facilities at the upper Rosslyn site. The visual character associated with the historic property could be affected by the development as discussed regarding the visual simulations of the conceptual plan.

***b. Visual:***

To assess potential visual impacts of the proposed boathouse, simulations of the boathouse were prepared and overlapped with existing images. The locations of the images were determined based on their level of visibility from public places (see Figure 3.27). The existing boathouse at Alexandria was used as a model for the simulated architectural style of the proposed boathouse.

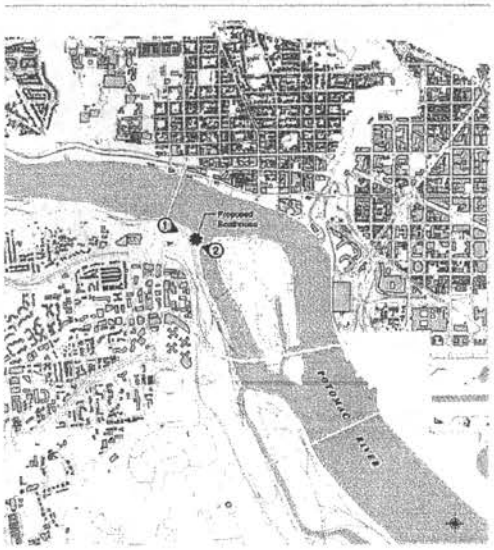



*Figure 3.27: Location of Photo Simulations*







*Figure 3.28: Existing View from North End of Key Bridge*

*View 1:* From the pedestrian walkway at the northern end of the Key Bridge the Potomac River, Rosslyn skyline and the vegetation edge along the GWMP is visible (see Figure 3.28). From this location, the boathouse will be obscured. However, the dock area would be visible along the shoreline, as would be portions of the additional pedestrian bridge across GWMP (see Figure 3.29).



*Figure 3.29: Simulation of Proposed Smaller Boathouse – View from North End of Key Bridge*



*Figure 3.30: Existing View from TRI*

*View 2:* From the existing hiking trail within TRI, the Little River Channel, portions of the boathouse site, existing vegetation along GWMP and some portions of existing buildings in Rosslyn are visible (see Figure 3.30). The boathouse will be totally obscured behind existing vegetation (see Figure 3.31, where the boathouse outline is shown). The docks will be visible from this location, but partially obscured by existing vegetation.

#### *3.2.3.5 Order Of Magnitude Cost*

A preliminary cost estimate of the conceptual plans, prepared for comparison purposes only, indicates that the redevelopment of this site with a potential boathouse could cost the following:



*Figure 3.31: Simulation of Proposed Smaller Boathouse – View from TRI (the boathouse outline is indicated to identify its location)*

**Table 3.4: Preliminary Cost Estimates**

| | Smaller | Larger |
|---|---|---|
| Boathouse @$200/SF | $3.0 million | $3.8 million |
| Site Improvements* | $1.62 million | $1.66 million |
| 30% Contingency | $1.38 million | $1.64 million |
| **Total** | **$6.0 million** | **$7.1 million** |

* includes an estimate of $1,151,000 for a new pedestrian bridge.