

Transient Non-Trailerable Boat Facilities A Plan for the Upper Monongahela in West Virginia

prepared for
**Upper Monongahela River Water Trail SIG
Vision 2020
Morgantown Area Chamber of Commerce**

by
Strimbeck, Shuck & Venable
Engineers & Consultants
P.O. Box 519
Granville, WV 26534-0519

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Executive Summary

The Upper Monongahela River is a “slackwater navigation” created by dams and locks at Point Marion, PA, Morgantown, WV, Hildebrand, WV, and Opekiska, WV which are operated by the US Army Corps of Engineers. It has been described as one of the most scenic navigable rivers in America, yet visits by outsiders are rare. The communities along this stretch of river are above average in education, income, and environmental interest, yet the numbers of locally based cruising boats are extremely low. We believe that the answer to the question “Why aren’t the rivers used for cruising?” is simply “There’s no place to go!” That is, transient facilities for cruising boats on the Upper Mon are virtually non-existent.

The Upper Monongahela River Water Trail SIG is building support for a federal BOATING INFRASTRUCTURE GRANT (BIG) of \$100,000 from the West Virginia allocation of the program. The purpose is to install public docks and other shore-side facilities and attractions for transient non-trailerable boats. The BIG program provides funding on a 75%-25% matching basis. Facilities must be targeted for boats over 25 feet in length, and be primarily for short term use. Funding is derived from Federal taxes on fuel used by pleasure boats.

In support of this effort we have studied the problem and conclude that the use of the Upper Monongahela by transient non-trailerable boats would increase if the following facilities were constructed:

- A day dock at Morgantown (Hazel Ruby McQuain) Riverfront Park
- A day dock at Pricketts Fort State Park
- An overnight dock at Rivesville, West Virginia
- A day dock at Fairmont, West Virginia
- Improvements to the docking facilities at Star City (Edith Barrill) Riverfront Park

Introduction

Those who have visited the Upper Monongahela River by boat describe it as one of the most scenic navigable rivers in America, yet visits by outsiders are rare. The communities along this stretch of river are above average in education, income, and environmental interest, yet the numbers of locally based cruising boats are extremely low.

We have been tracking boating on the Monongahela River in West Virginia for over 25 years. We believe that the answer to the question “Why aren’t the rivers used for cruising?” is simply “There’s no place to go!” That is, transient facilities for cruising boats on the Upper Mon are virtually non-existent.

In this report we use the name “Upper Mon” to refer to the Monongahela River in West Virginia, along with the navigable portions of the Tygart River and West Fork River. This definition is arbitrary and based on an interest in development funded within West Virginia. We are separately studying needs and facilities in the Maxwell and Grays Landing pools in Pennsylvania.

This waterway is a “slackwater navigation” created by dams and locks at Point Marion, PA, Morgantown, WV, Hildebrand, WV, and Opekiska, WV which are operated by the US Army Corps of Engineers. Figure 1 - Diagram of the Monongahela Navigation, shows locations of these locks. These locks, with the exception of Hildebrand and Opekiska, are open all day all year. Since circa 1985, Hildebrand and Opekiska locks are open day shift only, every day all year.

Water quality of the river is high, as evidenced by data on the local sport fishing. The West Virginia Department of Natural Resources reports that during the year 2000 there were 46 bass fishing tournaments on the Monongahela River within the state. The success rate was the highest ever recorded for a major West Virginia tournament site.

Table 1 shows the US Army Corps of Engineers pleasure vessel lockage data for the six upper locks on the river. These figures clearly indicate that the usage of the portion of the river in West Virginia is different from the usage of the Pennsylvania portion.

LOCK	UPBOUND	DOWNBOUND	TOTAL
Maxwell	1,074	1,075	2,149
Grays Landing	741	740	1,481
Point Marion	238	231	469
Morgantown	316	328	644
Hildebrand	160	155	315
Opekiska	371	369	740

Table 1 - Recreational Boat Transits of Locks on Upper Half of Monongahela River for the year 2001.

Maxwell Lock lies just below Ten Mile Creek which is the location of six marinas plus two public ramps. Ten Mile Creek is almost at the exact mileage mid-point of the river. These marinas are home to about a fourth of the larger pleasure vessels in the Pittsburgh area.

Recreational traffic through Grays Landing has been relatively strong since the establishment of Two Rivers Marina and Campground, about two miles below Point Marion. This marina serves as a destination for boats from both up and down river, and provides overnight dockage, swimming pool, restaurant, and weekend entertainment.

Recreational boat transits both ways through the Point Marion lock, and the locks above, are minimal. Two factors operate here.

First, boaters from the north hesitate to enter WV because of the lack of facilities, and, because the day-shift-only hours (since 1985) for the Hildebrand and Opekiska locks deter northern boaters from running up to Fairmont. Northern boaters run the risk of being stuck south of Hildebrand or Opekiska, with no place to stay having adequate docks, not to mention electricity, water, and sewage, or ready access to shoreside accommodations, restaurants, and entertainment.

Second, West Virginia boaters on the Upper Mon hesitate to make long day trips north because they can't make a daytime round trip due to the restricted lock hours for Hildebrand and Opekiska.

Although the data is not broken down by vessel type, we know that a very large percentage of the traffic through Morgantown, Hildebrand and Opekiska consists of small "bassboats." These use the locks to access the highly productive fishery in the Hildebrand and Morgantown pools, which lack launching ramps, from boat ramps at the Star City and Pricketts Fort parks.

The Upper Monongahela River Water Trail SIG is building support for a federal BOATING INFRASTRUCTURE GRANT (BIG). The purpose is to install public docks and other shore-side facilities and attractions for transient non-trailerable boats.

The BIG program provides funding on a 75%-25% matching basis. Facilities must be targeted for boats over 25 feet in length, and be primarily for short term use. Owners of facilities constructed with BIG funds are permitted to make reasonable charges for use. Funding is derived from Federal taxes on fuel used by pleasure boats. Each state is allocated a base of \$100,000, with additional funding being awarded to states on a competitive basis. The Upper Monongahela River Water Trail SIG is requesting the \$100,000 constituting the West Virginia base allocation of the program for the next fiscal year.

Because the focus of the BIG is on cruising boats over 25 feet in length, the authors have focused this report on the needs of that group of boats and owners.

Summary of Existing Facilities for Large Boats

At present the river is served by four small marinas, each located at a considerable distance from other commercial resources and points of interest, and only two docks in developed areas. Invitations to use private facilities at other locations are often extended, but not as a public accommodation.

Riverside Marina (Mile 95) has accommodations for transient boats up to lengths of at least 50 feet. It provides water, dockside electricity and lighting, gasoline, repairs, plus very basic toilets and showers. It has a ramp, but no lift; the marina owner uses the ramp to haul his 45 foot houseboat each season, and light boats up to about 32 feet in length are hauled and stored seasonally if the owners provide their own trailers. There are no other local commercial or recreational facilities, and it is about six miles by road to the nearest stores, etc. at Star City. There is no regular bus or taxi service. Business hours of operation are year-round, but limited, while docks are usually only available between May and November.

Star City (Mile 98) has a good dock approximately 100 feet long in its Edith Barrill Riverfront Park, as well as a WV-DNR boat ramp for boats under about 25 feet in length. This dock is locally referred to as the River Princess Dock. The River Princess was a houseboat type USCG (US Coast Guard) licensed passenger vessel which served the area for about two seasons, but it has not returned to the Mon for several years. The dock has water, electric service and lighting. The park has picnic facilities and a small playground. There is a handicapped fishing pavilion, and portapotty. It is located adjacent to the 35 mile Mon River Trail (Caperton rail-trail). There are several restaurants, three motels, a bank, supermarket, gas stations, a lumber yard, pharmacy, and a discount department store within walking distance. There is local bus service from the discount store. A small glass factory offers tours, and there is an antique-and-collectibles shop.

Twin Spruce (Uffington) Marina (Mile 105) has a ramp and docks for small boats, and gasoline. They have no transient dockage. It is located adjacent to the 35 mile Mon River Trail (Caperton rail-trail). Hours of operation are very limited.

Six & Plum Marina and Campground (Mile 112) has overnight dockage, and can accommodate boats up to about 45 feet. They have showers, water, snacks, and do limited repairs. Road access is very limited and involved.

Fairmont (Mile 121) has a simple ramp with steeply sloped parking, and a relatively primitive dock. The dock is designed for small boats, but can be used by vessels up to about 35 feet for short stays. There is access to shopping and, through a considerable walk across the bridge, access to the downtown area.

Woods Boat House (Mile 2, Tygart River) has complete facilities for small boats. They sell ice and gasoline, but do not provide overnight dockage for large craft. There are several restaurants within walking distance.

There are no facilities for sewage pump-out within West Virginia. In fact, the closest publicly accessible point at which boats can have toilets and holding tanks emptied is at Millsboro, PA, about 35 miles north of the Pennsylvania-West Virginia line. Restrooms at facilities with transient docks are located at Riverside Marine (Mile 95), Star City (Mile 98) and Six & Plum Marina (Mile 112). In general, marina restrooms are not suitable for holding tank disposal because they are on small septic tank systems.

Fuel resources are probably adequate, providing visitors use the information available in cruising guides. While the very limited number of locations providing gasoline handicaps small boat users, it is probably adequate for non-trailerable boats which have larger tanks. No location provides diesel, but transient boats using diesel fuel generally have large tanks and should not encounter problems if they fill in the Ten Mile Creek (Millsboro, PA) area.

General Recommendations

We conclude that the use of the Upper Monongahela by transient non-trailerable boats would increase if the following facilities were constructed:

- A day dock at Morgantown (Hazel Ruby McQuain) Riverfront Park
- A day dock at Pricketts Fort State Park
- An overnight dock at Rivesville, West Virginia
- A day dock at Fairmont, West Virginia
- Improvements to the docking facilities at Star City (Edith Barrill) Riverfront Park

By “day dock,” we do not mean a dock which may only be used during the day, but a facility which does not have electrical power, water, and other utilities.

While this plan covers details of each of these sites separately, they should be seen as constituting a group element in the development of the Upper Monongahela River Water Trail rather than as separate projects. Our preliminary study of costs has been directed at affirming that this combined development can be accomplished using \$100,000 of BIG funding, combined with local matching. We do not suggest the equal distribution of funds to each site, but rather that the grant administrator should allocate money in response to final detailed plan costs and local matching available. We believe that each site merits an investment of about \$30,000, and that the work suggested can be done within that limit.

The engineering designs provided herein are intended for conceptual purposes. They represent the general conditions and projected facilities, but are not intended to serve as final design specifications. Each site will require detailed examination and measurements including depth soundings prior to preparation of site specific detailed design plans. We believe that all of the primary sites recommended in this report are currently owned by public entities, although we have not conducted detailed review of property records.

Star City

Current features of Star City have been described above. In addition we call attention to the fact that the community has a riverfront development committee in operation, and a very attractive conceptual plan has been developed. In addition to boat services and commercial ventures, the plan includes a glass museum.

The Town of Star City (Mile 98) has been the leader in the development of boating facilities on the Upper Mon. About 1995 they constructed a dock for use by the

River Princess passenger vessel which is seen as a model facility by boaters throughout the region.



Star City Dock

Star City has discouraged the use of their excellent dock by boaters, whether local or transient. Apparently liability issues have been a primary concern. We recommend that they address this issue, and develop signage which welcomes transient boaters and provides local information.

The dock itself is probably adequate in size to meet near-term needs of transients, although extension would not be out of place. Improvement of other facilities should be the focus here, with “sanitary” needs being the most obvious, followed by electricity for overnight use. Based on the need for connections to sanitary sewer lines, Star City has one of the two locations at which a toilet pump-out station may be easily installed, with Rivesville being the other. The pump-out station can be constructed in conjunction with a planned restroom facility for other park users, and consideration of a shower room should be included in the planning process.

Morgantown Riverfront Park

The City of Morgantown has an aggressive riverfront development program in place. Hazel Ruby McQuain Riverfront Park has been developed in a former dump site, and adjacent to this the former B&O railroad line has been acquired and converted to a general purpose trail system. The 25 mile Mon River Trail (named the Caperton Trail within city limits) extends along the river from the state line to Prickett’s Fort State Park, while the 15 mile Deckers Creek trail runs east to Preston County.

The downtown area has many attractions including art galleries, theaters, numerous restaurants varying in cuisine and price, and several antique/collectible and boutique type stores.

Access to public transportation is excellent, with the local bus station on the edge of the park, the Greyhound station about a block away, and local taxi service on call. The Downtown station of the West Virginia University-Morgantown Personal Rapid Transit (PRT) system is about three blocks away. The PRT, an international attraction in its own right, is sometimes incorrectly referred to as a monorail. For passenger or crew changes, Morgantown Municipal Airport has commuter connections to Pittsburgh.

A massive commercial development is moving forward in the Wharf District on the southern edge of the downtown area. Construction of a Radisson hotel is under way, along with restaurants. A building for the West Virginia Public Theater, which offers “summer stock” type entertainment, is planned, and it is expected that other entertainment facilities will be developed.

A dock at Hazel Ruby McQuain Park (Mile 101) is vitally needed for two reasons:

1. To provide day access to Downtown Morgantown attractions and merchants to boaters from outside our area.

2. To support fairs and festivals at the park. These include the Arts & River Festival and the public concerts in addition to the Mason-Dixon Festival. Transient pleasure boats up to 90 feet in length have visited park festivals in the past.

During early festivals visiting boats were beached and tied to trees. During park construction old concrete and reinforcing bars which had earlier been dumped on the site were pushed over the beach area. In the process, the usability of this “facility” went from “poor” to “dangerous.”



Hazardous condition at McQuain Park

walking access to a gas station, downtown stores, restaurants, hotel, and public transit.

The boat ramp at the foot of Walnut Street is the traditional steamboat landing. It can accommodate large vessels for passenger boarding, but has minimal provision for securing lines. It is not useable as a non-trailerable boat mooring. The ramp is useful only for light boats up to about 18 feet in length, and trailer parking is very limited.



Suggested site at McQuain Park

allows festivals to best feature boats.

In the recent past the only activity drawing boaters to shore activity has been the Mason-Dixon Festival, and it has relied on borrowing privately owned docks. The docks which have been used in the past are rapidly declining in several safety aspects and the owners are reluctant to continue to provide them. While planned docks in the Wharf District can serve as “off-site parking” for festival visitors, they will not make boats part of festival activities and “the backdrop for the show.”

There is good, but steep,

This site has good road access, although no long-term parking.

As noted above, the park is adjacent to the Caperton rail-trail. Restrooms for the trail are under construction, and will be accessible to transient boaters. Portable toilets might be emptied here, although a considerable carry will be required.

We would recommend that the new dock be placed behind the stage. This location provides visitors with the most convenient access to the bus terminal and restrooms, provides the more gentle walk to the town center, and

Pricketts Fort State Park

Pricketts Fort State Park (Mile 121) has the best small boat facilities on the Monongahela within West Virginia. There is a boat ramp with good weekday parking, although more parking is needed.

The park has a reconstruction of a frontier fort, and during the summer a blacksmith, weavers, and other craft workers do demonstrations daily. An amphitheater hosts several concerts each summer, and a summer pageant was staged here for several years.

There is access to two trails, the long distance, Caperton Trail and the local MACTrail, and further trail extensions will take place if plans for re-use of the river-crossing railroad bridge can be put into place.

There is reasonably good road access to I-79 from the park.

Despite the excellent facilities for boats under 20 feet in length, cruising boats are virtually denied use of the park. Large vessels are excluded from entry to the park by the former railroad bridge over Pricketts Creek, as well as by siltation in the basin. The park needs a river dock to allow access to the park's numerous attractions.

Rivesville

The Town of Rivesville (Mile 122) has several convenience stores, as well as several points of interest. There is considerable private small boat dockage, but no public or large boat accommodation.

The town is in the process of constructing a small riverfront park at its Municipal Building. This will include a gazebo and other picnic facilities. A small boat dock is included, but expansion to accommodate non-trailerable vessels should be undertaken.

A sanitary pump-out station, as well as a porta-potti disposal point, should be provided at this location to serve the needs of the Opekiska Pool.

Fairmont

The City of Fairmont (Mile 127) is the county seat of Marion County. It is home to Fairmont State College, and has an assortment of good restaurants. It hosts several community festivals each year, primarily at sites along or near the river. There is good road access to I-79.

Fairmont has two potentially good locations for a transient dock. The most desirable is at the current city ramp. The second is on property owned by the WMAC Foundation, a non-profit corporation established for the improvement of river access.

It is a fairly long walk from the ramp across the "Million Dollar Bridge" to the downtown area, but a supermarket, gas station, restaurants, and other stores are located near the ramp.

Plans For Transient Docks

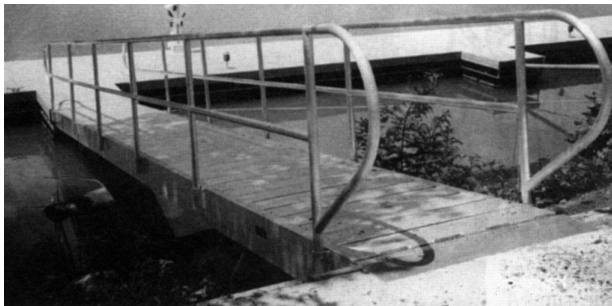
Our preliminary dock designs for transient non-trailerable boats are similar to the one at Star City. These use stock components made by Merco Marine who supplied the units used at Star City, but differ in dimensions and details.

The Merco truss frames are of welded steel, hot-dip galvanized after fabrication, and are supported on foam filled plastic tanks manufactured specifically for use as flotation. Our cost estimates are based on the use of Vinyl Deck available through Merco, rather than pressure treated lumber.

We suggest a main floating dock 6 feet wide and 60 feet long, with 3 jointed sections and a 16 foot dinghy landing extension. The total parts cost approximately \$9000, with a projected total cost of \$20,000 per installation including walkways, anchorage points, and assembly.

A pre-fabricated Merco aluminum gangway would be used, along with pipe standoffs.

River levels on the Upper Mon are generally stable throughout the boating season, but the occasional rises are rapid and can be of very large magnitude. River fluctuations may be accommodated either by using pilings driven into the river bottom or by the use of standoffs to secure floating docks. We recommend using standoffs since this is the common and successful local practice and because they can be installed from land and therefore do not require the use of a marine contractor. This type of anchorage is shown in the gangway illustration.



Merco gangway

Because the preliminary work for this study was undertaken during the winter, we have not been able to take depth soundings at each location, but the general bottom profile in the Upper Mon allows vessels with draft up to about eight feet to get within about twenty feet of the bank at almost all points. We are confident that no

dredging will be required at any of the proposed sites, and that adjustments in stand-off length and/or minor position changes will allow for any shallows identified in pre-construction soundings.

Dock Maintenance - We believe that the proposed docks will require relatively little expense for maintenance during the project life. Primary requirements will be for removal of duck excrement and leaves, modest increases in park rubbish disposal costs, and at some sites, increased brush cutting or lawn mowing.

Although most local dock owners have historically removed docks from the river each winter, we think this is probably unnecessary if construction is to the standards suggested. The Tygart and Stonewall Jackson Reservoirs have nearly eliminated the dangers of severe ice jams and flooding. The Star City dock, which is similar in design,

has, in fact, remained in place twelve months a year since its installation about six years ago.

Sanitary Facilities

The information on sanitary facilities provided below is intended as a general cost estimation, rather than as final design selection.

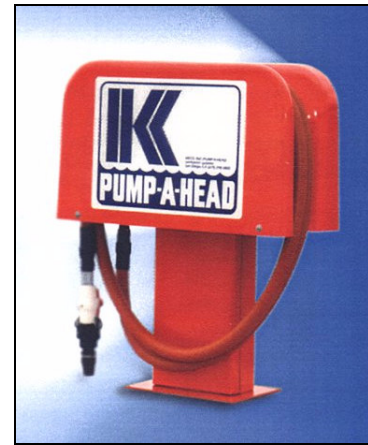
We recommend the installation of sewage disposal facilities at two locations: Rivesville, in the Opekiska Pool, and Star City, in the Point Marion Pool. These facilities are needed to serve the existing boating population as well as transients, and income from local boats will help to support the facilities. As previously noted, there are currently no sewage disposal facilities for boats on the Monongahela within West Virginia.

At each location there should be a disposal point for portable toilets as well as a pumpout station for boats with holding tanks.



For portable toilets we would suggest the KECO Model 300G "Kleen-A-Potti." This unit should be installed on the ground, rather than docks, in association with restroom facilities. It could be enclosed and have a coin operated door lock. Cost of this unit is about \$1300 plus shipping and installation. We estimate the installed price at \$2500.

For holding tank pumpout we would suggest the KECO Model 150 "Pump-A-Head." This unit should be installed on the docks. We recommend the token operated switch which will permit operation by boat owners at any time. Tokens could be sold at a nearby convenience store as well as through municipal offices. Cost of this unit is about \$4200 plus shipping and installation. We estimate the installed price at \$5500.



Public Dock Information Sign

An information sign for a public dock should provide visitors with information on almost all services located within easy walking distance. Information should be keyed to a map of the local area.

The following are commonly of interest to cruising boat owners:

- General emergency services
- Emergency non-critical medical and dental care

- Laundromats
- Beer, wine, and liquor stores
- Bagged ice
- Milk and bread
- Supermarkets
- Hardware stores
- Auto parts stores
- Lumber yards
- Department stores
- Restaurants
- Hotels and motels
- Museums
- Antique and collectibles stores
- Factories with tours or outlet shops

While advertising revenues may cover the costs of such a sign, listings should not be restricted to advertisers. If a boat can not find a listing for a critical item, they may move on to another location without patronizing any local businesses.

If included, telephone numbers should include the area code.

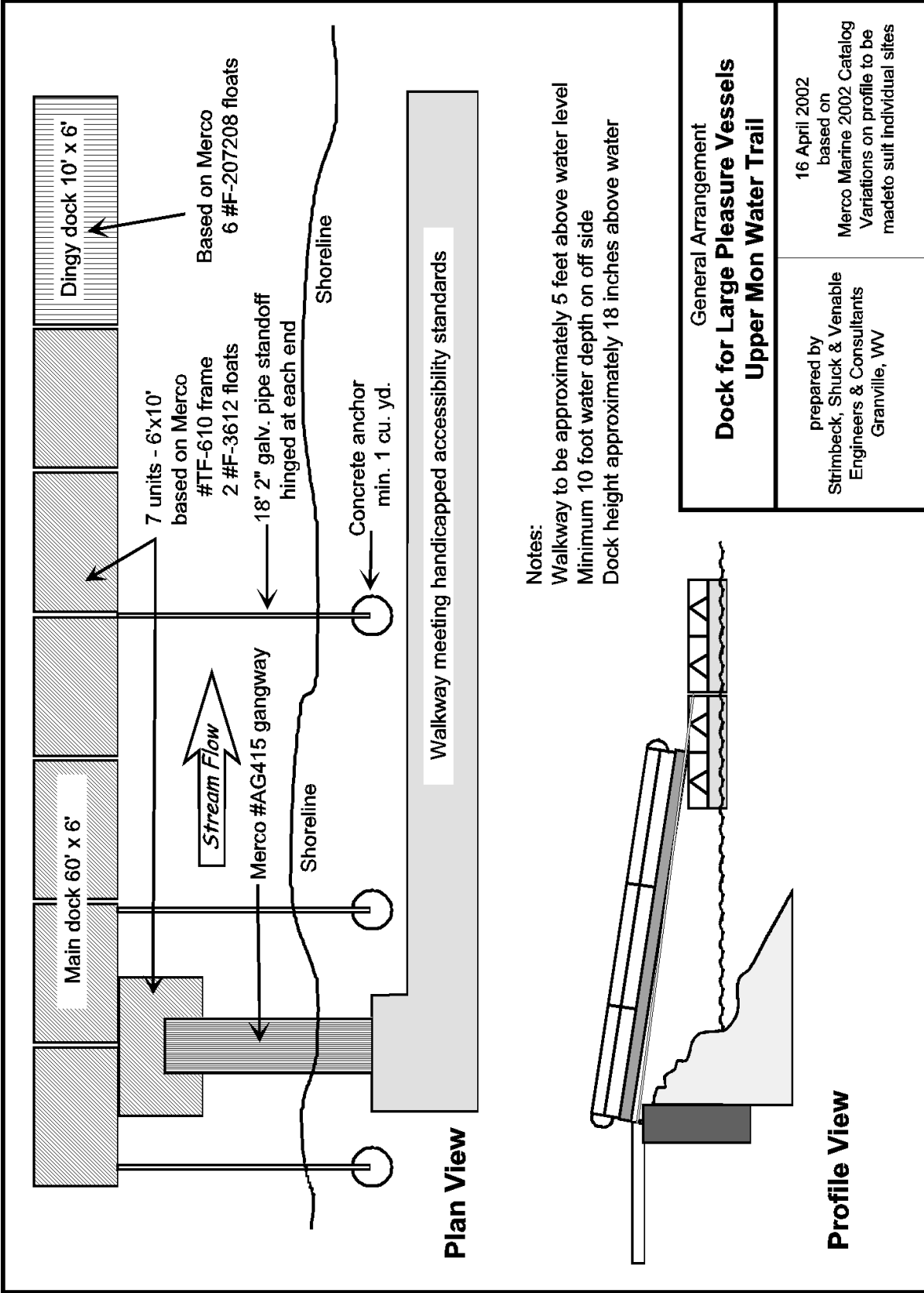
Regular updating of information should be programmed.

References

C. A. CHANEY, B. S., *MARINAS - Recommendations for Design Construction and Maintenance*, The National Association of Engine And Boat Manufacturers, Inc., New York, 1939

Keith Wilson, *Design Handbook for Recreational Boating and Fishing Facilities*, States Organization For Boating Access, Washington, D.C., 1996

Jill D. Murphey, Donald J. Tobaben, Timothy B. Bazley, Lacy E. Nichols, Jr., Lawrence M. Killien, Tom Donek, *Operations and Maintenance Program Guidelines for Recreational Boating Facilities*, States Organization for Boating Access, Washington, D. C., 1999

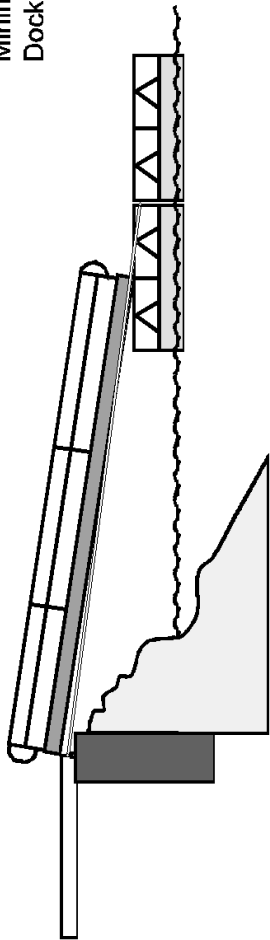


Plan View

Walkway meeting handicapped accessibility standards

Notes:

- Walkway to be approximately 5 feet above water level
- Minimum 10 foot water depth on off side
- Dock height approximately 18 inches above water

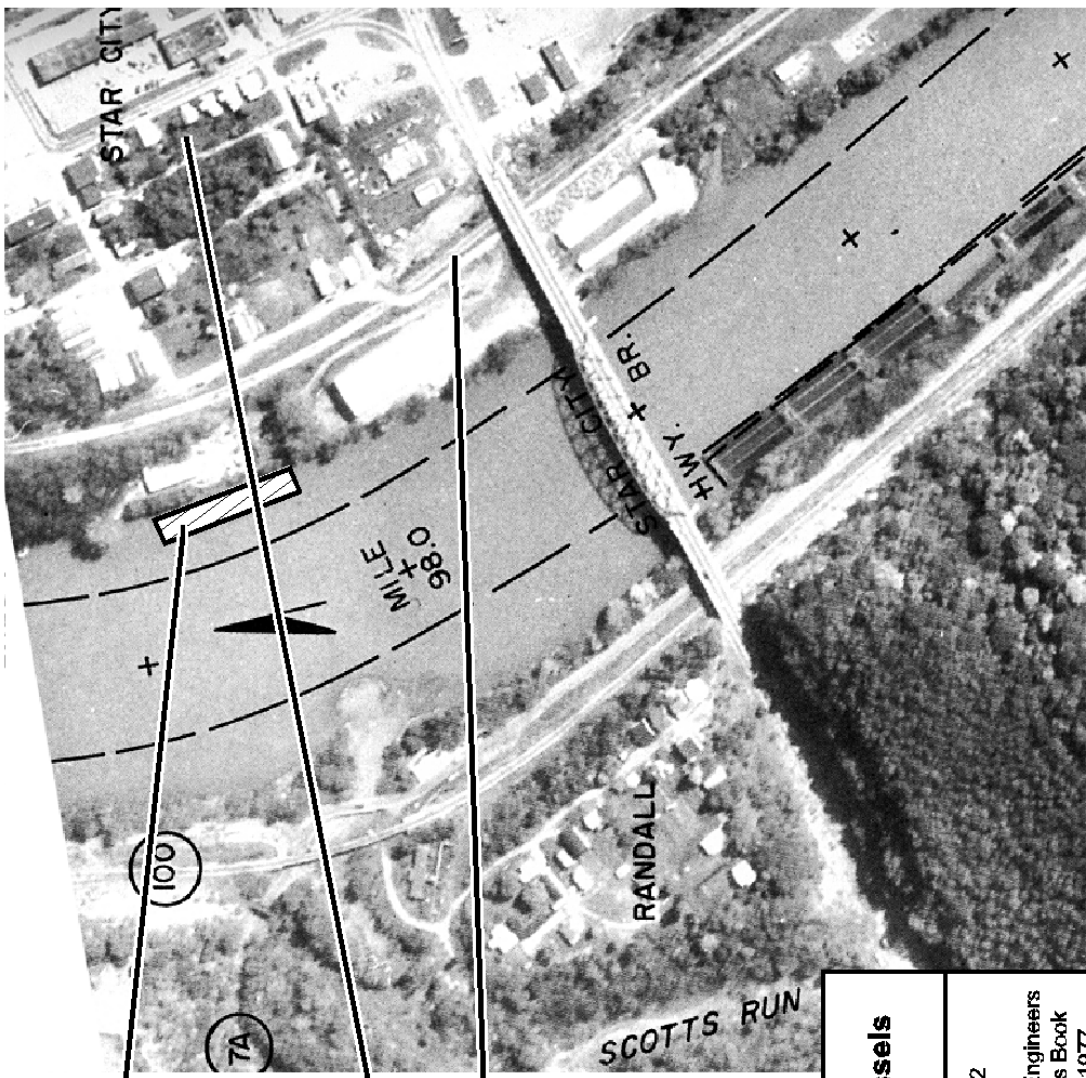


Profile View

**General Arrangement
Dock for Large Pleasure Vessels
Upper Mon Water Trail**

prepared by
Strimbeck, Shuck & Venable
Engineers & Consultants
Granville, WV

16 April 2002
based on
Merco Marine 2002 Catalog
Variations on profile to be
made to suit individual sites



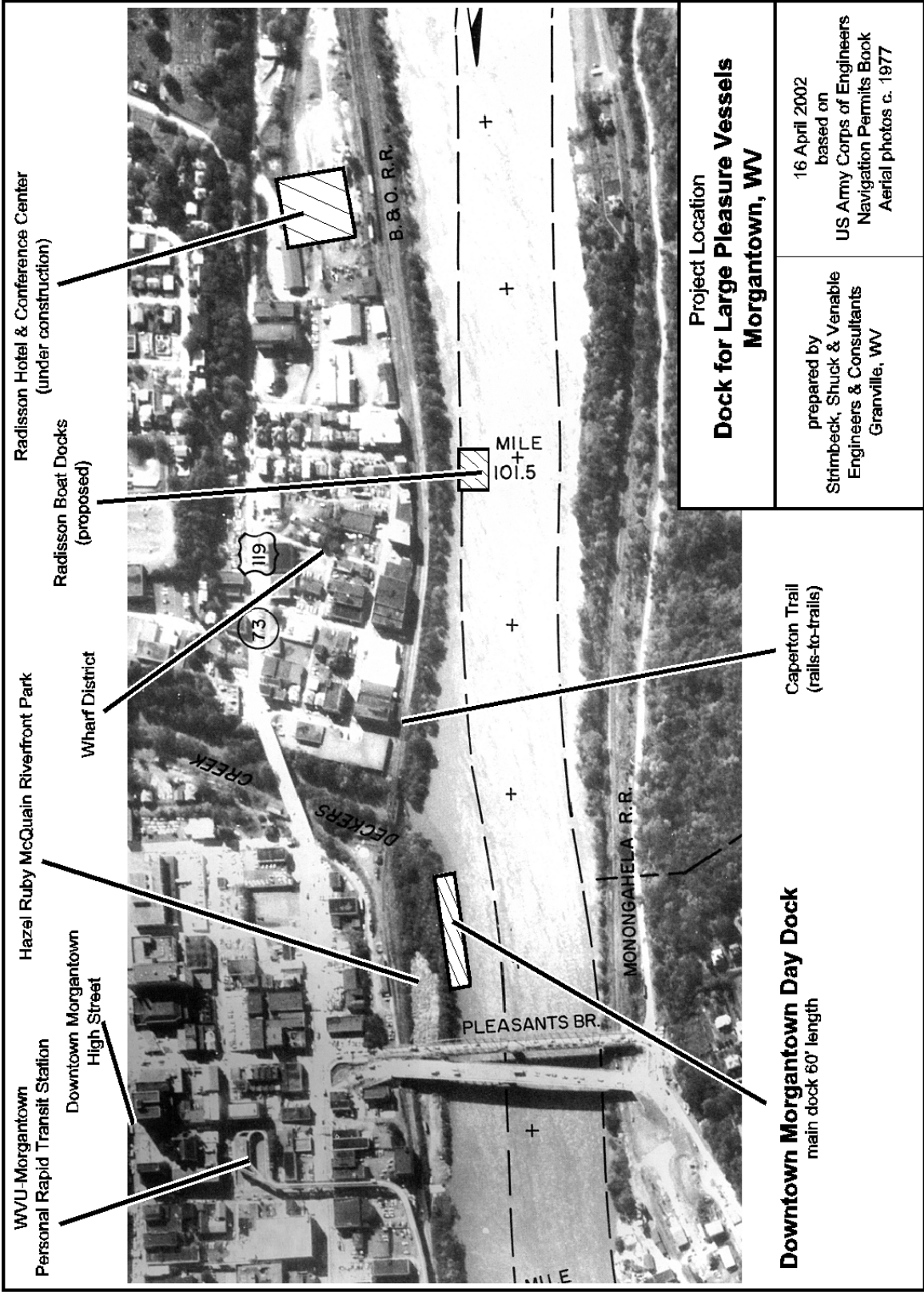
Star City Day Dock
main dock 80' length

Future Glass Museum

Caperton Trail
(rails-to-trails)

Project Location
Facilities for Large Pleasure Vessels
Star City, WV

prepared by Stirmbeck, Shuck & Venable Engineers & Consultants Granville, WV	16 April 2002 based on US Army Corps of Engineers Navigation Permits Book Aerial photos c. 1977
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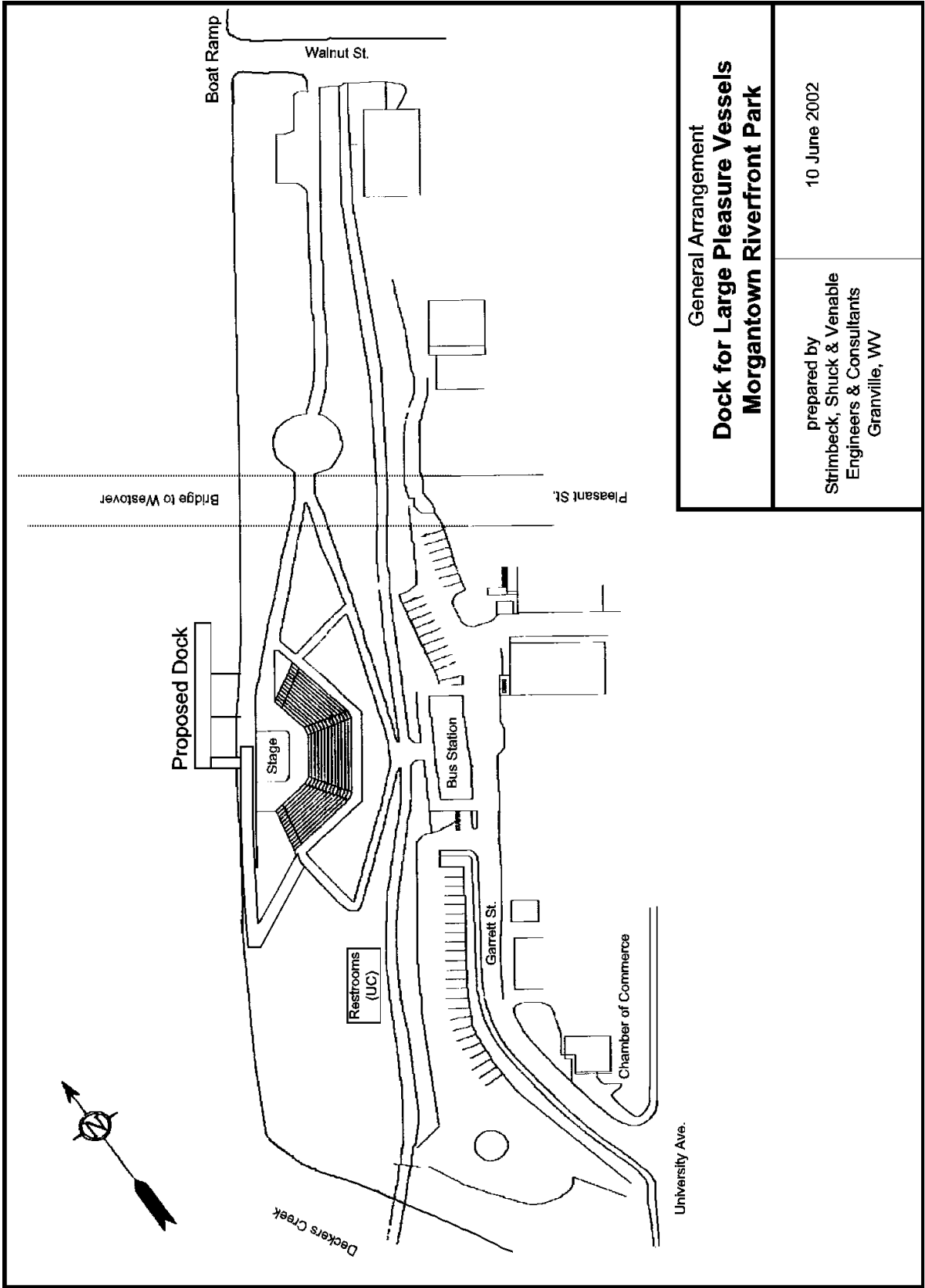
Project Location
Dock for Large Pleasure Vessels
Morgantown, WV

prepared by
 Strimbeck, Shuck & Venable
 Engineers & Consultants
 Granville, WV

16 April 2002
 based on
 US Army Corps of Engineers
 Navigation Permits Book
 Aerial photos c. 1977

Downtown Morgantown Day Dock
 main dock 60' length

Caperton Trail
 (rails-to-trails)

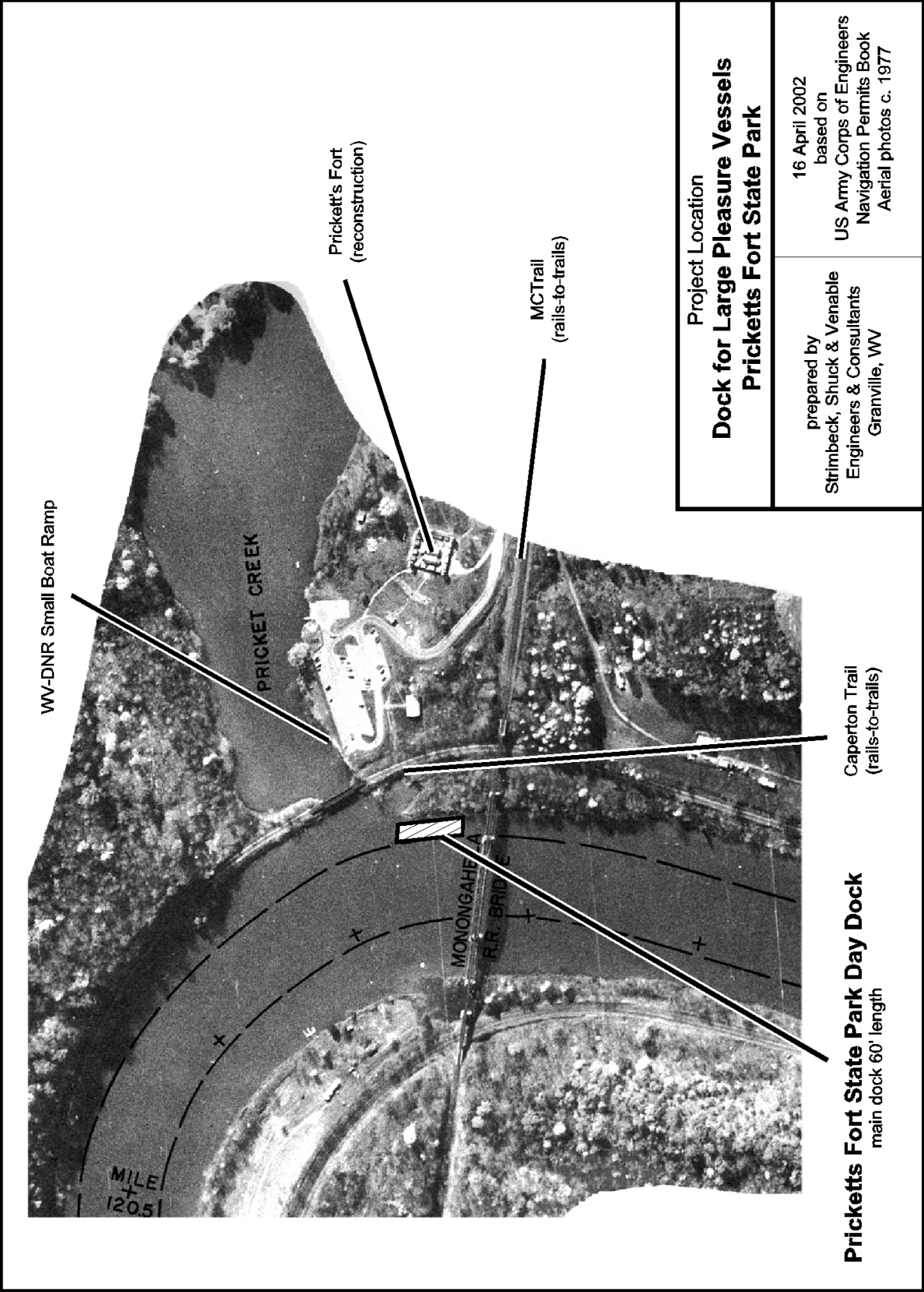


General Arrangement

**Dock for Large Pleasure Vessels
Morgantown Riverfront Park**

prepared by
Strimbeck, Shuck & Venable
Engineers & Consultants
Granville, WV

10 June 2002



Project Location
Dock for Large Pleasure Vessels
Pricketts Fort State Park

16 April 2002
 based on
 US Army Corps of Engineers
 Navigation Permits Book
 Aerial photos c. 1977

prepared by
 Stirimbeck, Shuck & Venable
 Engineers & Consultants
 Granville, WV

Caperton Trail
 (rails-to-trails)

Pricketts Fort State Park Day Dock
 main dock 60' length

WV-DNR Small Boat Ramp

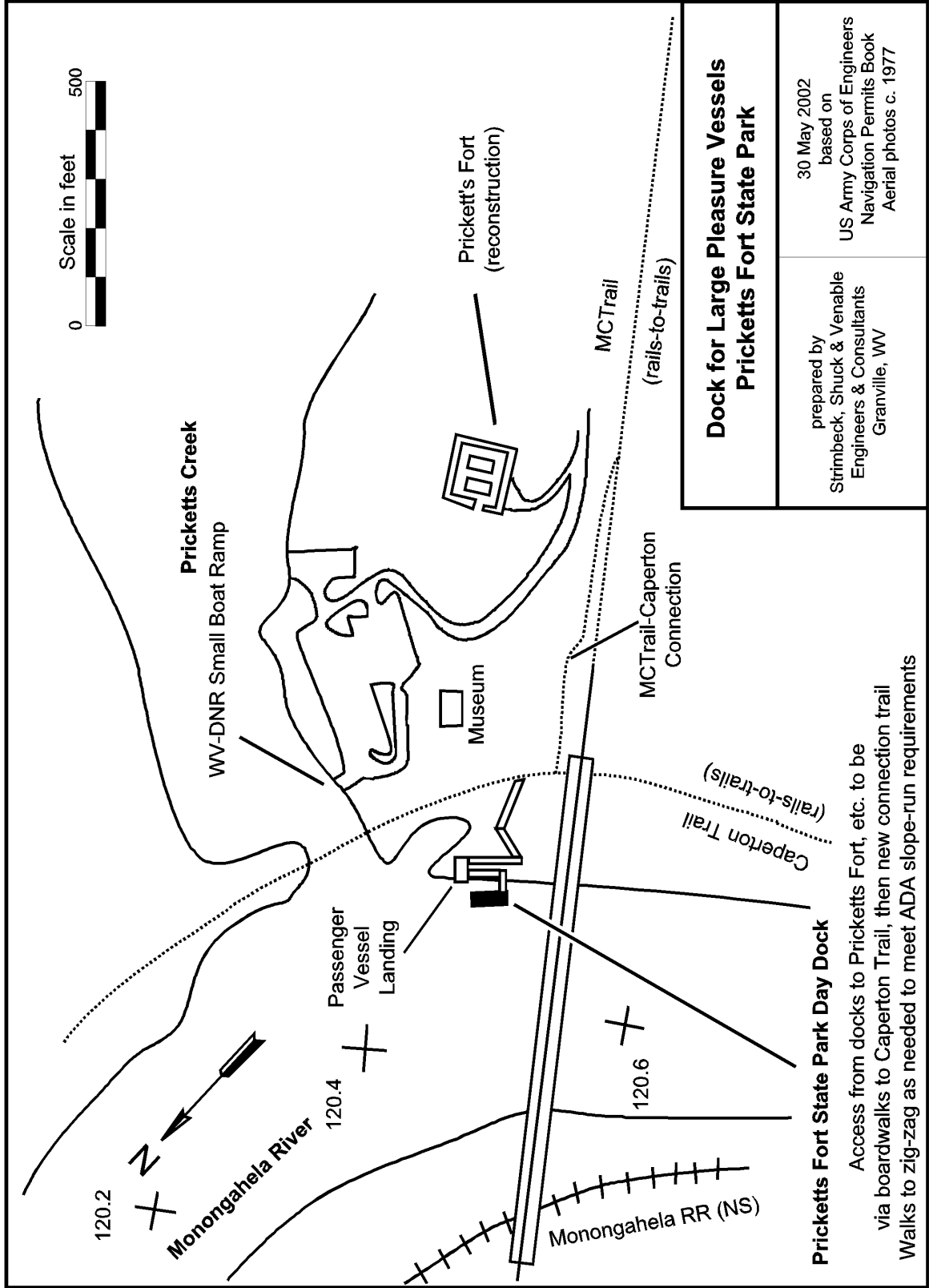
Prickett's Fort
 (reconstruction)

MCTrail
 (rails-to-trails)

MILE
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MONONGAHELA
 R.R. BRIDGE

PRICKET CREEK

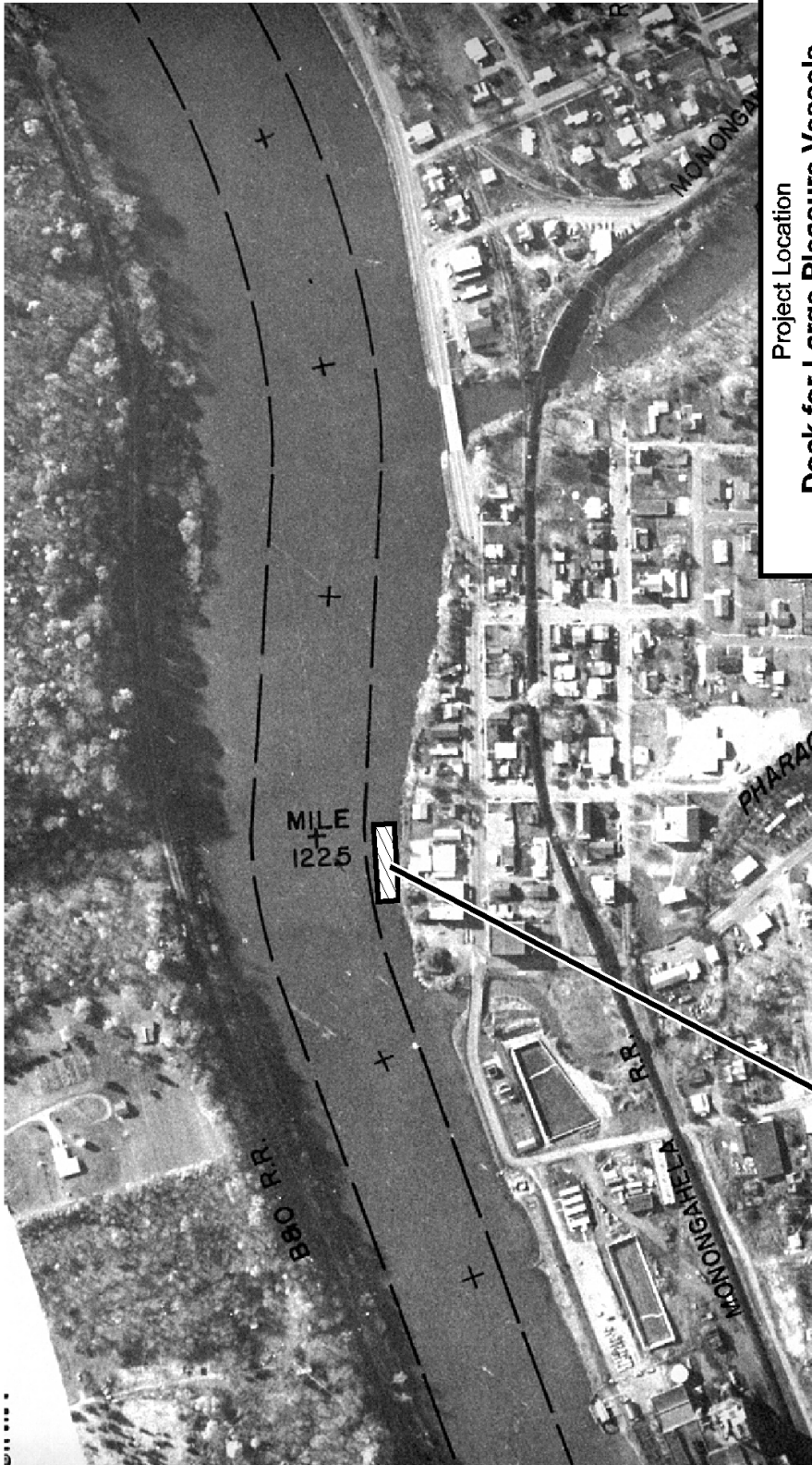


**Dock for Large Pleasure Vessels
Pricketts Fort State Park**

prepared by
Stimbeck, Shuck & Venable
Engineers & Consultants
Granville, WV

30 May 2002
based on
US Army Corps of Engineers
Navigation Permits Book
Aerial photos c. 1977

Pricketts Fort State Park Day Dock
Access from docks to Pricketts Fort, etc. to be
via boardwalks to Caperton Trail, then new connection trail
Walks to zig-zag as needed to meet ADA slope-run requirements

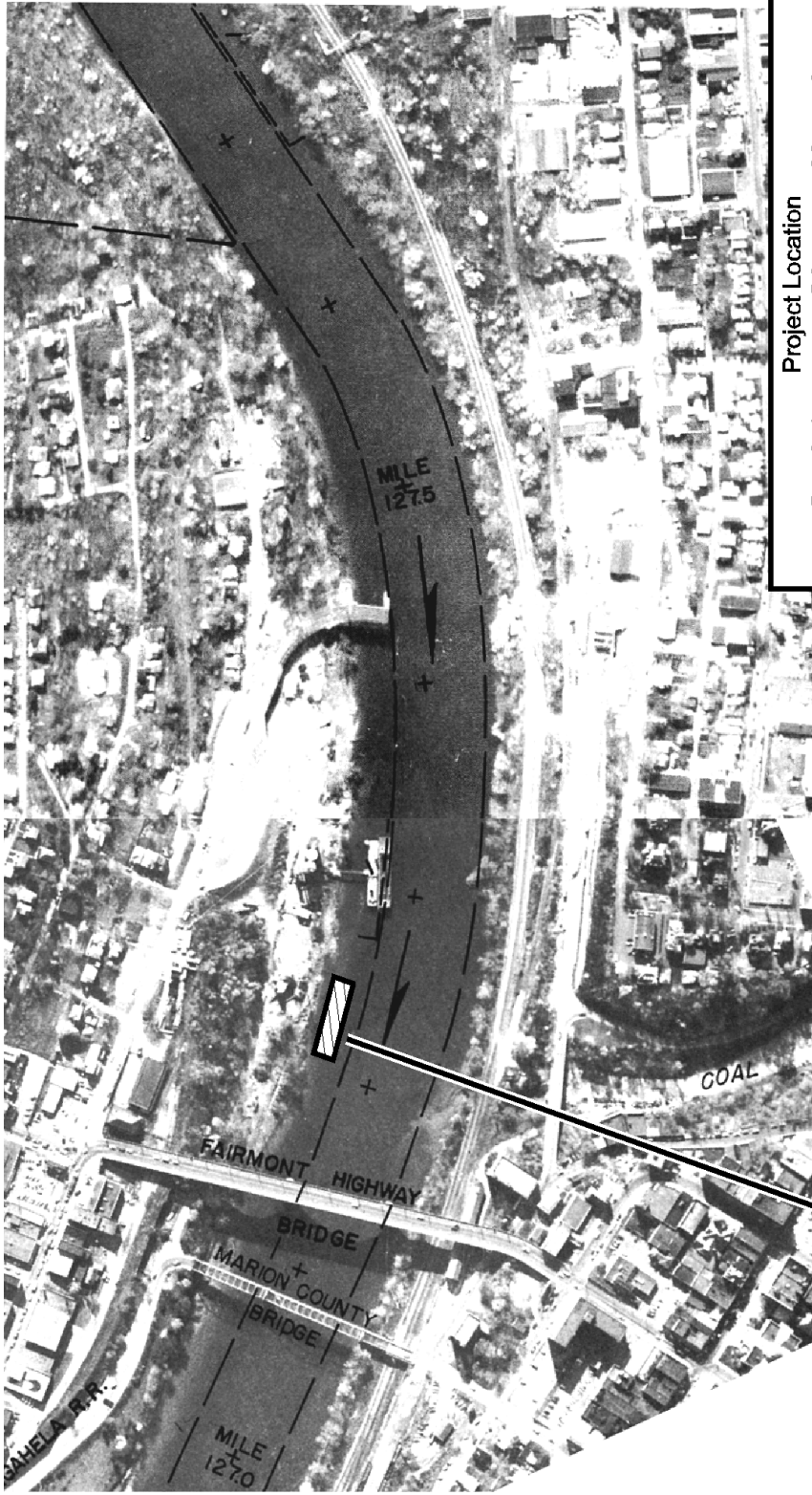


Rivesville Day Dock
main dock 60' length

Project Location
Dock for Large Pleasure Vessels
Rivesville, WV

prepared by
Strimbeck, Shuck & Venable
Engineers & Consultants
Granville, WV

16 April 2002
based on
US Army Corps of Engineers
Navigation Permits Book
Aerial photos c. 1977



Project Location
**Dock for Large Pleasure Vessels
Fairmont, WV**

16 April 2002
based on
US Army Corps of Engineers
Navigation Permits Book
Aerial photos c. 1977

prepared by
Strimbeck, Shuck & Venable
Engineers & Consultants
Granville, WV

Fairmont Day Dock
main dock 60' length