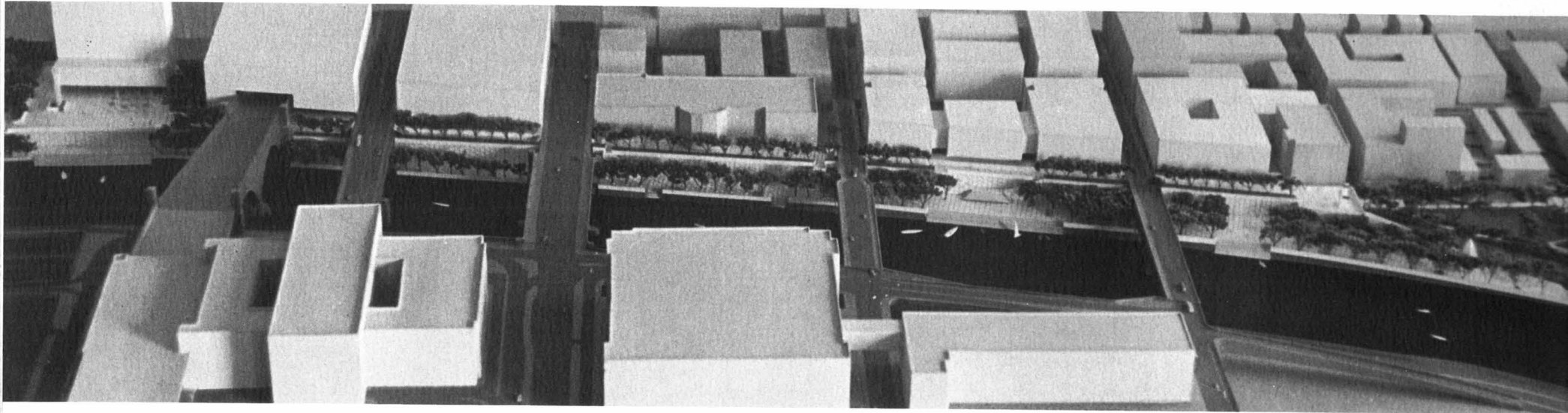




# SCHUYLKILL RIVER PARK MASTER PLAN

FAIRMOUNT PARK

PHILADELPHIA, PENNSYLVANIA



This report was prepared for the Fairmount Park Commission,  
Philadelphia, Pennsylvania

July 1967

Matthew H. McCloskey, Jr., President

Philip Price, Vice President, Vincent P. McDevitt, Treasurer, Samuel S. Baxter,  
Robert W. Crawford, William A. Costello, Paul D'Ortona, Norbert J. Fenerty,  
Isaac D. Levy, Fredric R. Mann, James W. McPhillips, Anthony J. O'Connell,  
Harold D. Saylor, Mayor James H. J. Tate, Charles H. Woodward.

Harold Schick, Executive Director

William Capman, Secretary

Historically, American Cities have turned their backs to the great rivers on which they were built. In most cities, it is difficult or impossible to sense the relationship of the city to the river, much less to use or enjoy the waterfront in the downtown areas.

Schuylkill River Park will make the riverfront an integral part of the city, providing a direct link between Center City and the existing Fairmount Park. Facilities will be provided for boating, hiking, cycling and active sports for all ages. It is also proposed that there be provision for outdoor dining on a limited basis. The mile and a quarter promenade along the river's edge will allow ample space for pleasant walks and sitting areas. From the Schuylkill Expressway, thousands of motorists daily get their first glimpse of downtown Philadelphia, and the development of a continuous green edge will leave a lasting impression, enhancing the image of the entire city.

The Penn's Landing development on the Delaware River, already underway, will provide a new edge to Center City on the east. With the completion of the Schuylkill River Park prior to the Bicentennial Celebration in 1976 both riverfronts would become fitting gateways to the city for millions of visitors, as well as provide for the use and enjoyment of all Philadelphians, present and future.

The proposed boundaries of Schuylkill River Park would encompass the east bank of the river, from the Philadelphia Museum of Art to the South Street Bridge. The northern portion is bounded by the Art Museum circle and twin bridges on the north, Park Towne Place on the east and continuing under the Vine Street bridge. Beginning at 23rd Street, the rights of way of Race Street Cherry Street and Arch Street would become park property to act as pedestrian links. The central portion, between Arch and Locust Streets, would consist of a narrow strip of land along the river's edge, and the air rights over the Baltimore and Ohio railroad tracks. The southern section's boundaries would continue south from Locust Street along 25th Street, west on Delancey Street, south on 26th Street, west on Pine, south on Taney and west along the boundary of the proposed high rise apartment project at South Street.

The Schuylkill River was named by Arendt Corsen, a navigator of the Dutch East Indies Company. Because of the tall bulrushes partially concealing the river's mouth, Arendt called it "Skokihl", or Hidden Creek. The original inhabitants, the Lenape Indians, called the stream Ganshowahanna, "falling waters" or Manayunk, meaning "where we drink".

Little development appeared on the banks of the Schuylkill until the late 18th Century. A floating bridge was erected near the present day Vine Street Expressway. At High Street (Market Street) a pontoon bridge was built in 1777, replacing Putnam's floating raft bridge. The Old Water Works, designed and built by Frederick Graff, was completed in 1819.

In 1824, completion of the Schuylkill Barge Canal provided access to the anthracite regions and made possible the development of an extensive coal mart centered at the end of Arch Street. Towards the end of the 19th Century, industry flourished and occupied almost all of the riverfront in this area. Eventually, competition from the railroads caused the gradual decrease and final end to the once bustling barge traffic.

In the early 20th Century, an oil refinery, a slaughterhouse and a dump occupied the west shoreline, the east bank remaining industrial in nature. The Art Museum and the Benjamin Franklin Parkway were constructed, as well as the bridges at South, Walnut, Chestnut, and Market Streets, and at Spring Garden Street. 30th Street Station and the Post Office were the last major buildings erected along the riverfront.

The Schuylkill Expressway, completed in 1957, gave a permanent edge to the river's west bank. The new Spring Garden Avenue and West River Drive Bridges were finished in 1966.





## EXISTING CONDITIONS

### *Topography and Drainage*

The land generally is quite flat, sloping gently towards the river, except in the northern portion where very steep slopes exist along the river and on either side of the Baltimore and Ohio railroad tracks.

### *Soil and Subsurface Conditions*

The soil in the park area consists of compacted fill of various consistency, and is generally poor in quality. Beneath the fill material, a layer of sandy-clayey silt to silty clay exists in varying depths. The next strata is composed of decomposed mica gneiss schist over intact mica gneiss schist. It can be assumed that any major structure would require pilings.

### *Shoreline*

The river edge, for the most part, is formed by timber bulkheads, in varying stages of decay or disrepair, and cannot be considered as permanent. In some areas, concrete and sheet piling walls have been built, but their location and quality make them unusable in most cases.

### *Vegetation*

The existing vegetation consist predominantly of Ailanthus and Sycamore, located on the steep slopes in the northern portion. Small Pines, Oaks and Lindens have been planted in the area near the Art Museum circle.

### *Water Level and Flooding*

Because the Schuylkill is tidal in nature up to the Fairmount Dam, an average variation of 6' between mean low water and mean high water exists. The worst flood on record occurred in 1933, when the river level was 10 feet above mean high water at the Chestnut Street bridge.

### *Views*

From the higher elevations at the northern end, there are many excellent views of downtown Philadelphia and the sweep of the Schuylkill as it curves through Center City. Looking north under John F. Kennedy Boulevard, a magnificent view exists of the Art Museum framed by the arch of the Pennsylvania Railroad bridge.

The strongly defined spaces formed by the bridges in the central area, particularly between John F. Kennedy Boulevard and Market Street, offer excellent views of 30th Street Station and the Post Office. At night, the lights of the moving traffic on the expressway add exciting movement and color. The views from the expressway are equally important, as the motorist will experience the entire length of the park.

### *Adjacent Proposals*

Five major developments on land abutting or in proximity to the park are presently being proposed and will have a direct relationship to the park.

1. The Philadelphia Community College has been proposed to occupy the river frontage from Locust to Market Street.
2. Between Market Street and John F. Kennedy Boulevard, the Philadelphia Electric Company is planning to erect a new high rise office building and to renovate the existing structure.
3. Near the South Street bridge, new high rise apartments are proposed.
4. On the west bank of the river, south of Walnut Street, the University of Pennsylvania is planning expansion.
5. The Pennsylvania Railroad plans a major development over the rail yard west of the river.

### *Railroads*

Within the proposed park, the Schuylkill River East Side Railroad Company tracks parallel the river from South Street to the Vine Street Bridge, then curve northward into the tunnel under the Art Museum Circle. This trackage links the Baltimore and Ohio Railroad to the Reading Railroad freight lines.

Access to the river and restriction of available space between the tracks and the river are two difficult problems caused by the present railroad alignment.

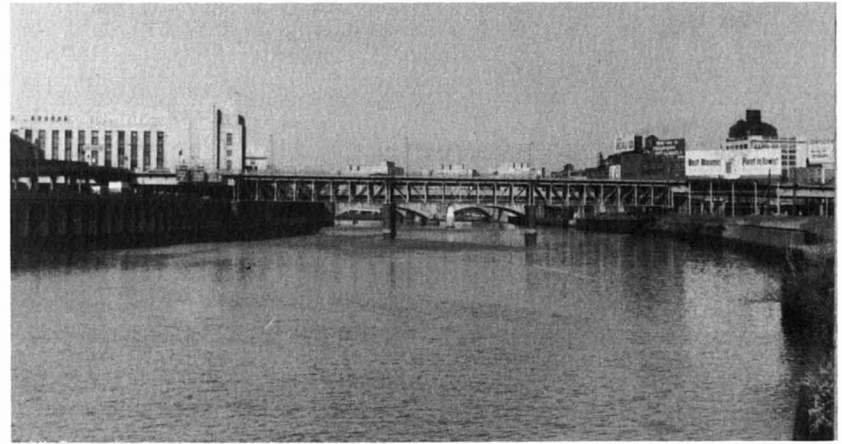
### *Sewer System*

The combined storm and sanitary sewer system poses one of the most serious problems in the development of the riverfront for recreational purposes. During every rainfall raw sewage from 1,372 acres of Center City is discharged into the section of the river from the Art Museum to South Street, because the treatment plant is not capable of handling both the storm and sanitary sewage. The result is revolting as well as a hazard to health. An additional factor, which makes this portion of the Schuylkill one of the most polluted in the nation, is that tidal action traps the river water when the quantity of water flowing over the dam is insufficient. The period of time needed for a change of water has been as long as two months.

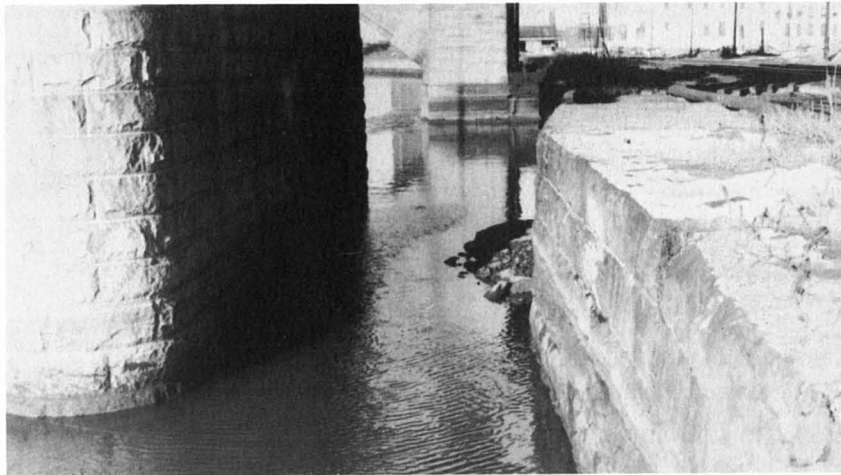




*River bank near the Art Museum*



*View to the North from South Street*



*J. F. Kennedy Boulevard Bridge pier*



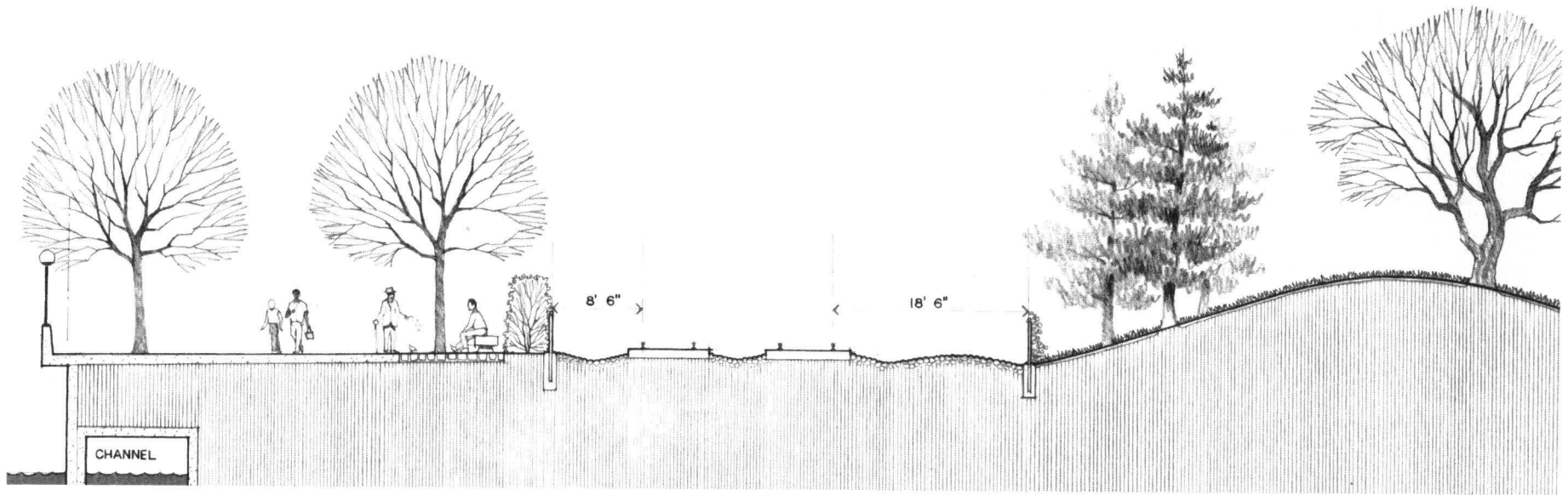
*Limited space between tracks and the River*



*Bulkheads south of Walnut Street*



*Floating debris at Vine Street Sewer*



SECTION A

## RAILROAD REALIGNMENT

In order to develop a continuous park along the riverfront, it is necessary to re-align the tracks in two areas.

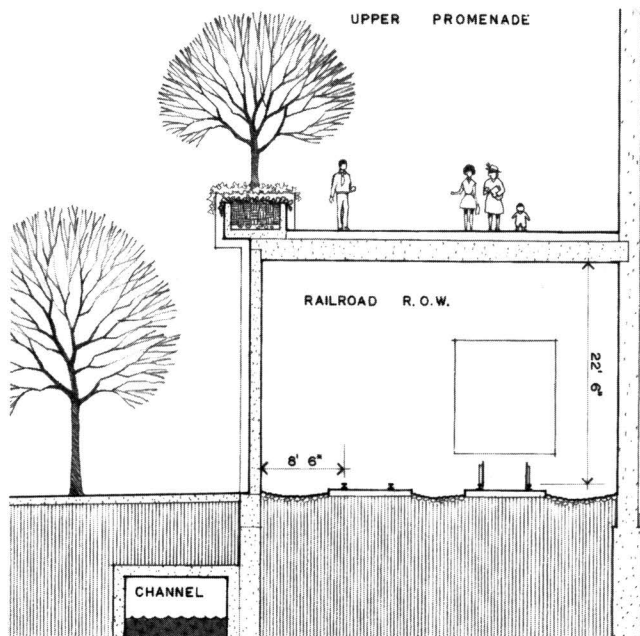
Between Waverly Street and Delancey Street, the two tracks on the river side will be removed, and two new sections of track installed on the eastern side, permitting four tracks to be kept in operation.

The other realignment will occur between Race Street and the Vine Street Expressway bridge. This would consist of swinging the outer track eastward into the existing line at the bridge, and extending the eastern line into the existing single track before it enters the tunnel.

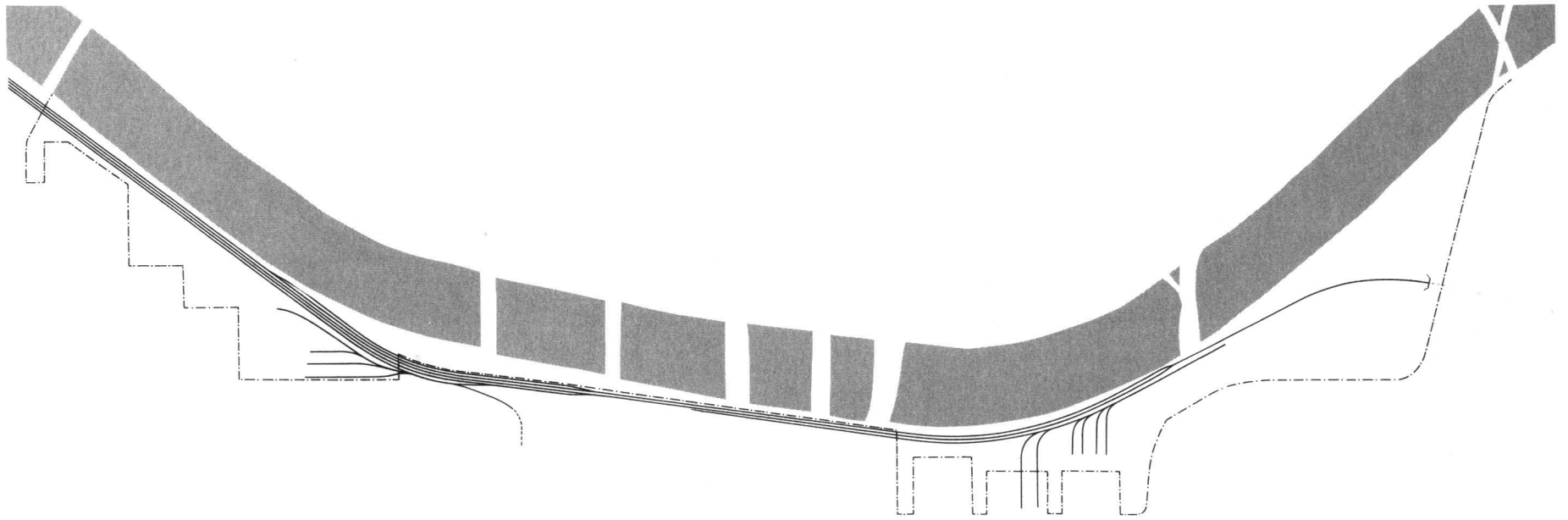
As no industry will remain on the river in this area, existing spurs and sidings will be removed.

The deck over the tracks from Locust to Cherry Street will provide 22'-6" clearance from the top of the rail to the deck structure. A minimum of 8'-6" side clearance will be maintained inside the decked area.

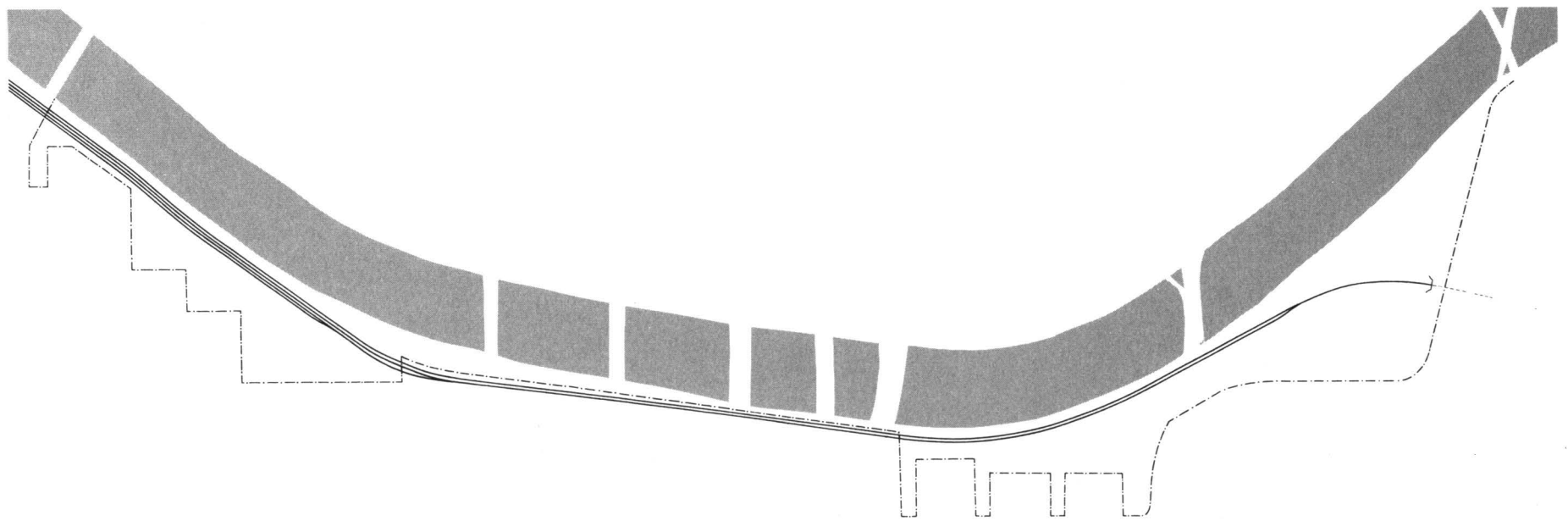
In areas where the tracks are not covered, a fence will be erected on both sides to prevent pedestrian crossing. Side clearances would be 18'-6" on the eastern side where possible, and 8'-6" on the side facing the river.



SECTION B

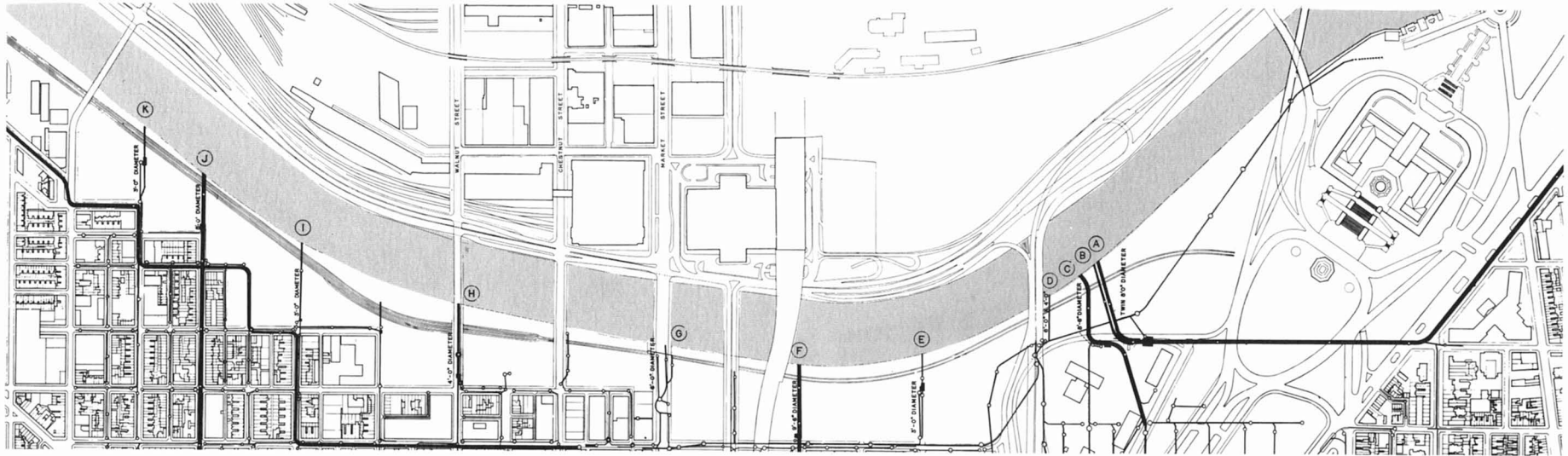


EXISTING RAILROAD ALIGNMENT



PROPOSED RAILROAD ALIGNMENT

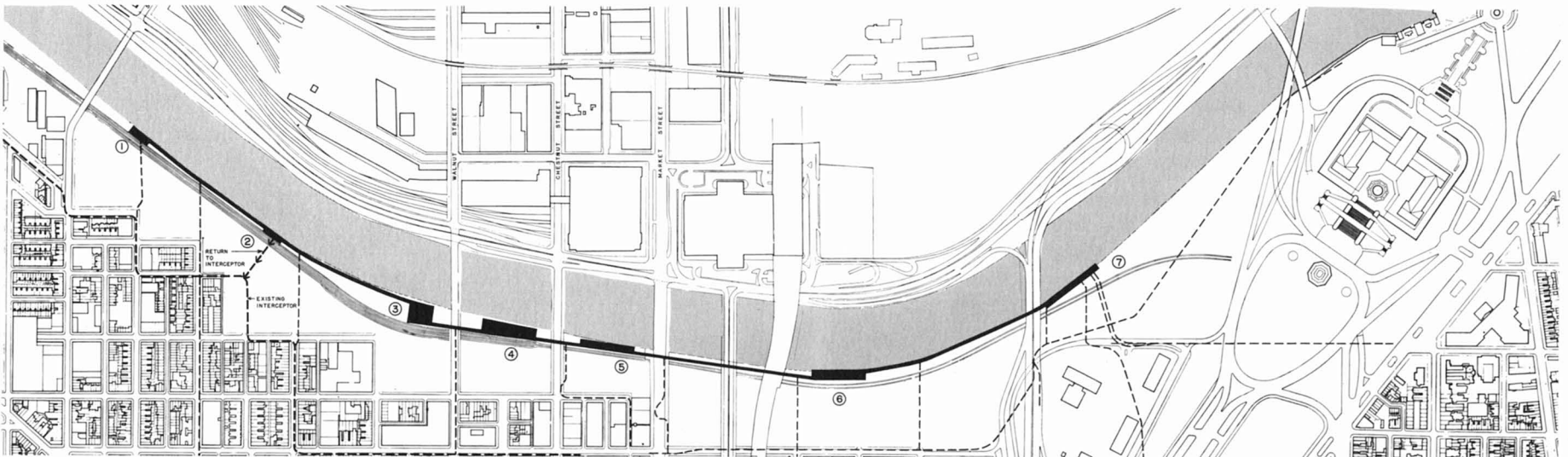




**EXISTING SEWER SYSTEM**

Volume of Discharge at Sewer Outfalls (1/2" rainfall)

A. 591,374 cubic feet	G. 26,998 cubic feet
B. 462,825 cubic feet	H. 20,194 cubic feet
C. 10,403 cubic feet	I. 48,488 cubic feet
D. 18,018 cubic feet	J. 257,485 cubic feet
E. 308,807 cubic feet	K. 21,753 cubic feet
F. 110,461 cubic feet	Total 1,876,086 C.F.



**POLLUTION CONTROL SYSTEM**

Chamber Capacity

1. 45,000 cubic feet	6. 225,000 cubic feet
2. 77,625 cubic feet	7. 200,000 cubic feet
3. 198,000 cubic feet	
4. 315,000 cubic feet	
5. 225,000 cubic feet	

Channel Capacity

670,500 cubic feet

Total Storage Capacity of System

1,956,125 C.F.

The storage capacity is in excess of the volume required for 1/2" of rainfall.

## PROPOSED POLLUTION CONTROL SYSTEM

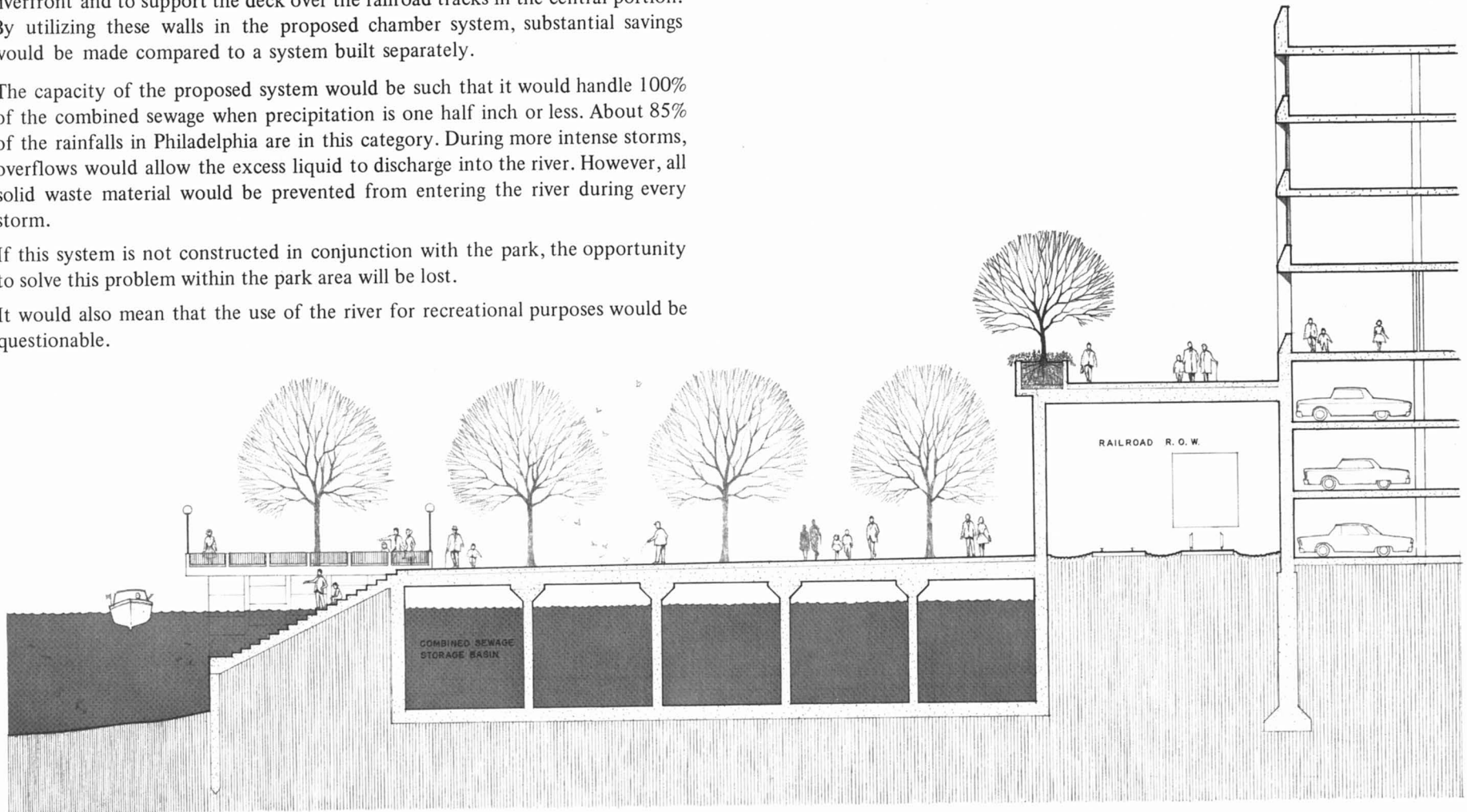
The basic principle of this system would be the retention of the combined sanitary and storm sewage in interconnecting underground storage chambers, until the existing treatment plant can handle additional capacity. At this time the sewage would be returned to the interceptor sewer, then to the treatment plant. The chambers would also act as sedimentation tanks, and would allow settlement of solids.

In order to develop the park, it is necessary to construct new walls along the riverfront and to support the deck over the railroad tracks in the central portion. By utilizing these walls in the proposed chamber system, substantial savings would be made compared to a system built separately.

The capacity of the proposed system would be such that it would handle 100% of the combined sewage when precipitation is one half inch or less. About 85% of the rainfalls in Philadelphia are in this category. During more intense storms, overflows would allow the excess liquid to discharge into the river. However, all solid waste material would be prevented from entering the river during every storm.

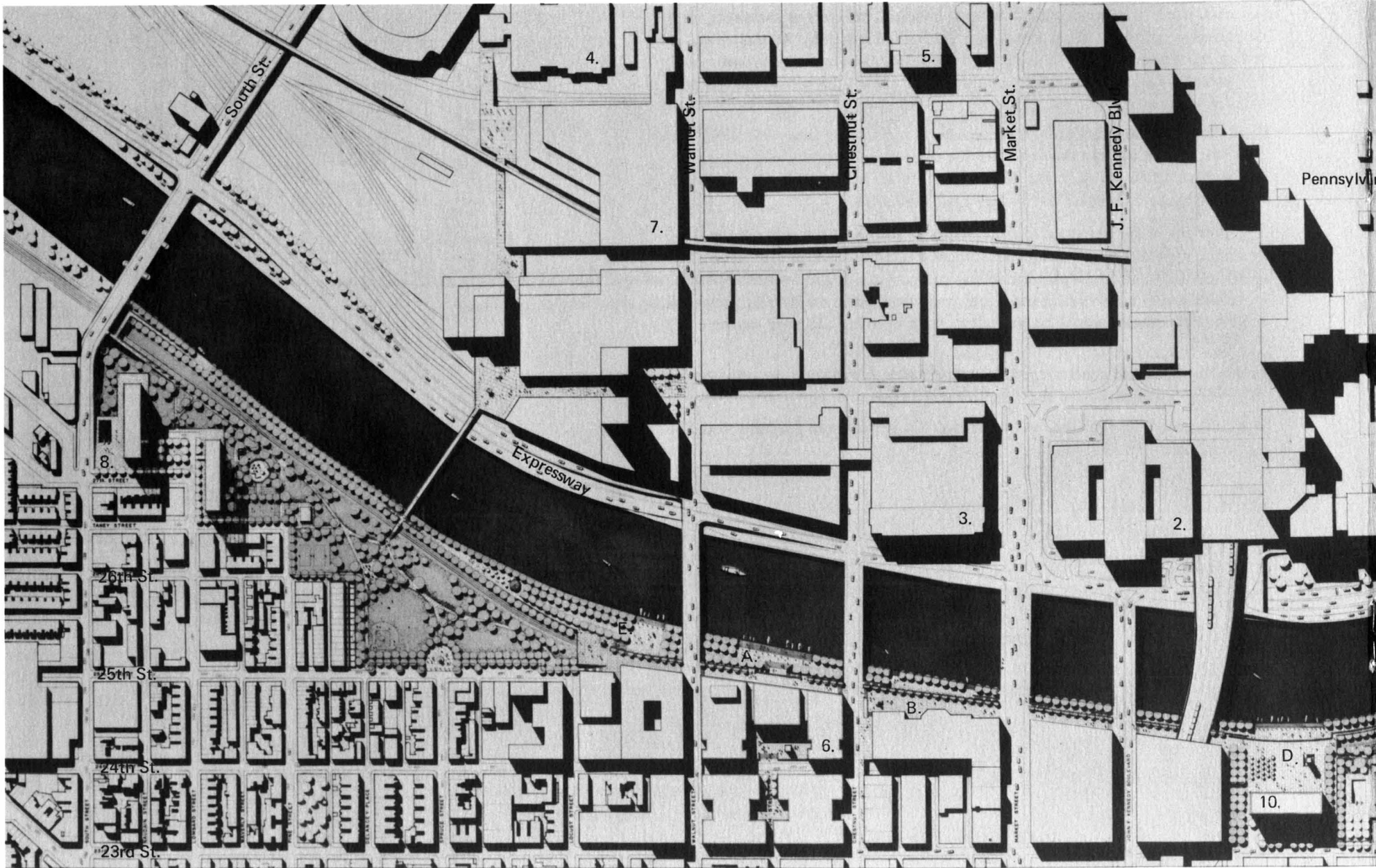
If this system is not constructed in conjunction with the park, the opportunity to solve this problem within the park area will be lost.

It would also mean that the use of the river for recreational purposes would be questionable.

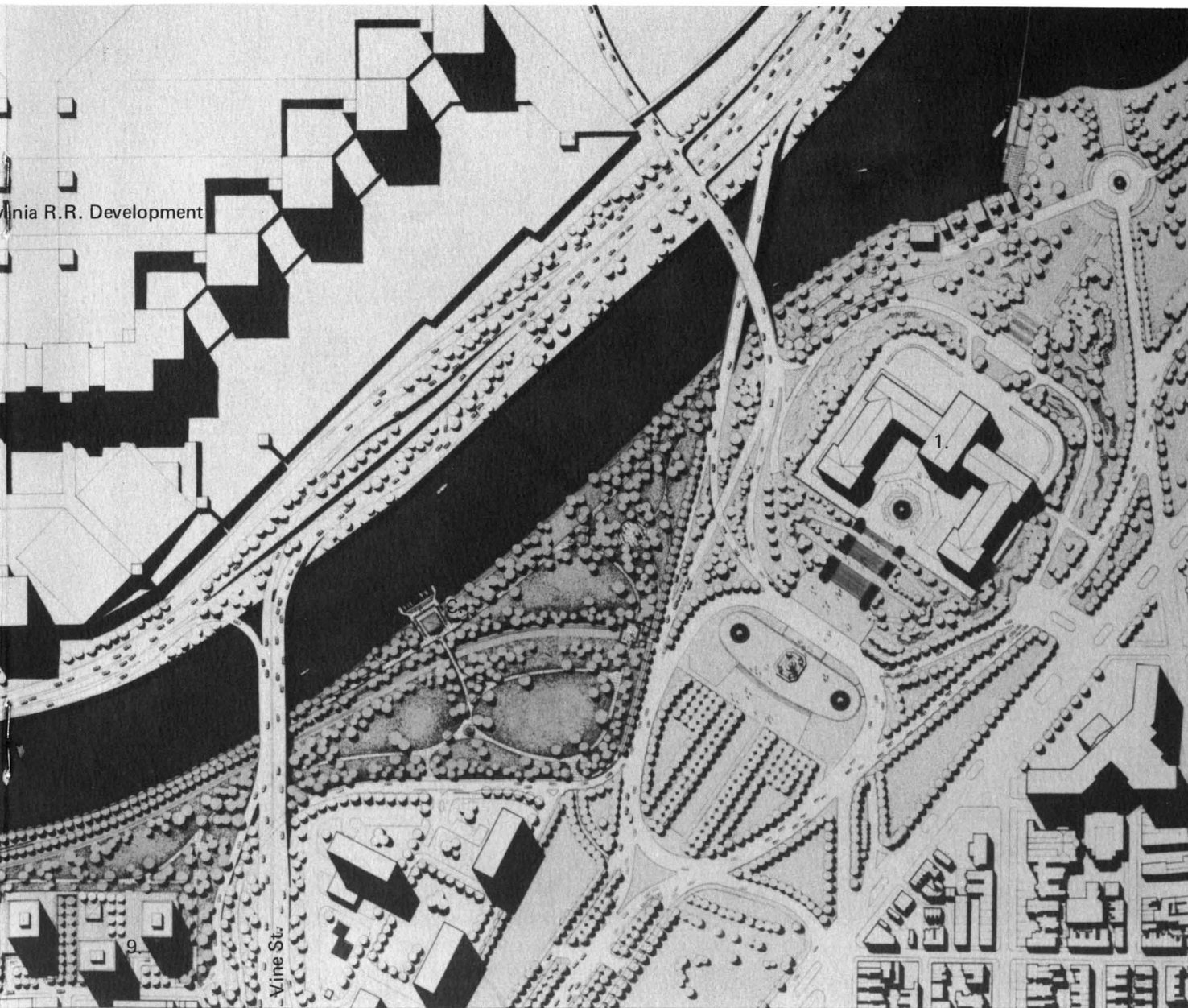


SECTION C TYPICAL CHAMBER

MASTER DEVELOPMENT PLAN



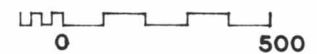




## LEGEND

- A. Lower Promenade
- B. Upper Promenade (over railroad)
- C. Park Building and Guard Station
- D. North Plaza
- E. South Plaza
- F. Play Area

- 1. Philadelphia Museum of Art
- 2. 30th Street Station
- 3. Post Office
- 4. University of Pennsylvania
- 5. Drexel Institute of Technology
- 6. Proposed Community College
- 7. University of Pennsylvania Expansion
- 8. Proposed Apartments
- 9. Proposed Apartments
- 10. Proposed Hotel and Plaza





*This sketch indicates the character of the northern portion of the park. From the Old Water Works, the major walk leads to the park building and the overpass, then ramps down to the lower promenade.*

## DESIGN SOLUTION

The major elements which form the design framework of the park are a continuous promenade along the river from South Street to the Art Museum, and a paralleling promenade deck over the railroad tracks from Locust to Cherry Street. Both ends of the upper promenade terminate in large plazas, linked to the lower level by steps and ramps. Additional access to the lower promenade has been planned at intermediate centers of activity, such as the Community College site and at major streets crossing the river.

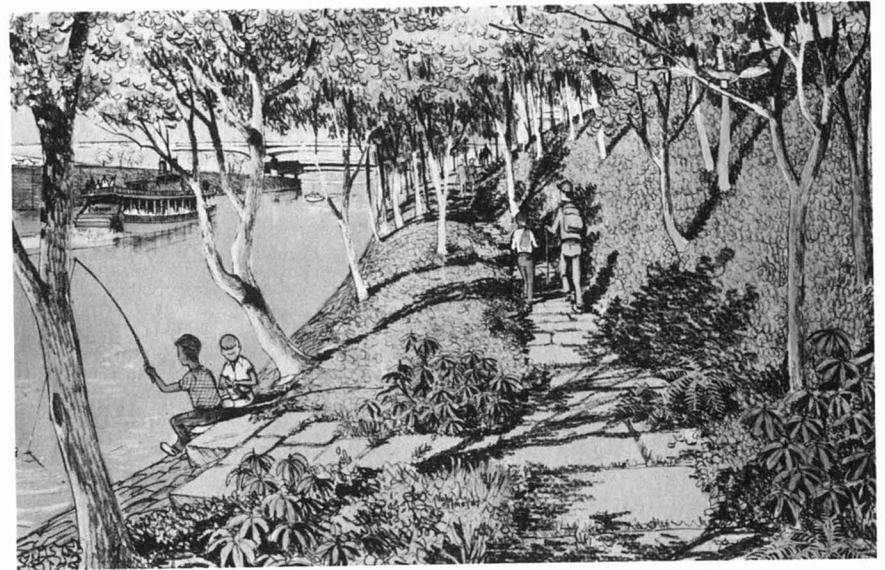
The northern sector will be primarily developed for informal and passive recreation use, because of the relationship to the Art Museum and the difficult topography. A new pedestrian bridge over the tracks utilizing the existing stone bridge piers will be built, and will link directly to a park building overlooking the river. This structure will be basically an open shelter, housing a refreshment concession and a Park Guard station on the upper level. Rest rooms will be located on the lower level. A floating dock for short term boat mooring will be connected to the lower level.

The central section of the park, due to its proximity to concentrated existing and proposed development, has been designed to accommodate intensive use. In 5 locations wide steps will descend from the lower promenade to the water, allowing boats to dock at either high or low tide.

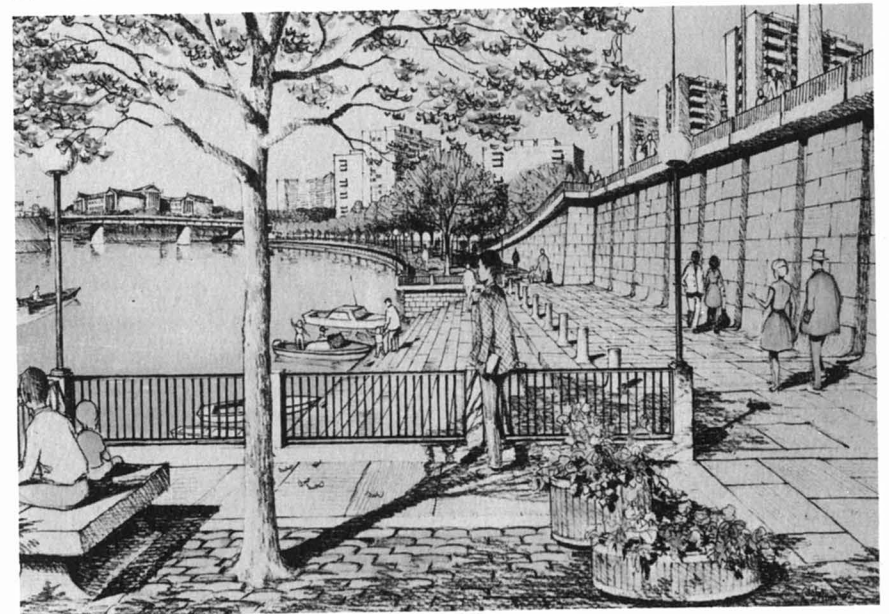
Almost the entire frontage of the decked portion of the park will be rebuilt by private and public development. It is proposed that the deck be supported structurally by this new construction on the eastern side.

From Locust Street to the South Street bridge, the area east of the tracks will be developed primarily for active recreation to serve the adjacent residential areas. Court games, play equipment, a tot lot and free play areas will be added to the facilities which exist at the foot of Pine Street. Pedestrian overpasses will be built at South Street and near the end of Delancey Street to provide access over the tracks.

The planting, lighting, paving, benches, railings and other furnishings will be carefully integrated to add to the total character of the park. The planting of a double row of trees the length of the lower promenade, and a row at the upper promenade will insure a consistent green edge to the park.



*Because of the difficult topography, the river edge in the northern area would be treated in a more informal manner, and will provide contrast from the urban character which will exist in the rest of the park.*



*The view from the Arch Street Bridge shows the deck over the tracks on the right, the wide steps descending into the water, and the Art Museum in the distance.*



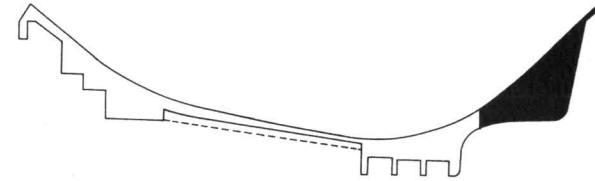
## STAGING AND COST

The development of the Park has been staged in five increments, and scheduled so that construction will be completed prior to 1976. The estimate of construction cost is preliminary in nature, as detailed subsurface information will be required prior to preparation of the final design and cost estimates.

### *Stage 1* (Old Waterworks to South R. O. W. Line of Vine Street)

The main elements in stage 1 are the major walk, the park building and dock, the overpass, and the treatment of the river edge.

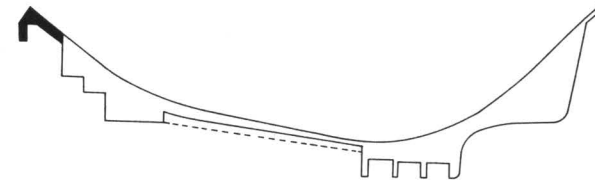
Estimated Construction Cost \$804,000.00



### *Stage 2* (South edge, Taney Street Playground to South Street Bridge)

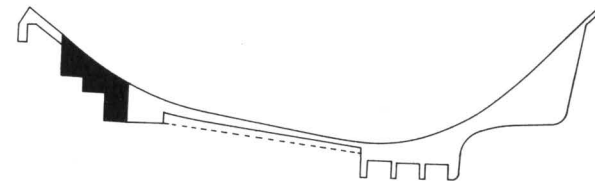
An overpass to the South Street Bridge, the termination of the promenade and the Park development related to the proposed Apartment Complex are major elements in this stage.

Estimated Construction Cost \$358,000.00



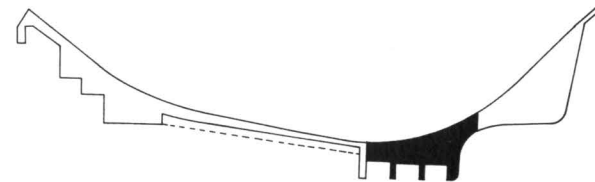
*Stage 3* (North R. O. W., Spruce Street, to South edge, Taney Street Playground)  
Stage 3 would include the overpass, railroad realignment, the promenade, and the extension and improvement of the existing play facilities.

Estimated Construction Cost \$645,000.00



*Stage 4* (South R. O. W. Line, Vine Street to North R. O. W. Line, Arch Street)  
Included in this area, are the promenade along the river, the development of the R. O. W. of Race and Cherry Streets, and the first section of the upper promenade over the tracks.

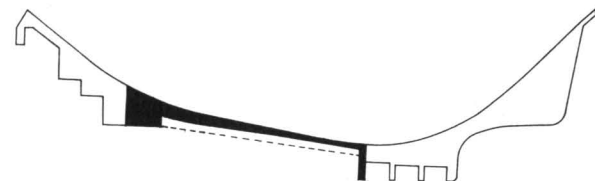
Estimated Construction Cost \$753,000.00



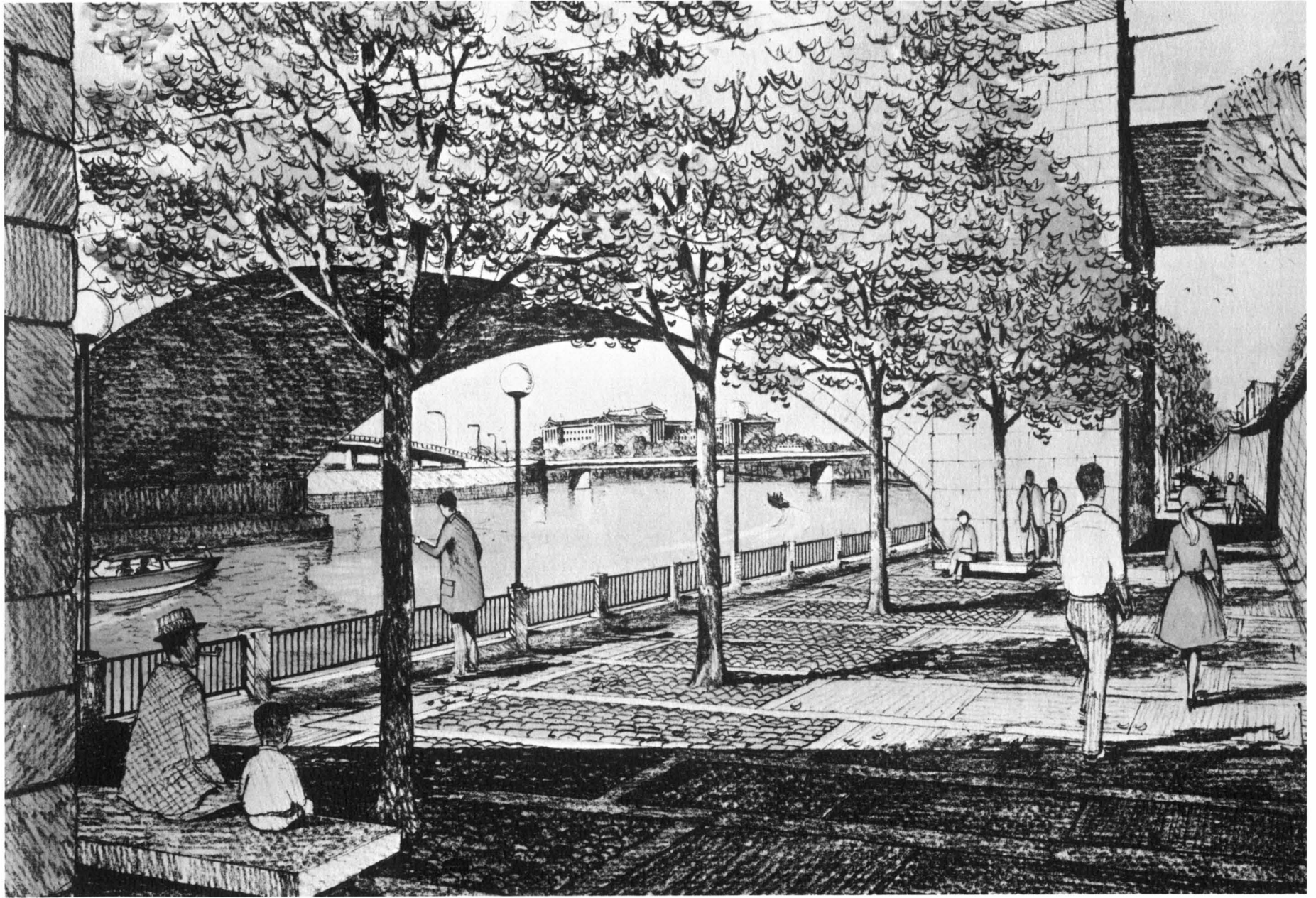
*Stage 5* (North R. O. W., Line, Arch Street, to North R. O. W., Spruce Street)  
Stage 5 includes the most extensive work, consisting of the deck or upper promenade.

Estimated Construction Cost \$2,220,000.00

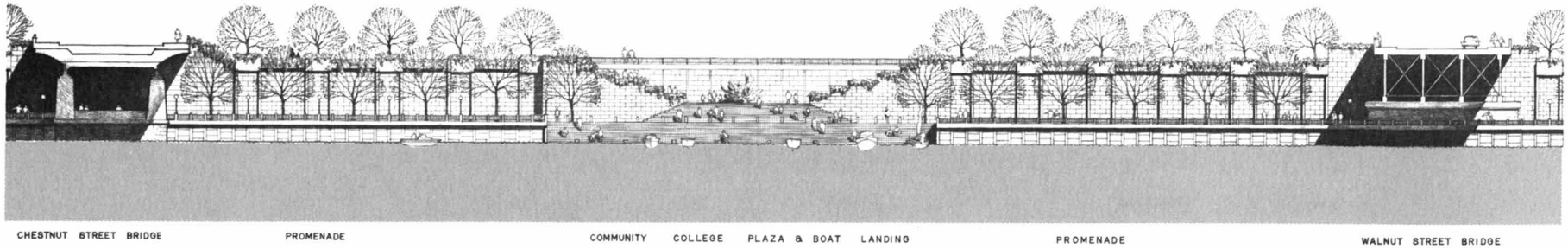
**\*TOTAL ESTIMATED COST \$4,780,000.00**



*\*This figure does not include the additional cost of the pollution control system, estimated at \$1,900,000.00. A total budget of \$6,340,000 would be required, if the pollution control system were included. It is hoped that Federal and State financial assistance can be obtained for this system.*

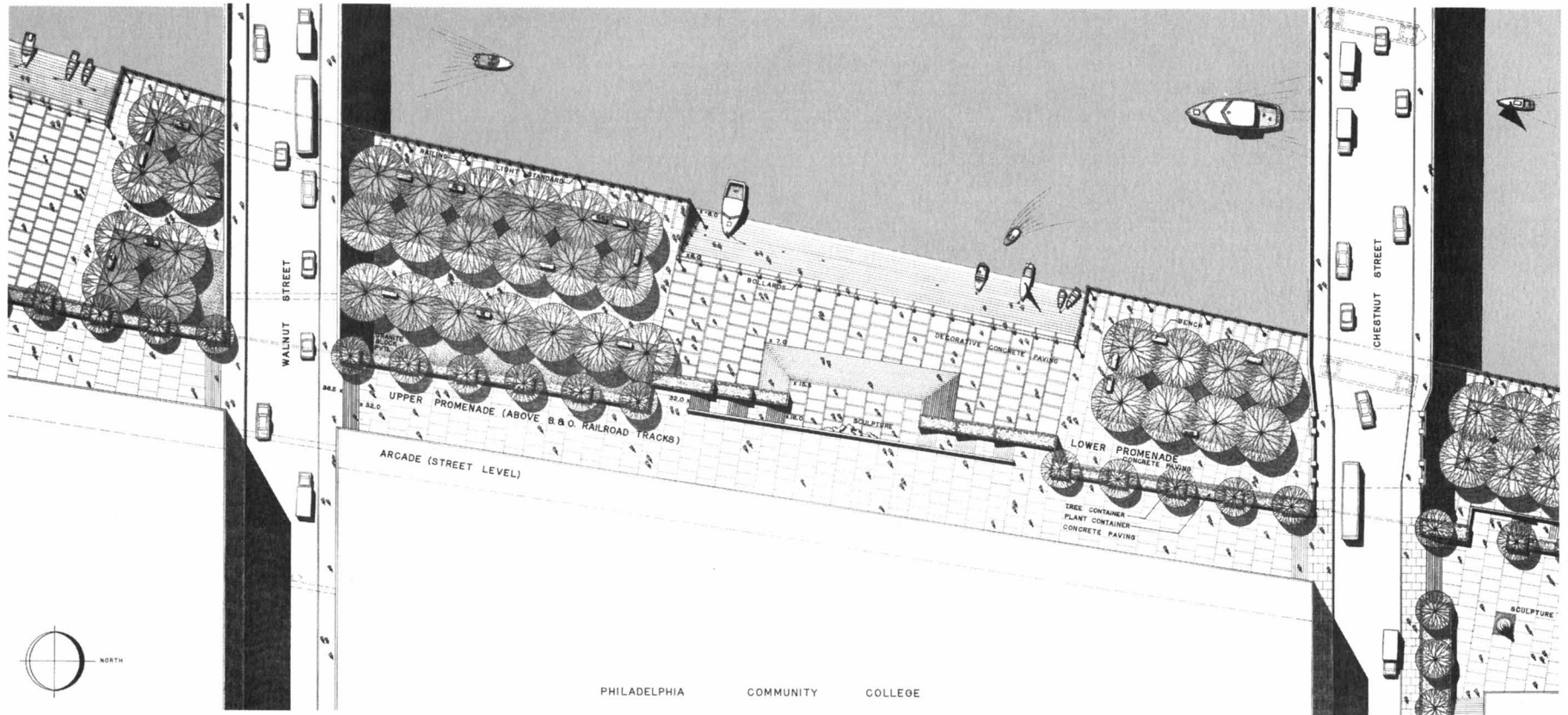


*The view from the John F. Kennedy Boulevard Bridge affords a fine vista of the Art Museum, framed in the Arch of the Pennsylvania Railroad Bridge. This is the narrowest section in the central area.*



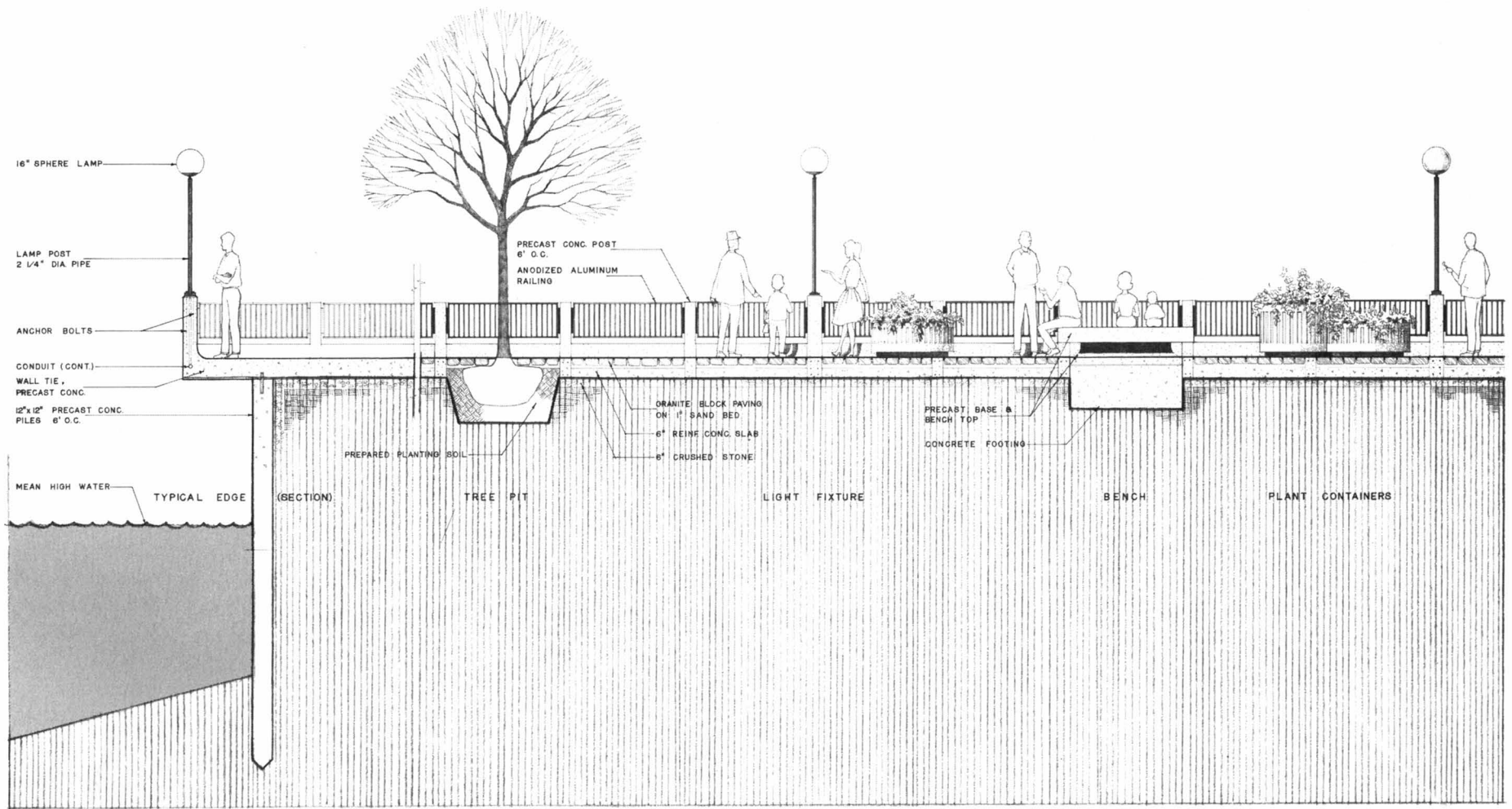
ELEVATION BETWEEN CHESTNUT & WALNUT STREETS

DETAIL PLAN - COMMUNITY COLLEGE PLAZA



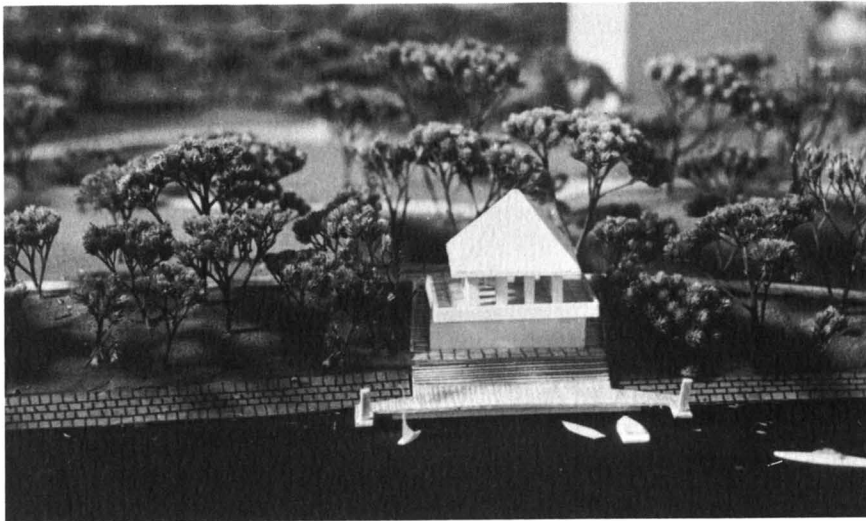


DETAIL ELEVATION - TYPICAL FURNISHINGS





*This view indicates the character of the South plaza area, at the termination of the upper promenade. In the background, outdoor dining facilities can be seen.*



#### *ACKNOWLEDGEMENTS*

The Fairmount Park Commission, The City Planning Commission, The Philadelphia Water Department, The Redevelopment Authority, Philadelphia Community College, and The Baltimore & Ohio Railroad Company were of invaluable service during the development of this plan. This work could not have been accomplished without their help and advice.

Collins & DuTot      Planning and Design Consultants      Landscape Architects  
121 North 18th Street      Philadelphia, Pa.

Clarence F. Wicker, Consulting Engineer  
Louis A. North, Consulting Engineer

Project Staff:      Ravindra Bhan, Sarah Bradford, Jean Gilbert, Thomas  
Grahame, Alma Hamell, James Nettles, David Streatfield, Nathan Sullivan,  
Dennis Wilson. John F. Collins, David M. DuTot