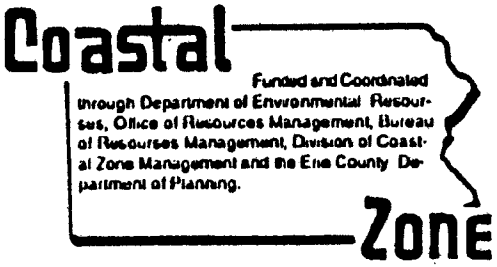
Pennsylvania Coastal Zone Management Program

BAYFRONT PROMENADE
FINAL REPORT

MARCH, 1992



NOAA Award No. NA90AA-D-CZ515 DER Contract No. CZ1:90.01PE
Grant Task No. CZ1:90-PE.04 ME No. 90271

CITY OF ERIE
JOYCE A. SAVOCCHIO, MAYOR

DEPARTMENT OF ECONOMIC AND COMMUNNITY DEVELOPMENT
ROOM 404 MUNICIPAL BUILDING
626 STATE STREET
ERIE, PENNSYLVANIA 16501

THIS PROJECT WAS FINANCED IN PART THROUGH A FEDERAL COASTAL ZONE MANAGEMENT GRANT FROM THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL RESOURCES WITH FUNDS PROVIDED BY THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

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Submitted
by
Dahlkemper Landscape Architects & Contracors

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#32927583

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Coastal Zone

Funded and Coordinated through Department of Environmental Resources, Office of Resources Management, Bureau of Resources Management, Division of Coastal Zone Management and the Erie County Department of Planning.

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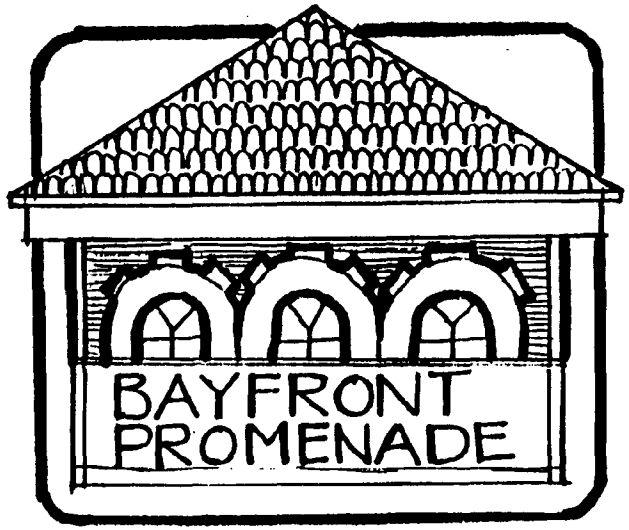
FINAL DESIGN REPORT

MARCH 1992



A REPORT OF THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL RESOURCES TO THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION PURSUANT TO NOAA AWARD NO. NA90AA-D-CZ515

Bayfront Promenade
Final Report

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Overview

The Bayfront Promenade is a pathway for use by the people of Erie and its visitors. The Promenade is designed to take advantage of the natural resource that is the reason for the location of our city, the natural harbor formed by Presque Isle. The views of the bay are picturesque from the bluff along the north edge of the city. The Bayfront Promenade takes best advantage of this resource and the views presented.

The Bayfront Promenade is envisioned as a linear park providing recreation, circulation and an historical perspective along the area where the City of Erie originally developed. The promenade when completed will very much be a trail of history.

Accordnig to the design plans the Bayfront Promenade is laid out as a meandering pathway atop the bluff along Front Street between Plum Street in the west and Parade Street in the east. (See Site Location Map, Figure #1) The path is typically 10 feet wide, but does vary in width, and is nearly two miles in length. Along the Promenade, there will be historical stops, sitting areas with informational plaques in 12 locations.The promenade will connect the lower west and eastsides to the new museum library complex being designed along the Bayfront giving the residents of these areas easy access to their cultural resources.

This project will be implemented in phases with funds provided by Coastal Zone Management to be matched by funds provided by the City of Erie. The installation is expected to total around one million dollars.

When completed the Bayfront Promenade will be a crown for the City of Erie.

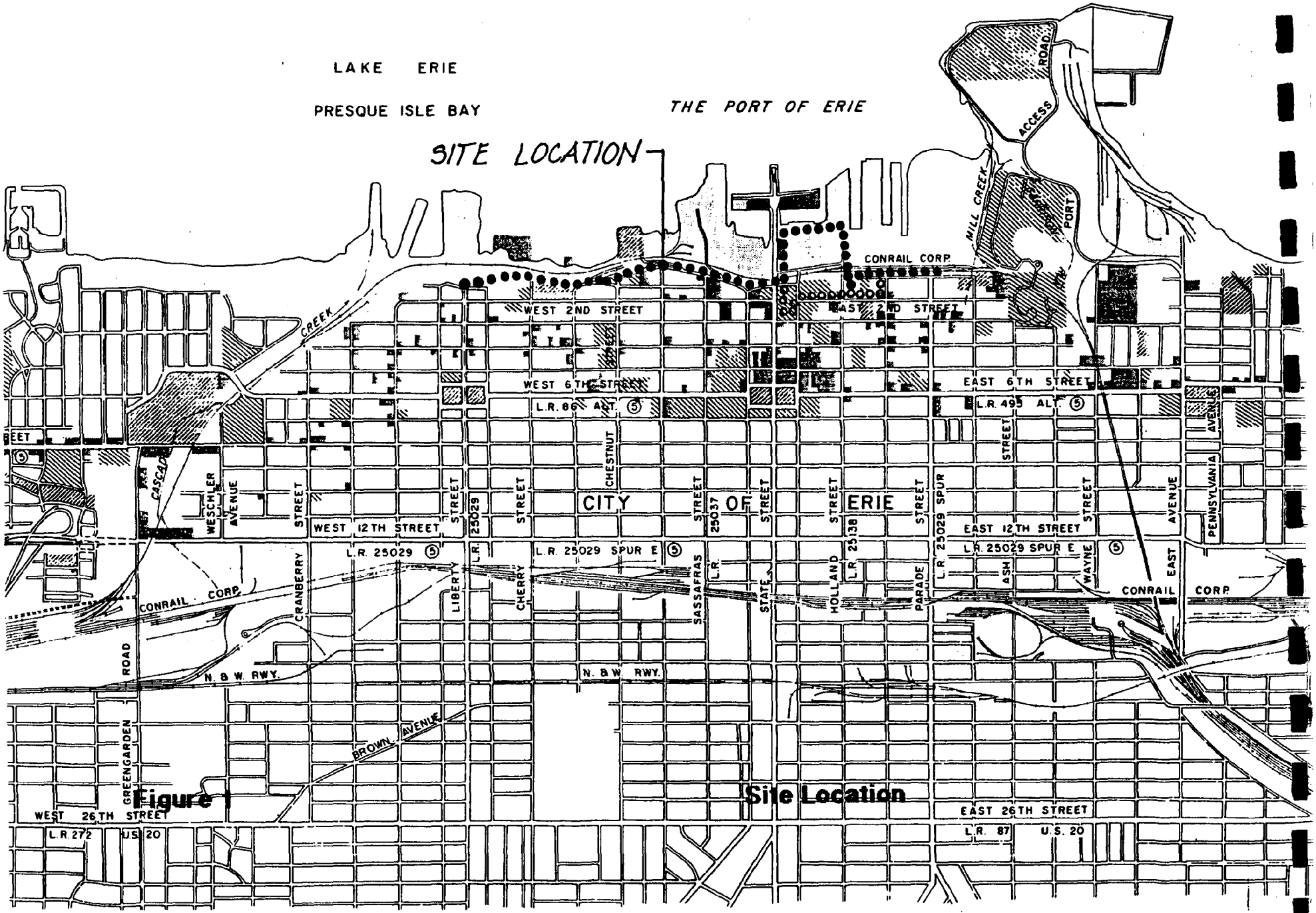


Figure 1 Site Location

Goals and Objectives

The Goals of the Bayfront Promenade were fairly simple and straightforward:

-To provide a pathway for use by a wide range of residents and visitors.

-To take best advantage of the views presented from the bluff.

-To provide recreational and educational opportunities.

-To provide a connection to the bayfront.

-To accomplish these goals in an aesthetically pleasing outdoor experience.

The objectives used to accomplish these goals include:

-Providing public access for all people including the handicapped.

-Creating a safe environment for walking, biking and other uses envisioned for the promenade.

-Creating a trail of history with educational markers at intervals.

-Placing sitting areas at convenient locations to give users the opportunity to enjoy the views and to provide for socialization or privacy.

-Provide lighting for security and to extend use into the evening hours.

-Create an interesting aesthetic experience with a meandering trail and a feeling of movement through the trees.

-To provide an amenity for neighboring residents, without becoming obtrusive.

-To keep minimize maintenance at a minimum.

-To begin a program of cleanup and planting for the bluff.

-To provide an amenity that will be a permanent fixture in our community.

Process

The process of design of the Bayfront Promenade included site analysis, programming, ideation, selection, and evaluation of those ideas to be formulated in the final design. This process was completed and reviewed in a series of meetings (See Appendix 2) with the Chief Planner of the City of Erie and other government officials and concerned citizens. We will review these steps starting with the site analysis.

Base Information

Site survey information was provided by the City of Erie in a series of separate drawings that related to different projects that were completed at different times along the study area. Topographic information at the scale or the level of detail required for study were not available in all areas. The City Engineers office did provide spot elevations in some areas including a spot at the baseline, the top of the bluff, and a few feet over the bluff. Areas that had no grade information, were requested and filled in at a later time, although some grade information is missing in some areas. There were no contours provided and no grade information beyond the baseline or a few feet over the bluff.

Some features were available on the site surveys, and others have been field measured by the Landscape Architects.

Property Ownership

The Bayfront Promenade site falls mostly within the Right-of-Way of Front Street. This is publicly-owned land, however, it is currently controlled by the State of Pennsylvania. The City officials are aware of this fact and have indicated that they will work to come to an agreement with the State of Pennsylvania for the control of the Front Street Right-of-way, for this project.

Other areas not controlled by the City of Erie are:

-A small triangle near the foot of Chestnut Street at station 29+00 owned by the water department. (See Figure 5 Section 5)

- A section from Peach Street to State Street which is controlled by Hamot Hospital in a land swap, where a section of existing walkway is located that will be used as part of the complete Bayfront Promenade. (Figure 5 Section 9)

-The area that runs between State and Holland Streets, north of the Bayfront Parkway and north of the old Penelec site, currently planned for a multi-use development and the Historical Museum and Library complex. The land to the north of this on the East Canal Basin has been proposed through a land swap between Penelec and the Erie-Western Pennsylvania Port Authority to be controlled by the Port Authority. The location of the Bayfront Promenade in this location is consistent with the development concept for this area. (Figure 5 Section 10)

-Along the east side of Holland between the proposed Bayfront Parkway and Second Street there is a lot that is owned by Hamot that would need to be acquired to accommodate a ramped structure at a handicap accessible grade up to East Front Street at the top of the bluff. (Figure 5 Section 11)

The Chief Planner for the City of Erie, Ron Desser has indicated that there are no codes or ordinances of the City of Erie that would affect the design of the Bayfront Promenade.

There are no requirements or design criteria of the Coastal Zone Management Program indicated by their liaison from the County Planning Department, John Mong. The City of Erie is a part of the cental area of the Coastal Zone Management Program (CZMP) for Erie County. The coastal zone within the City limits is north of Sixth Street. The site of the Bayfront Promenade falls entirely within the limits of the coastal zone.

Proposed development activites that will affect this project include:

-A bikeway along the Bayfront Parkway to be designed by the City of Erie.

- The development of the Penelec site into a multi-use waterfront development, including the Historical Museum and Library complex, and the renovated Flagship Niagara.

-The construction of a parking lot near the foot of Peach Street by Hamot Hospital.

-The future construction of an office building along the east side of Peach Street between Second and Third Streets.

-The extension of the Bayfront Parkway.

-The replacement of the Transitway Mall. This may provide some recycled materials including granite, brick pavers and perhaps other site furniture that may be used for the Bayfront Promenade.

-The Water Department may close the open incline roads near their facility because of the amount of traffic.

Site Analysis

Climate

The orientation and climatic factors are those that give the promenade an important location. Because of the mass of the water, Lake Erie tempers changes in temperature and causes the seasons to lag. The area immediately adjacent to the lakeshore stays cooler longer in the spring and summer and warmer into the fall because of the water temperature. Breezes are set up also by the changes of temperature between the land and the water during the summer season.

The site of the Promenade has the advantage of being somewhat cooler in the summer and warmer in the fall than the general region , except for other lakeshore locations. However, it will also be cooler in the spring and cold in the winter when prevailing breezes off the lake will chill the area on the lake bluff.

Because of the variation in temperatures it will be important to provide a mix of sunny and shaded areas.

Orientation

The Promenade site takes advantage of a number of great views of the Bay, Bayfront, Presque Isle and Lake Erie. Its location will also provide good views to the spectacular sunsets over Lake Erie.

Topography

The topographic information provided was not extensive enough to provide detailed slope information about the bluff adjacent to the site to the north. However, except for the section between State and Holland Streets the Promenade is located on the top of the bluff. This area is generally level and presents few constraints in the construction of the promenade due to topography. More information regarding the bluff is apparent in the Geology Section.

SOILS

First among information overlaid was the soil survey information. The different cantenas that make up the site include:

Ottawa Series- (ObA, ObB,ObC, ObD) These soils are deep and well drained, acid and sandy, lacking much organic materials. These are lake deposits. They are listed as slight limitations for paths and trail development and slight for Lawns and Landscaping and Streets/Parking lots, except where slope is a concern in the Erie County Soil Interpretations, 1972. They are listed as good for Road fill, A-2. This is good except where slopes are a problem.

Berrien Series- (BcA) There is a small area of soil in this series which is related to the Ottawa series. These soils are deep and moderately well drained soils. They are listed as slight limitations for paths and trail development and slight for Lawns and Landscaping and moderate, because of a seasonal high water table for Streets/Parking lots, except where slope is a concern in the Erie County Soil Interpretations, 1972. They are listed as good for Road fill, A-2 up to 27 in.. This is good except where slopes are a problem.

Escarpments- (Ec) This land type occurs on steep slopes that have formed as the result of lakeshore erosion. In general, the slopes range from 30% to 60% and are between 50 and 200 feet long. The degree of erosion varies. The soil material resembles that of the above material, Berrien or Ottawa Series. Some filling has occurred in these areas in addition to random dumping. Soil limitations are severe because of the steep slopes.

PARTNERS
EE LERCH, JR. PE
AM KUHOLSKI PE

April 3, 1992

Dahlkemper Landscape Architects & Contractors
5240 Schrimper Road
Erie, PA 16510

Attn: Dan Dahlkemper

Re: Erie Promenade

Dear Mr. Dahlkemper:

The proposed Erie Promenade is a 10 foot wide asphalt pavement to be used as a bikepath and pedestrian walkway. Maintenance vehicles such as pick-up trucks will use the facility on a limited, as needed basis.

The Promenade is a long (multi thousand feet) narrow facility along the bluff overlooking Presque Isle Bay. The soils are varied with many areas of fill. The linear nature of the project along with the variable subsurface conditions would require a large number of individual test locations. In addition, the information from any individual boring could not be reliably extrapolated any distance from the testing location. To thoroughly investigate the subsurface site conditions at this time would require an inordinate number of borings.

The soil testing program also has to consider the specific structure to be constructed. In this case, the facility is a light-traffic pavement. The loads to be imposed on the pavement do not warrant an extensive and expensive soil testing program. Repairs to the pavement, which might be required, would be far less expensive than an extensive subsurface soils investigation which could not guarantee that pavement failures would occur anyway.

The pavement section provided is adequate for the intended use of the facility assuming a low CBR (California Bearing Ratio) of 3 for the subgrade. A CBR of 3 is a typical value for the poor quality, silty soils that frequently occur in Erie County. Specifications will require compaction of the subgrade material to ensure that the highest CBR possible is obtained. In areas which cannot be adequately compacted, the subgrade will be over excavated 6-12 inches and backfilled with the specified subbase material.

A soils testing program is recommended for any area to receive significant structures, i.e. ramp, retaining walls, etc. Specific sampling and testing progress would have to be developed for each structure based on loads, layout and the physical site.

LAKE ENGINEERING
CONSULTING ENGINEERS, SURVEYORS AND PLANNERS
140 MEADVILLE ST · EDINBORO, PA 16412 · PHONE 814-734-1414

Pavement

The pavement section is made up as follows:

6" Subbase - PennDOT 2A Gradation Crushed Aggregate
2.5" BCBC
2" FJ-1 Wearing Course

If adjustments to the section are desired, the BCBC can be increased but not decreased. A 2.5" placement depth is the minimum for this material.

Benches

Benches can be installed on a compacted granular base. If backfill is to be placed behind the blocks, vertical collector drains should be installed. These drains will discharge to perforated pipe in stone. If drainage facilities exist the perforated pipe should be tied into the system. If not the ends of the pipe should be capped and the system allowed to function as a french drain.

Chestnut Street

The crossing of the ravine at Chestnut Street can be accomplished with controlled fill. To prevent drainage problems the fill should be extended to the end of the pavement on Chestnut Street. On the north side, the top of the bank would be located 5' from the Promenade.

Side slopes at 3:1 would be stable using on-site material if necessary. The top 2 feet of the fill under the Promenade proper would be run-of-bank gravel or better.

If you have any questions, please contact our office.

Very truly yours,

LAKE ENGINEERING

John K. Patterson, P.E.

JKP/kt

Geology

The site is generally adjacent to a bluff that has an elevation of 630 to 640 feet. The base of the bluff has an elevation of about 580 feet. The 50-60 foot drop at the bluff varies in gradient but is generally steep and inaccessible. Generally, there is little open active erosion on the bluff. However, settling of fill areas and creep of the bank are factors in the design of the Promenade. More detail of the bluff and its hydrology follows in the report from the Geologist, Dr. David Thomas.

As a subnote, Fr. Steven Simon commented that the area between Holland and Parade was filled around 1978 and they have noticed substantial settling in that area in subsequent years.

GEOLOGY REPORT

SLOPE STABILITY AND SUMMIT SURFACE CONDITIONS OF PROPOSED WALKWAY ALONG THE LAKE BLUFF OVERLOOKING PRESQUE ISLE BAY FROM PLUM STREET TO PARADE STREET

NOVEMBER, 1991

The study area along the bluff is divided into 13 sections each extending for one block.

SECTIONS

Section 1: Plum Street to Liberty Street
Section 2: Liberty Street to Poplar Street
Section 3: Poplar Street to Cherry Street
Section 4: Cherry Street to Walnut Street
Section 5: Walnut Street to Chestnut Street
Section 6: Chestnut Street to Myrtle Street
Section 7: Myrtle Street to Sassafras Street
Section 8: Sassafras to Peach Street
Section 9: Peach Street to State Street
Section 10: State Street to French Street
Section 11: French Street to Holland Street
Section 12: Holland Street to German Street
Section 13: German Street to Parade Street

TOPICS ADDRESSED DURING SECTION EXAMINATIONS

1. Elevation
2. Topography of area affected by the walkway
3. Slope gradient on the bluff
4. Apparent surface drainage including slope gullying
5. Apparent groundwater drainage
6. Evidence of mass movement and type

SECTION 1: PLUM STREET TO LIBERTY STREET

Elevation:

730 feet at the intersection of Plum and Front Streets.

Topography of Area Affected By The Walkway

The land surface is gently irregular along the summit. Two gentle swales are separted by one low knoll. It should be expected that the area of the swales will have a tendency to concentrate more runoff during rainstorms and snowmelt and channel it toward the summit edge.

Gradient of Slope of the Bluff:

29 degrees. From Bayfront Highway drafting sheets at 174+50.

Apparent Surface Drainage From Summit to Base of Bluff

There are two swales sloping gently toward the edge of the summit of the bluff at Plum Street. The easternmost depression extends to an eight-feet wide gully eroded by water channeled through it during times when precipitation is great enough to result in runoff. Slabs of asphalt and concrete have been emplaced in the gully in an apparent attempt to prevent further downcutting and widening of the gully.

Apparent Groundwater Drainage

No evidence of the ponding of water was seen.

Mass Movement

No evidence of mass movement except soil creep was apparent from Plum Street to Liberty Street. Soil creep over time will result in structures placed too close to the summit edge to tilt toward the bluff.

SECTION 2: LIBERTY STREET TO POPLAR STREET

Elevation

640 feet at the intersection of Liberty and Front Streets.

Topography Included in The Area of The Walkway

The topography is relatively flat with the land surface sloping very gently toward the summit edge. The flat topography is interupted by two ten feet wide, trough-shaped depressions entending to the edge of the summit. One of the depressions extends into a gully. There are two locations at the edge of the summit that are the sites of shallow and gentle scarps that are now covered with grass.

Gradient of Slope On The Bluff

24 degrees. From Bayfront Highway drafting sheets at 174+50.

Apparent Surface Drainage From Summit to Base of Bluff

About 50 feet east of a utility pole at the north edge of the intersection of Front and Liberty Streets a very subtle, ten feet wide swale extends through a grassy area to an actively eroding gully ten feet from the north edge of Front Street. A slump block three feet wide and four feet high shows a displacement of from six to twelve inches forming a fresh scarp on the east wall of the gully. About twenty feet east of this depression another shallower swale extends to the summit edge. Both of these depressions are the sites of concentration of water during times when precepitation is great enough to result in runoff.

Apparent Groundwater Drainage

No evidence of the ponding of water was seen.

Mass Movement

Two slump blocks are resting against the edge of the summit east of the two swales. The largest slump block is about fifty feet long and 6 feet wide. The smaller is about 20 feet long and six feet wide. The maximum vertical displacement of each is about six inches. There is no evidence that movement has occured in the recent past. No other evidence of mass movement was indicated with the exception of soil creep on the surface of the bluff.

SECTION 3: POPLAR STREET TO CHERRY STREEET

Elevation

640 feet at Poplar Street and 630 feet at Cherry Street

Topography Within The Area of The Walkway

The landsurface is flat, but slopes more steeply toward the edge of the summit in this Section than along the Sections to the west. This is the result of grading that took place during lanscaping procedures associated with the construction of the condominiums north of Front Street. The flat landsurface is interupted by a fresh scarp about four feet from the summit edge. This scarp extends along the graded land associated with the condominium. The maximum displacement of the scarp is about two feet.

Gradient of Slope On The Bluff

Bluff gradient not shown on Bayfront Highway drafting sheet.

Apparent Surface Drainage From Summit to Base of Bluff

Surface drainage off the graded segment of this Section associated with the condominium should be greater because of the steeper gradient of the landsurface. Water could drain to the slump scarp and down through the fracture where the displacement has occured causing instability of the slope on this part of the bluff.

Apparent Groundwater Drainage

No evidence of ponding of water was seen. The area north of the condominiums that has been graded may be underlain by soil different than the expected well-drained sandy soil native to this elevation and location.

Evidence of Mass Movement and Type

Extending nearly the entire width of the condominium property is a slump block four feet wide with a maximum displacement of two feet. The slump block is composed of fill material that has been dumped over the edge of the summit. The material of which the slump block is composed is resting on vegetation that was growing on the original natural slope. This buried vegetation may provide a surface along which water may percolate resulting in the downward slip of the fill material.

Directly north of the parking lot of the Erie County Health Department is a slump block about 25 feet long with a maximum width of four feet wide and a vertical displacement of two feet which is presently active. It is assumed that there is a storm

drain extending from the catchment at the summit to a storm drainage system at the Bayfront Highway at the foot of the bluff and the active slump is related to the storm drain.

SECTION 4: CHERRY STREET TO WALNUT STREET

Elevation

630 feet from the intersection of Cherry and Front Streets to the intersection of Walnut and Front Streets.

Topography Within The Area of The Walkway

This is the site of a baseball field. The landsurface is flat, but interupted by very shallow, wide swales that serve as channels for runoff from the baseball field to the edge of the summit where it flows down the bluff face.

Gradient of Slope On The Bluff

39 degrees. From Bayfront Highway drafting sheet at 186+00.

Apparent Surface Drainage From Summit to Base of Bluff

Surface runoff is toward the slope. A concrete culvert is located at the ninth fence post from the western edge of the fence that is the north boundary of the baseball field which receives the runoff from the western portion of the baseball field. The culvert extends from the summit to the base of the slope. Gullying that has commenced at the edge of the summit next to the culvert is a consequence of lack of repair. A ditch eight feet wide and eighteen inches deep has been excavated for the purpose of draining the center field of the baseball field at the eighteenth fence post from the western edge of the fence. This may result in future gullying and slumping at the summit edge. A very shallow swale is located at the twenty third fence post from the western edge of the baseball field. This minor swale should also be addressed relative to future gullying and slump.

Apparent Ground Water Drainage

No evidence of the ponding of water was seen.

Mass Movement

No evidence of mass movement was seen.

SECTION 5: WALNUT TO CHESTNUT STREET

Elevation

630 feet from the intersection of Walnut and Front Streets to the intersection of Chestnut and Front Streets.

Topography Within The Area of The Walkway

A concrete walk extends down the slope of the bluff east of Walnut Street at the 23+0 station mark on the pavement on Front Street. Eastward, a slight displacement of two to three inches occurs at the edge of the summit between stations 23+0 and 25+0. The displacement shows no fresh scarp and is well covered with grass. A concrete road leads from Front Street to an Erie Waterworks building at the base of the bluff east of station 25+0. East of the roadway an excavated trough runs parallel to the edge of the summit. A soil berm runs parallel to the summit that prevents runoff from flowing from the trough over the summit edge and down the face of the bluff. Both the trough and the berm are densely covered by mowed grass. At Chectnut Street a grassy ravine extends from the summit edge to the base of the bluff.

Gradient of Slope on The Bluff

29 degrees. From Bayfront Highway drafting sheet at 196+00.

Apparent Surface Drainage From Summit to Base of Bluff

The steps that lead from the summit to the base of the bluff east of Walnut Street at station 23+0 have been undercut by gullying. The gullies were later filled with concrete slabs to prevent further erosion by surface runoff. This may be a future problem site. A path has been worn by pedestrian traffic which is the site of the initiation of gullying. Water will continue to be channeled through the gully unless engineering procedures are initiated.

Apparent Groundwater Drainage

No evidence of ponding of water was seen.

Evidence of Mass Movement and Type

The only evidence of instability was the old grassy slump block with a displacement of two to three inches. Otherwise the slope appears to be stable within this Section.

SECTION 6: CHESTNUT STREET TO MYRTLE STREET

Elevation

Between 620 feet (see Topograohy below)

Topography Within The Area of The Walkway

The elevation at Walnut Street is between 620 feet and 630. It rises to 630 feet eastward where it remains for most of the length of this section until Myrtle Street is approached whereupon the elevation decreases to between 620 feet and 630 feet at Myrtle Street. A public road extends from Front Street to the Bayfront Highway west of Myrtle Street at station 33+0. A steel guard rail and a concrete walkway run parallel to the north curb of Front Street.

Gradient of Slope On The Bluff

13 degrees. From Bayfront Highway drafting sheet at 200+50.

Apparent Surface Drainage From the Summit to Base of The Bluff

Nearly all surface drainage is accomodated by Front Street and associated storm drains. The width of the land surface between the summit edge and the Front Street curbing is quite narrow and does not produce much runoff down the bluff face. No evidence of harmful water concentration or gullying was seen. The summit and slope face are covered by grass and weeds which seem to meet the stabilizing requirements of this section.

Apparent Groundwater Drainage

No evidnce of ponding was seen.

Evidenece of Mass Movement and Type

No evidence of mass movement was seen. Soil creep should be kept in mind if planning the location of the walkway in this narrow area.

SECTION 7: MYRTLE STREET TO SASSAFRAS STREET

Elevation

630 feet.

Topography Within The Area of The Walkway

Gradient of Slope On The Bluff

There is no record of a gradient measure in this section.

Apparent Surface Drainage From Summit to Base of Bluff

Nearly all surface drainage is accomodated by Front Street and associated storm drains. The width of the landsurface between the summit edge and the Front Street curbing is quite narrow, therefore not much runoff is collected and directed down the bluff face. No evidence of damaging water concentration was seen. The summit and slope face are covered by grass and weeds which seem to meet the stabilizing requirements of this Section.

Apparent Groundwater Drainage

No evidence of ponding was seen.

Evidence of Mass Movement and Type

No evidence of mass movement was seen. Soil creep should be considered if planning to locate any structures in this narrow area.

SECTION 8: SASSAFRAS STREET TO PEACH STREET

Elevation

630 feet at the intersection of Sassafrass and Front Streets dropping to 620 feet at Peach and Front Streets.

Topography Within The Area of The Walkway

This area has been excavated, refilled, graded, and planted with grass. The type of fill material and the manner in which it has been emplaced should be closely studied before final walkway plans are completed. Especially watch for settling and surface drainage concentration.

Gradient of Slope

There is no record of gradient measurement, however the gradient is less than the optimum of 35 to 40 degrees for the vegetated angle of repose.

Apparent Surface Drainage From The Summit to The Base of Bluff

All surface drainage is evenly distributed down the graded slope. No evidence of damaging water concentration was seen. The summit and slope face are covered by planted, mowed grass which seems to be preventing gullying on the slope face.

Apparent Groundwater Drainage

No evidence of ponding was seen.

Evidence of Mass Movement and Type

No evidence of mass movement was seen. Soil creep should be considered if planning to locate any structures on the slope face.

STATION 9: PEACH STREET TO STATE STREET

Elevation

620 feet at the intersection of Peach and Front Street decreasing to 610 feet at the intersection of State and Front Streets.

Topography Within The Area of The Walkway

This area has been excavated, refilled, graded, and planted with grass. It very gently slopes eastward toward State Street. The north-facing slope is also very gentle. The type of fill material and the manner in which it has been emplaced should be closely studied before final walkway plans are completed. Especially watch for settling, surface drainage concentration, and ponding of water.

Gradient of Slope

There is no record of the gradient of the slope, however it is considerably less than the angle of repose of 35 to 40 degrees for slopes along the lake bluff.

Apparent Surface Drainage From The Summit to The Base of Bluff

All surface drainage is evenly distributed down the graded slope. No evidence of damaging water concentration was seen. The slope face is covered by planted, mowed grass which seems to be preventing gullying on the slope face.

Apparent Groundwater Drainage

No evidence of ponding was seen. The nature of the fill material should be considered when determining the thickness and porosity of material to be placed beneath the walkway to prevent frost heaving. The higher the clay and silt content of the fill material, the more likely the possibility of frost damage to the finished walk over time.

Evidence of Mass Movement and Type

No evidence of mass movement was seen. Soil creep should be considered if planning to locate any structure on the slope face.

SECTION 10: STATE STREET TO FRENCH STREET

The walkway is planned to pass south of Hamot Medical Center. Slope stability and soil surface conditions do not apply for this area of the walkway.

SECTION 11: HOLLAND STREET TO GERMAN STREET

The walkway is planned to pass south of the medical buildings. Slope stability and soil surface conditions do not apply for this area of the walkway.

SECTION 12: HOLLAND STREET TO GERMAN STREET

Elevation

630 feet from the west end of Front Street to the intersection of Front and German Street.

Topography of Area Affected By The Walkway

The topography is relatively flat with the landsurface sloping gently toward the summit edge. Swales are not present on the summit and gullying does not occur on the bluff face.

Gradient of Slope of The Bluff

There is no recorded gradient of the slope. No evidence of mass movement was seen along this section.

Apparent Surface Drainage From Summit to Base of Bluff

The curbing on the north side of Front Street prevents runoff from the pavement across the summit of the slope. The narrowness of the strip from the curb to the summit edge and the relatively even surface from the curbing to the summit edge cause an even distribution of surface runoff which eliminates swale formation on the surface from the curb to the summit edge and gullying from the summit edge to the base of the slope.

Apparent Groundwater Drainage

No evidence of ponding was seen.

Mass Movement

No evidence of mass movement was seen at the top of the summit. No evidence of mass movement except soil creep was seen along the face of the bluff.

SECTION 13: GERMAN STREET TO PARADE STREET

Elevation

The elevation along the edge of the summit drops from 230 feet at the intersection of Front Street and German Street to 210 feet at the intersection of Front Street and Parade Street.

Topography of Area Affected By The Walkway

The landsurface slopes gently from the curb of Front Street northward toward the summit edge. The landsurface also slopes toward the east from an elevation of 230 feet to 210 feet between German Street and Parade Street along the summit edge. Neither swales on the summit nor gullies on the bluff face occur. The east-facing slope from German Street to Parade Street is the west valley wall of Mill Creek. Moving downslope the native material should change from a sandy soil at the summit to a silty soil farther downslope to a clayey silt as the base is approached. If a large amount of human refuse has been dumped along the segment over the years, this sequence of material may not be encountered.

Gradient of Slope of The Bluff

There is no recorded evidence of the gradient of the slope. No evidence of mass movement has been seen along this section.

Apparent Surface Drainage From Summit to Base of Bluff

The curbing along Front Street prevents runoff from the pavement across the summit of the slope. The narrowness of the strip between the curbing and the summit edge and the evenness of this strip prevents concentration of runoff into swales and gullies.

Apparent Groundwater Drainage

No evidence of ponding was seen at the summit.

Mass Movement

No evidence of mass movement was seen along the summit edge.

Drainage

Drainage is important to the Promenade in the way it affects the stability of bluff slopes. As noted, the soils generally have a good internal drainage, and site visits indicate little puddling even after hard rains. However, there are a couple of areas where drainage seems to be a problem.

- The open drainage sluices at Bayview park.

-At the foot of Cherry the drainage structure seems to be plugged, however, it doesn't seem to be presenting a bluff problem currently.

-Along the tar and chip sections of Front Street between Plum and Poplar, run off from the street has created a couple of areas of erosion.

These are noted in more detail in the Geology section above.

The base information has not provided adequate topography to review the characteristics of surface drainage because of the lack of contours at a readable contour interval.

Because of good internal drainage of the soil, the pathway will be designed to run with the grade and allow the water to sheet flow rather than be channeled towards the bluff where it will normally be slowed by vegetation and absorbed by the previous soils.

Solid Waste Concerns

The Erie Bayfront has had a history of dumping and landfilling. Some of the areas along the bluff were used as city dump areas for different periods of time. These areas are not clearly identifiable and have not been in use for some time. A study of toxic wastes was carried out as part of the Environmental Impact Statement for the Bayfront-Port Access Road. (See Final Environmental Impact Statement/Section 4(f) Evaluation LR 1003 Section A00, Bayfront Port-Access Road, Volume 1, Sections 3.1.4 and 4.1.4). This study notes that the County of Erie, Department of Health lists eight inactive solid waste sites along the corridor, but the actual extent and nature of the dumping was not known. Soil sampling was

undertaken in spring of 1982, consisting of 25 soil borings. None of the samples tested exhibited toxicity.

Because of the history of dumping along the bayfront, there exists the possibility of encountering unexpected toxic substances. As a precaution, the State of Pennsylvania which currently controls the Right-of-way of Front Street, should undertake soil samples in this area in suspect areas or at regular intervals before turning control over to the City of Erie. All soil samples will be taken down to native soils. Field testing and examinations should be made to determine if further laboratory testing is needed. Representatives of the U.S. EPA, PA-DER, and Erie County Health Department should be invited to participate in the field examinations. Samples requiring further analysis will at a minimum be tested by an EPA-approved lab for EP toxicity, total cyanide and amenable cyanide and others as determined by field tests.

In the event that toxic waste materials are identified, additional sampling will be made with in the right-of way- to help determine the extent of the site. U.S. EPA, PA-DER and the Erie County Health Department will be notified in writing of any findings.

A closure plan for any identified toxic waste dump site will be developed in coordination with U.S. EPA, PA-DER and the Erie County Health Department and the U.S. Fish and Wildlife Service, and adjoining property owners if applicable. The type of closure plan finally developed will depend upon the type of construction activity, the type of contaminants found, topography, hydrology and types of surrounding land uses. The plan will include instructions for contractors, excavation or capping procedures, post construction monitoring and personnel decontamination procedures.

During construction the toxic waste dump sites will be covered with impermeable covering during periods of non-construction activity after earthwork or excavation has begun. These measures will be taken to prevent the migration of contaminants by run-off or percolation. When covering the site is impractical, all run-off from the site shall be collected and treated. A dust control program will be included as part of the plans for these sites. The stringency of the plan will depend upon the materials found.

If toxic waste materials are to be removed from the site they will be transported by haulers with the appropriate Pennsylvania permits. The materials will be

disposed of in and EPA- approved landfill. The nearest approved facilities are located in either Buffalo, New York o Cleveland, OH.

No matter how carefully field reconnaissance is accomplished, hazardous waste dump sites may be uncovered during construction operations. Many hazardous waste site locations will never be found until earthmoving activities uncover buried containers or the raw waste itself. If there is any possibility that hazardous materials are involve, construction would be stopped until the appropriate Regional Offices of the EPA and PA-DER determine that further construction will not pose an environmental threat. Extra precautions will be taken if the unknown site is near a wetland, stream or is otherwise susceptible to entering the groundwater system. In the even a suspected hazardous site is uncovered, a thorough record will be kept including laboratory analysis and final disposition of the site. The construction plans will include detailed guidance to the contractor as what to look for and procedures to follow.

Vegetation

The survey information located and identified some of the trees on the site. The rest of the trees along the pathway have been inventoried and are noted on the plans. These are generally cultivated or nursery grown trees transplanted onto the bluff. However, there are a number of large native poplars existing. These are generally in poor health, with broken or scarred branches as the result of ice storms and windstorms in the last couple of years. Several of these need to be removed. Other trees should be planted to eventually replace those that will not be removed. These shade trees do provide a good height so that views from eye level are not obstructed because the branches are generally above head height providing a canopy and a foreground or framework for the views out toward the lake.

On the top of the bluff where it is fairly level, there is maintained lawn area and in some locations maintained gardens and shrubs.

The lakebank has a mix of materials. Most of these are regenerative plant materials; raspberries, grapevines, sumac, poplar, ash, that can be described as a shrub/vine thicket. This thicket is generally dense, except in areas of fill, and the plant materials are healthy and vigorous, as is their nature. The height of these materials generally allow for good views out from the top of the bluff. Because of the location they are not susceptible to trampling, and are vigorous

enough that some traffic would not affect their growth. Some thinning or cutting back would encourage further growth, and probably would help to eliminate any hazard due to fire that might arise from accumulating brush.

Fire may be the only threat to these regenerative plants. They are seldom affected by drought, insects or diseases. They do provide a dense mat to stabilize the surface of the slope of the bluff with generally deep root systems. They also apply cover for the many types of wildlife that inhabit the lakebanks of our area, including, skunks, raccoons, squirrels, chipmunks, ground hogs, and a mixture of bird life, including bluejay, killdeer, mourning dove, and robin.

The native systems of the bluff area have been altered by urban development The remaining undeveloped areas are restricted to those sites that are unsuitable for development, abandoned or residual land, vacant urban lands, or protected land. The vegetation and wildlife noted have adapted to the changes with development of these areasThe vegetation and wildlife are not typically native, but more urban in nature.

Visual features

The visual features are predominantly the important views from the bluff. These are noted on the 200 Scale drawing, Figure 2

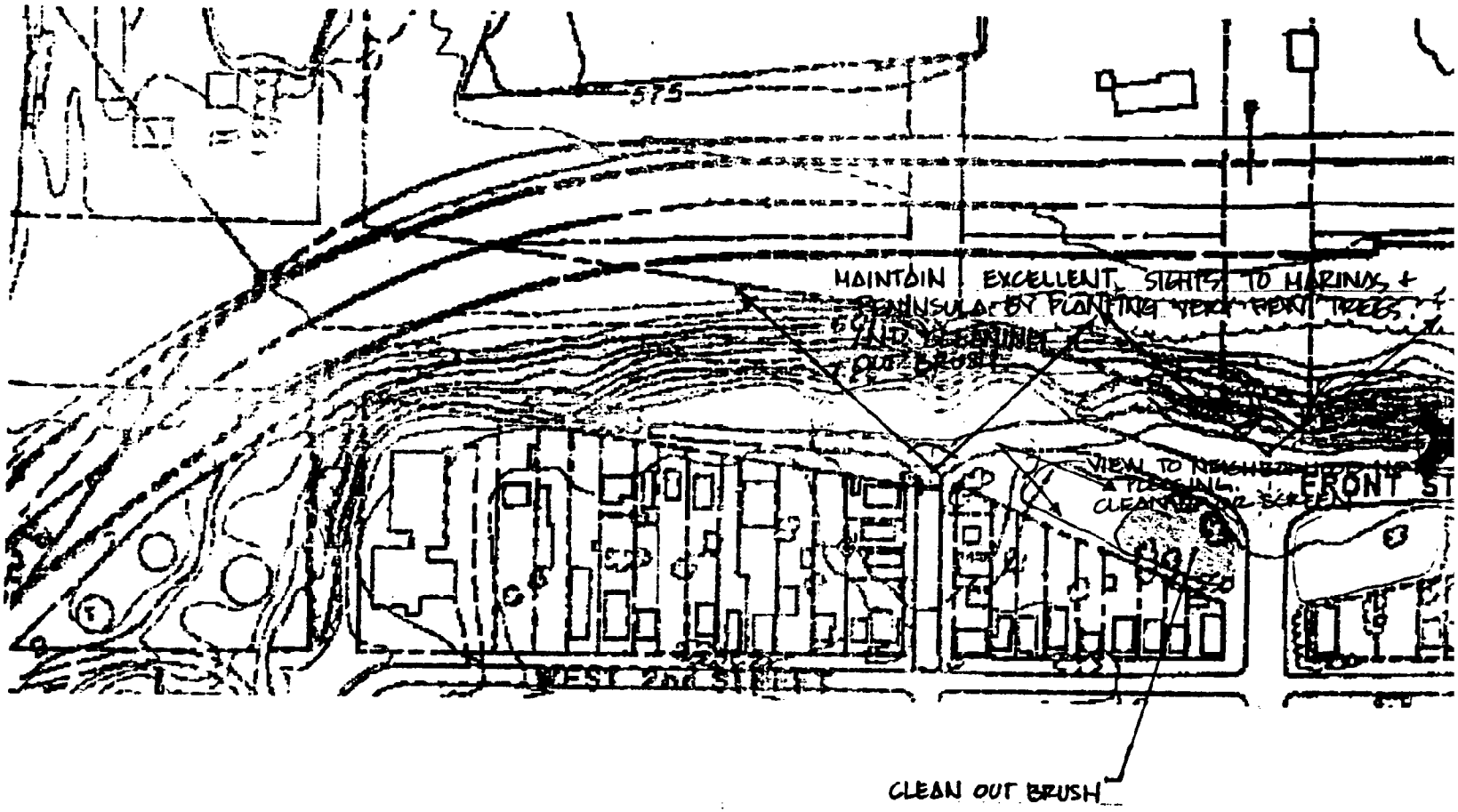
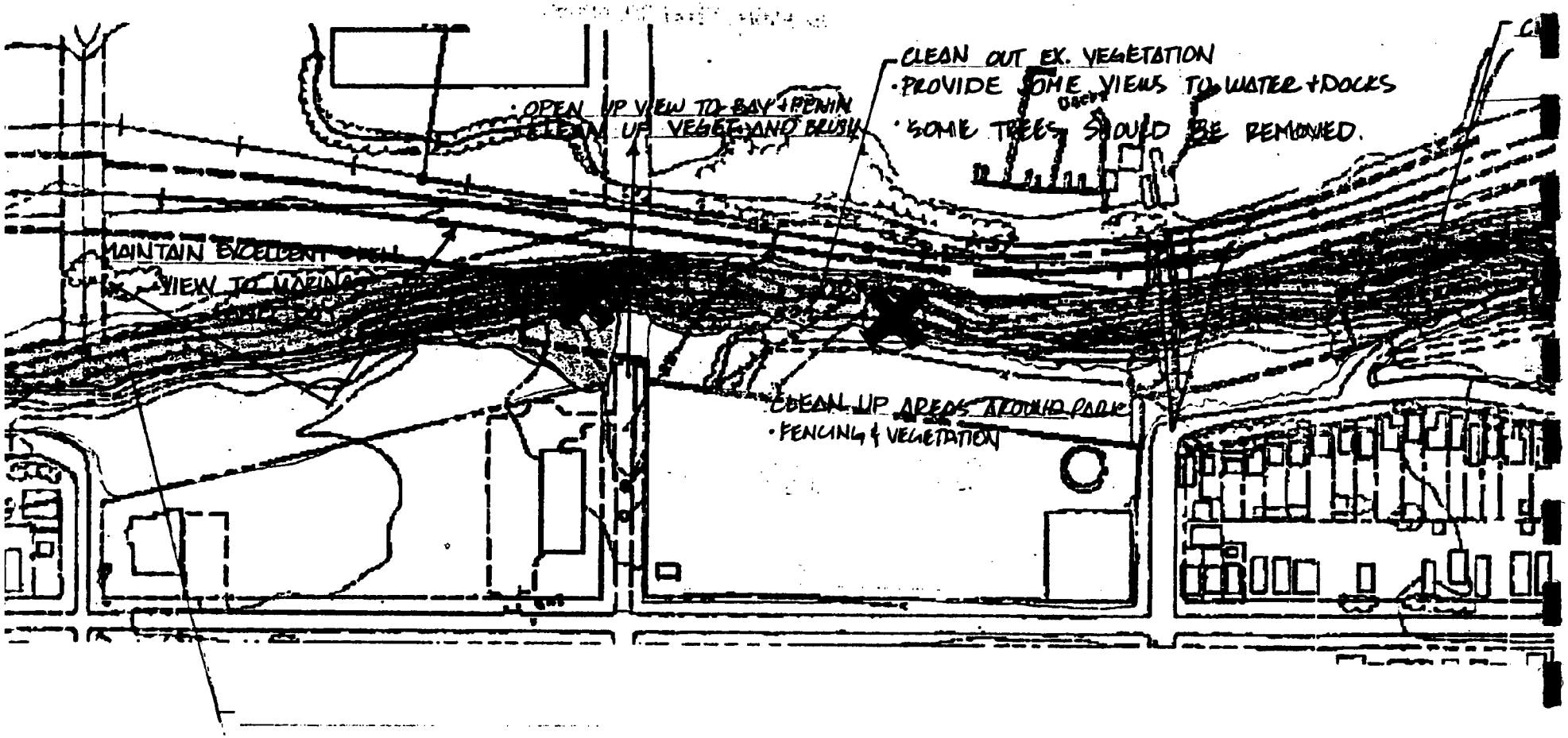


Figure 2

200 Scale Vegetation and View Analysis



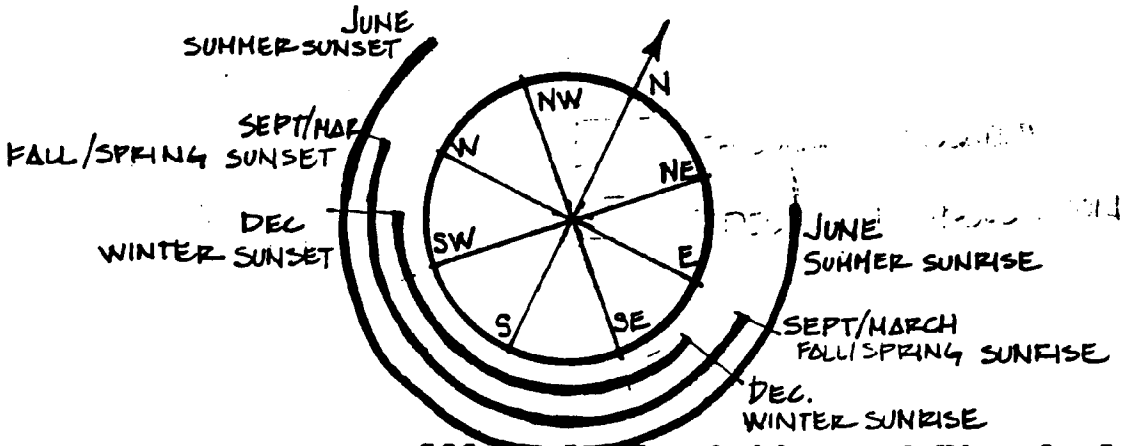


Figure 2 **200 Scale Vegetation and View Analysis**

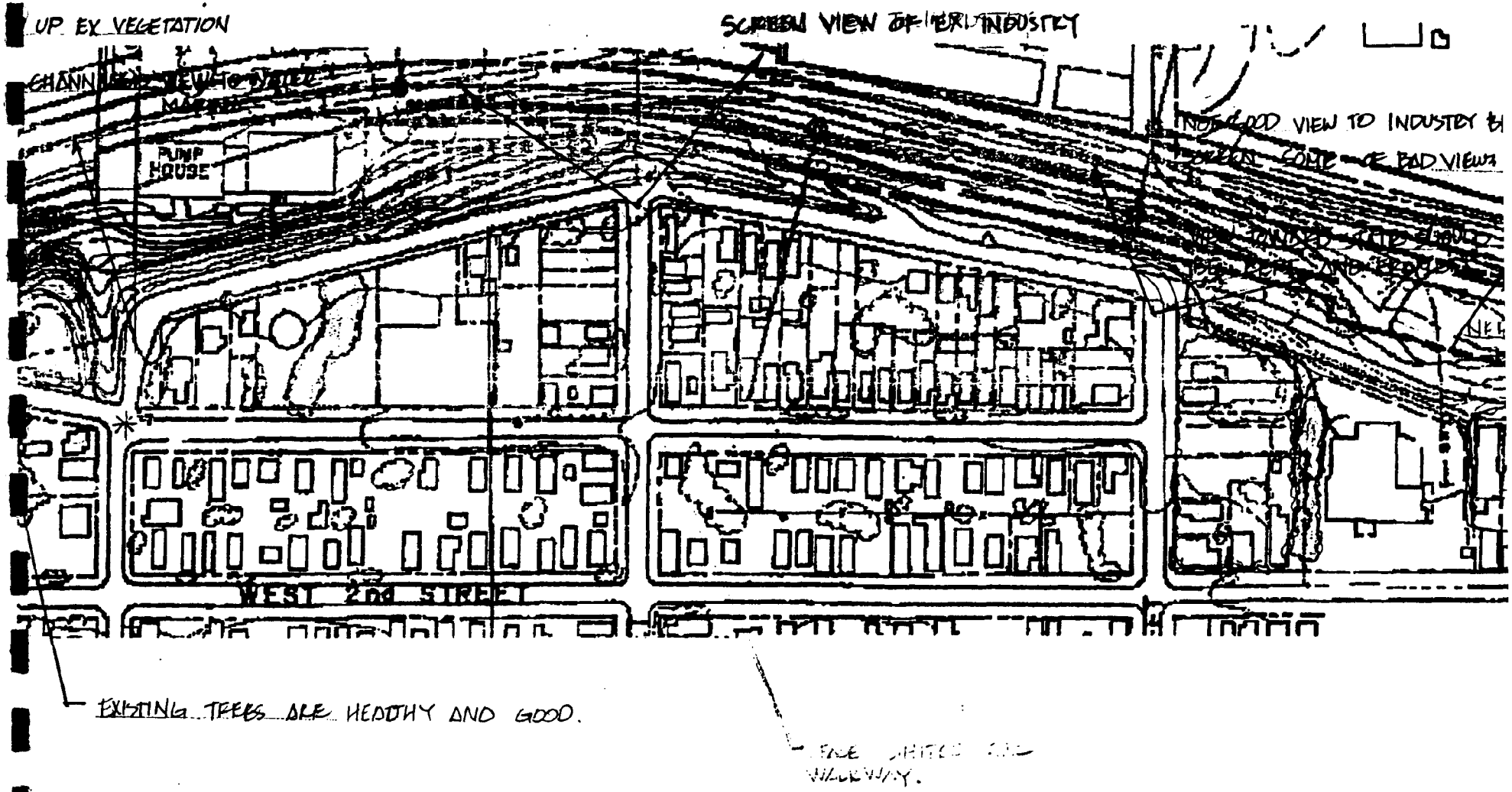
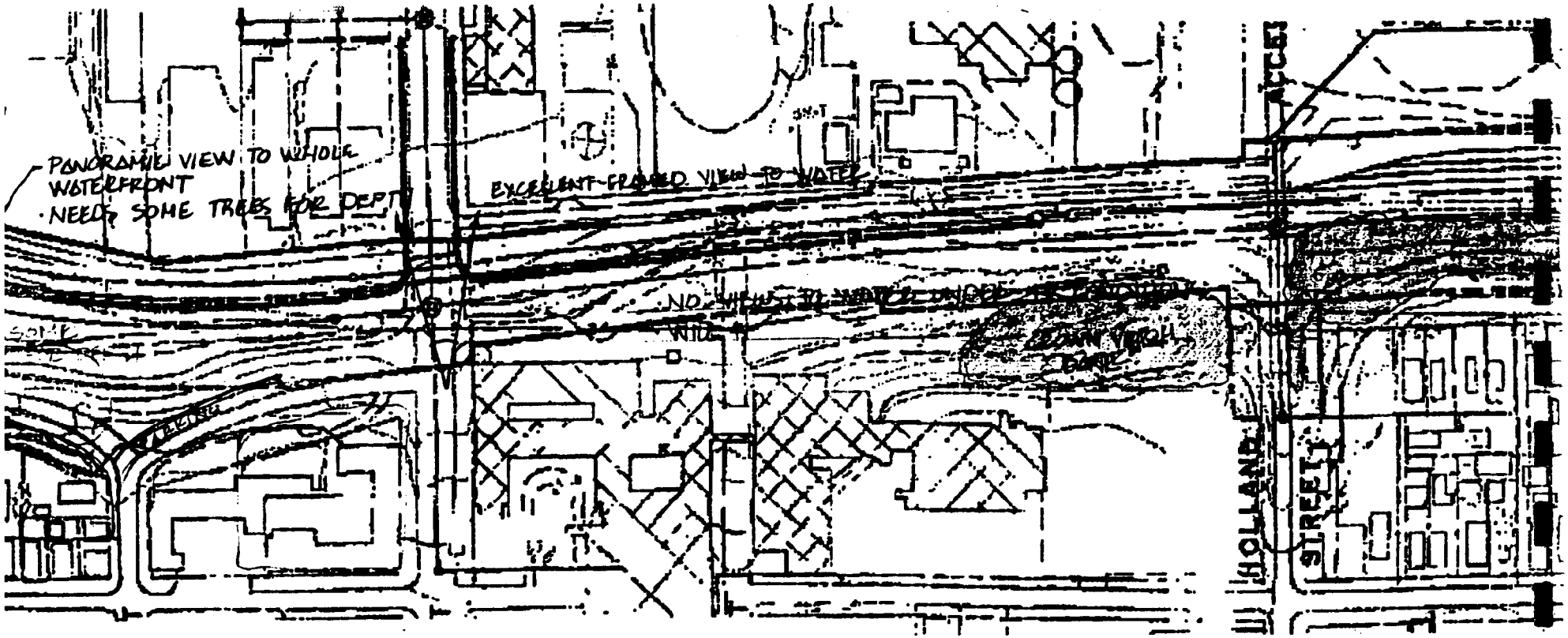


Figure 2 **200 Scale Vegetation and View Analysis**



OPEN SPACE OR GRASS W/ FEW OR NO TREES.

BRUSH AND FEW TREES

TREE GROUPINGS

CONCERN AREAS OF EROSION OR CREEP

Figure 2 **200 Scale Vegetation and View Analysis**

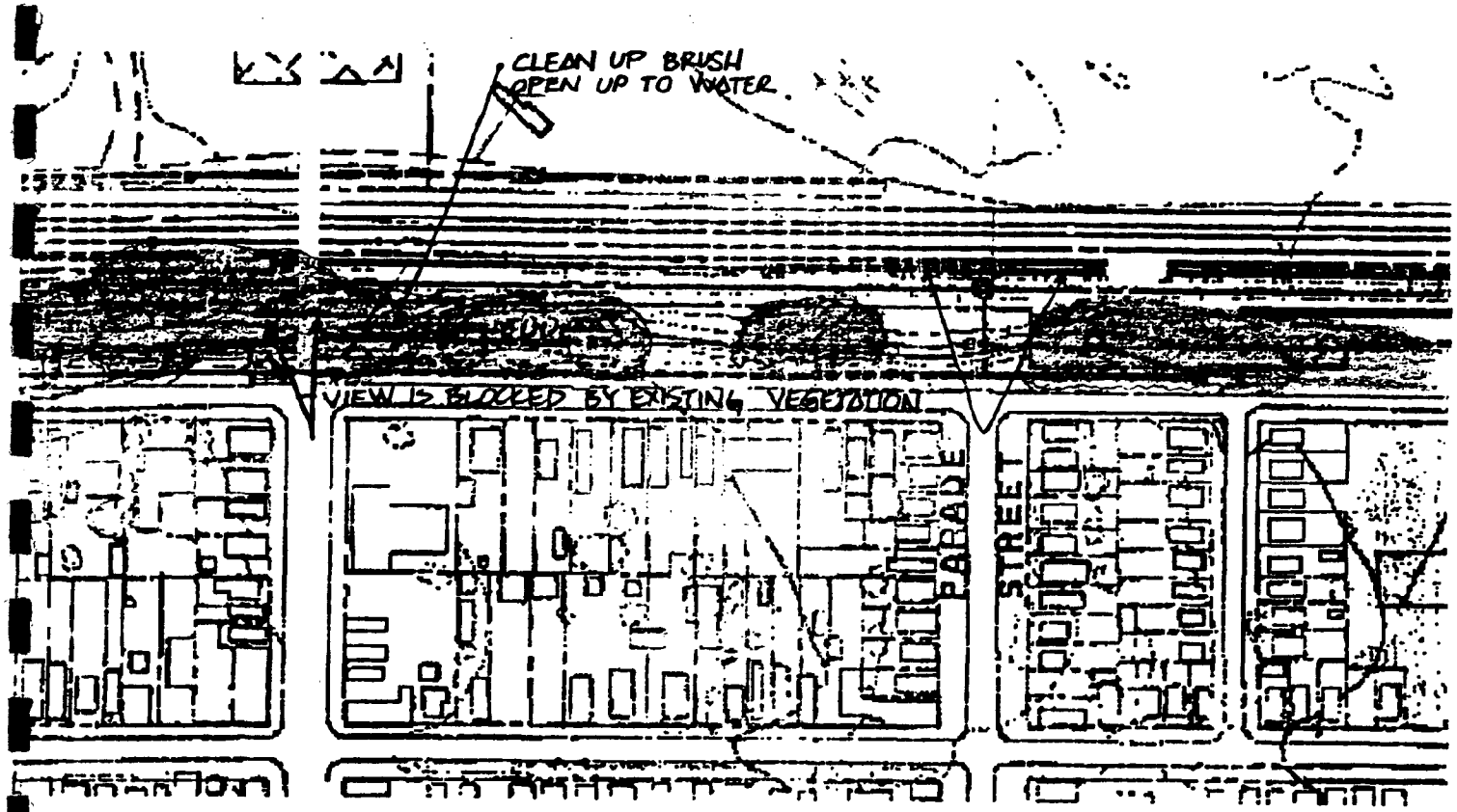


Figure 2 **200 Scale Vegetation and View Analysis**

Social Factors

Social factors are noted on a 200 scale drawing that includes special features such as:

1) Neighborhoods, shopping, schools, places of employment
2) Existing circulation patterns, vehicular and pedestrian
3) Existing and proposed recreation features.
4) Nuisance uses, noise, traffic conflicts, etc.
   (See Figure 3)

The Promenade seems to go through two generally different areas. On either end there are residential areas. The central section is more of the urban core and has a different feeling to it mainly because of the types of uses and the scale.

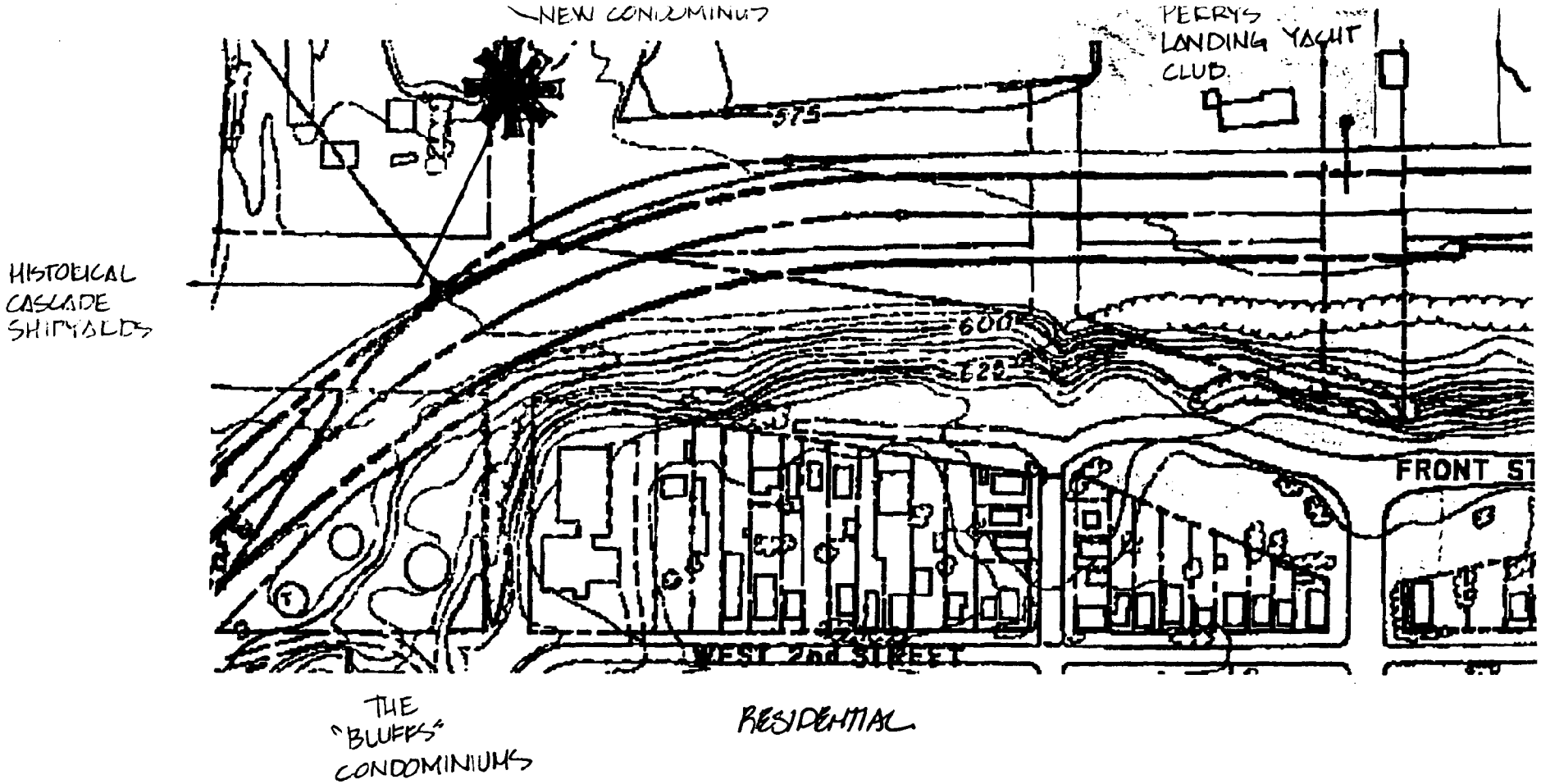


Figure 3 **200 Scale Land Use and Historical Sites**

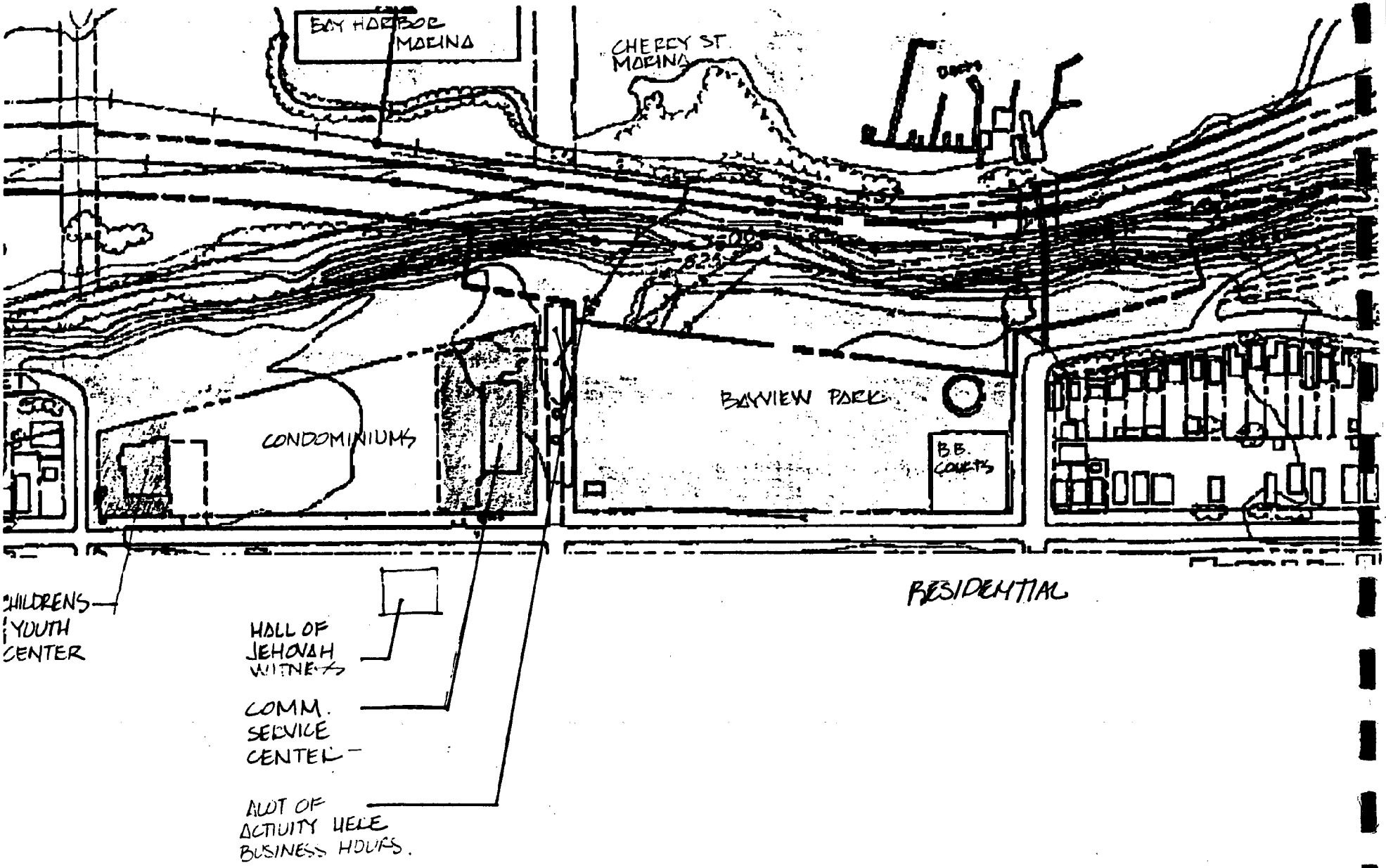


Figure 3 **200 Scale Land Use and Historical Sites**

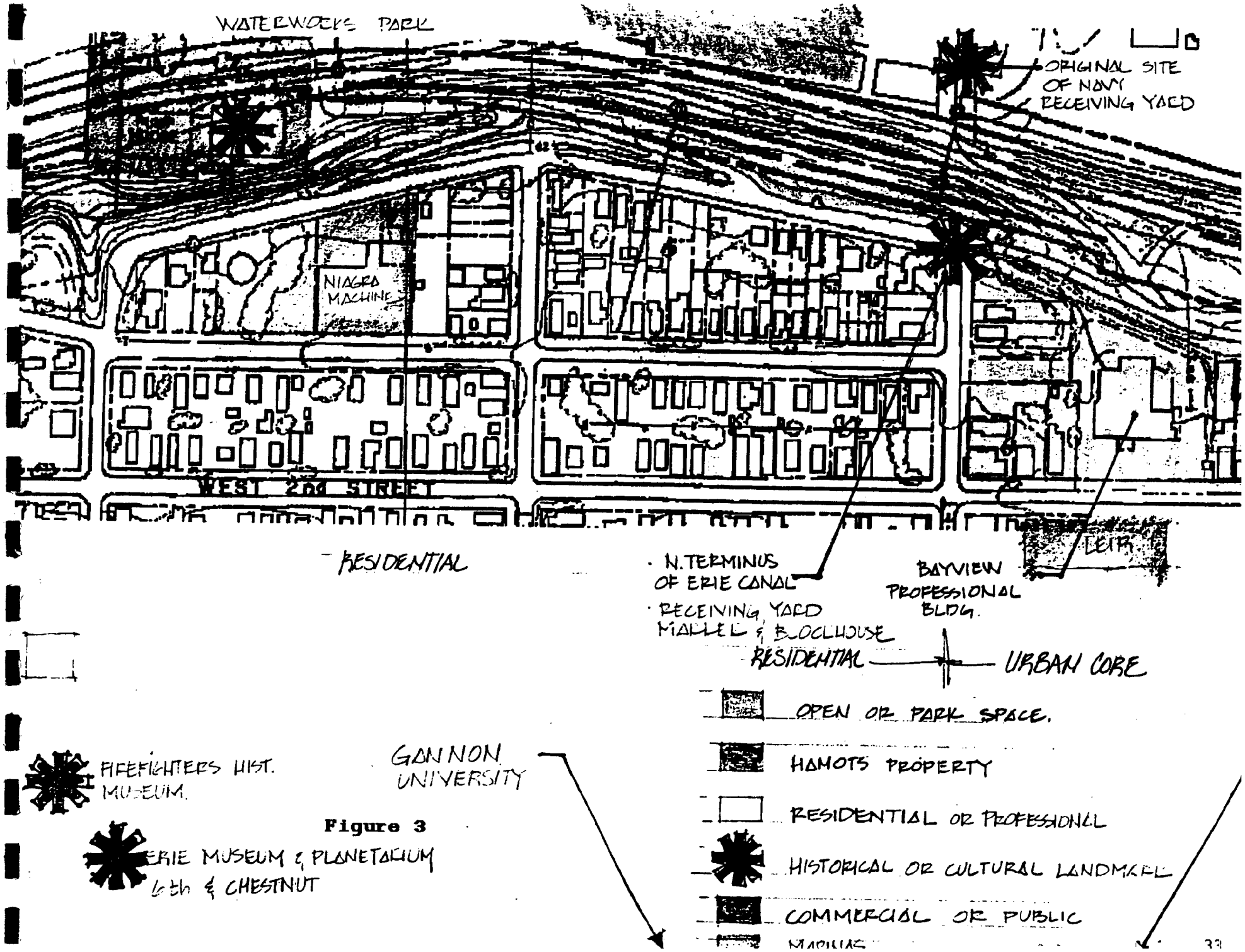

WATERWORKS PARK
ORIGINAL SITE OF NAVY RECEIVING YARD
NIAGRA MACHINE
WEST 2nd STREET
RESIDENTIAL
N. TERMINUS OF ERIE CANAL
RECEIVING YARD MAGAZINE & BLOCKHOUSE
BAYVIEW PROFESSIONAL BLDG.
RESIDENTIAL
URBAN CORE
OPEN OR PARK SPACE.
HAMOTS PROPERTY
RESIDENTIAL OR PROFESSIONAL
HISTORICAL OR CULTURAL LANDMARK
COMMERCIAL OR PUBLIC
FIREFIGHTERS HIST. MUSEUM.
GANNON UNIVERSITY
ERIE MUSEUM & PLANETARIUM
6th & CHESTNUT

Figure 3

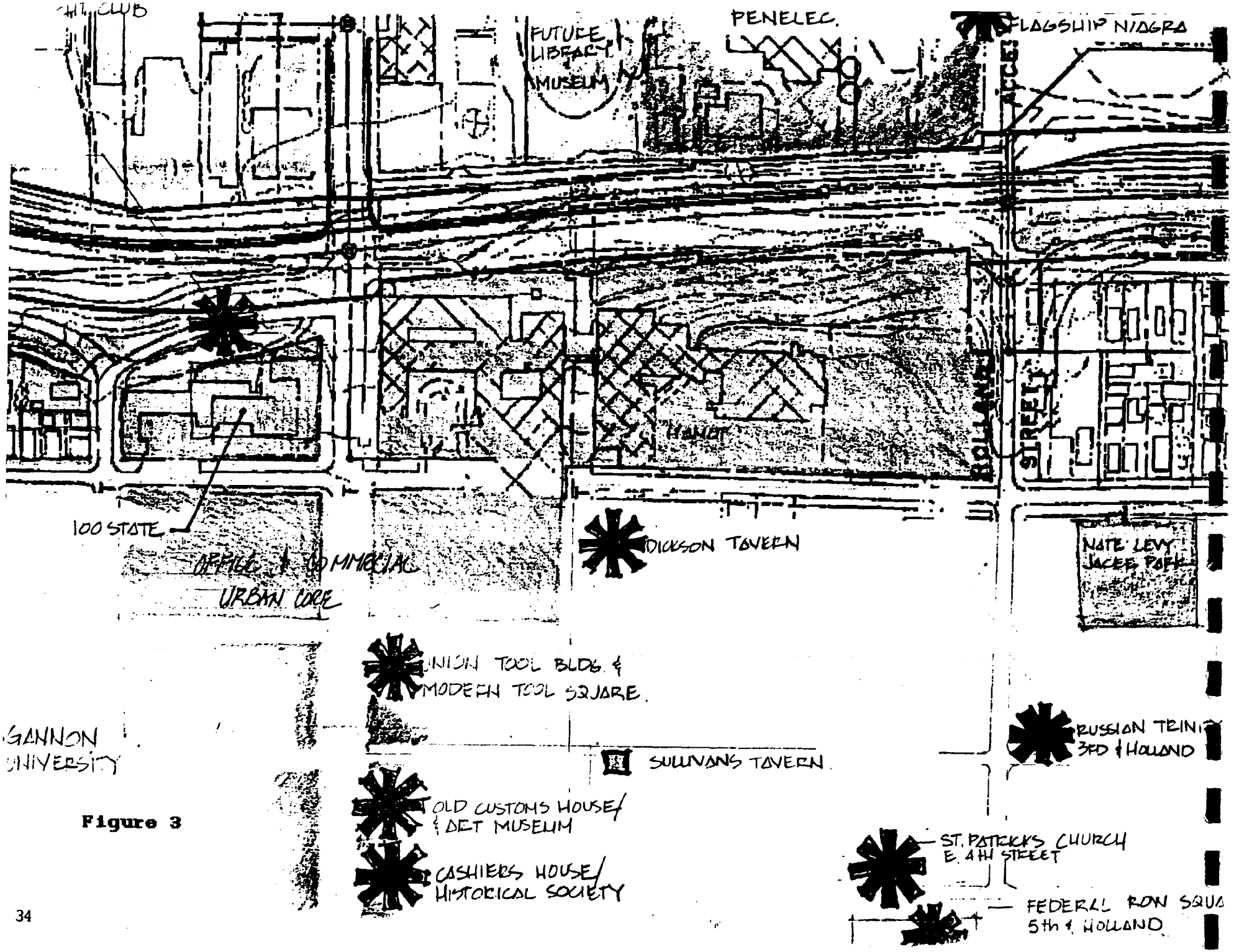
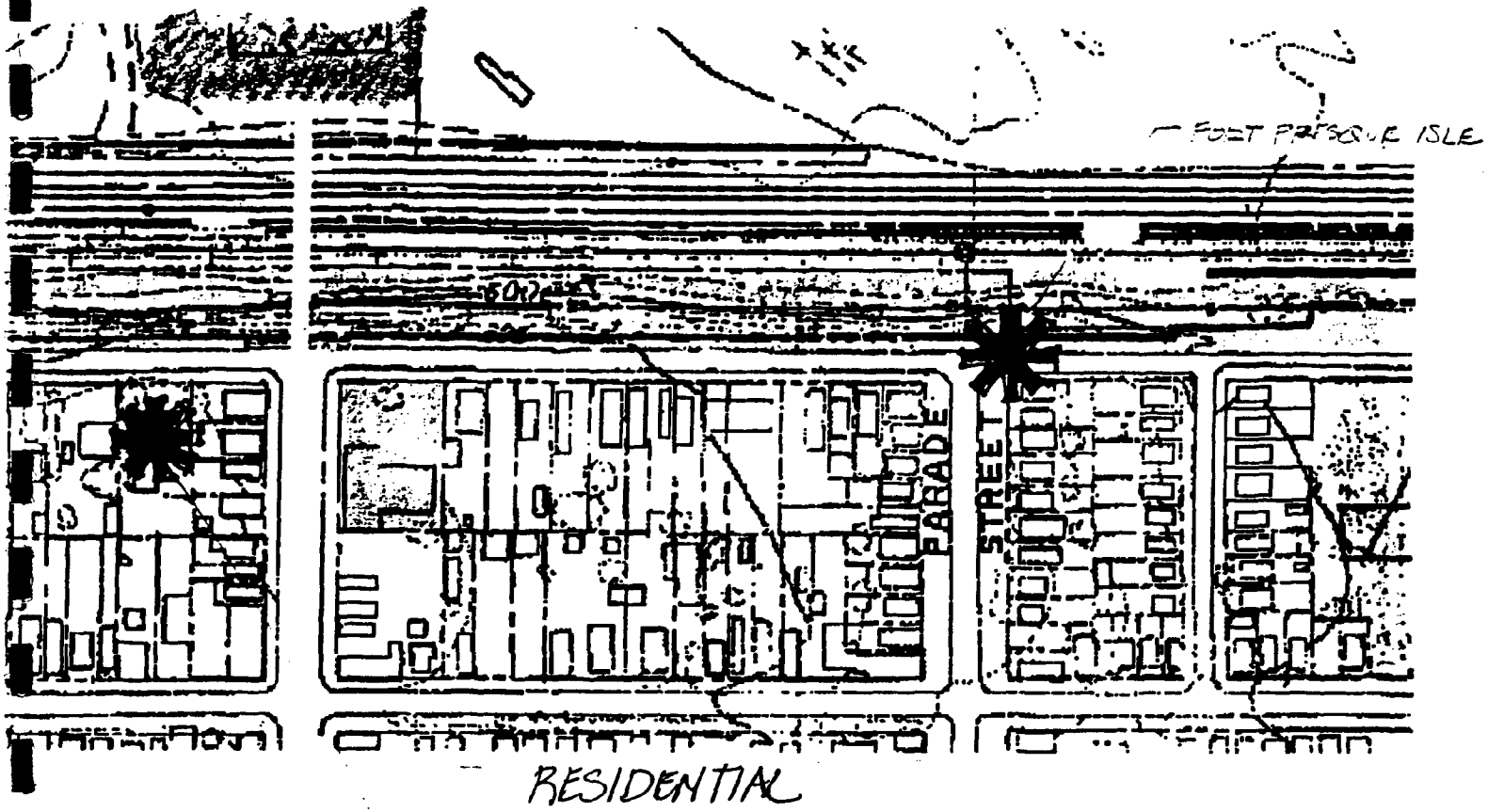

CLUB
FUTURE LIBRARY & MUSEUM
PENELEC.
FLAGSHIP NIAGRA
ACCESS
HOLLAND
STREET
100 STATE
OFFICE & COMMERCIAL
URBAN CORE
DICKSON TAVERN
NATE LEVY JACEE PARK
UNION TOOL BLDG. & MODERN TOOL SQUARE.
GANNON UNIVERSITY
SULLIVANS TAVERN
RUSSIAN TRINI
3RD & HOLLAND
OLD CUSTOMS HOUSE/ & ART MUSEUM
CASHIERS HOUSE/ HISTORICAL SOCIETY
ST. PATRICKS CHURCH
E. 4TH STREET
FEDERAL ROW SQUA
5th & HOLLAND

Figure 3



URCH

LAND USE & IMPORTANT HISTORICAL SITES

Figure 3 **200 Scale Land Use and Historical Sites**

Existing Use

The bluff area is currently well used for walking , dog duty, sitting (where seating opportunities exist), parking, daytime for people to sit and talk, eat lunch, take in the view, and nighttime parking. This area is used by local residents, employees of adjacent businesses, and visitors alike. The activity is scattered through the different times of the day, but seems most heavily used around mid-day. Most of these observations were made in the 'cool' season, from October to March.

The site runs through the existing Bayview Park which is used by the neighborhood for active recreation.

There is parking currently available between Plum and Poplar, along the street (well used), at the foot of Cherry next to Bayview Baseball Field, parallel parking along other parts of Front Street, East and West, and at the foot of Peach Street behind 100 State Street.

Important Structures

-The Water works building at the Foot of Chestnut has a very distinctive architecture and is historically significant. Built in 1868, the tower was considered an engineering wonder for its time, standing nearly 260 feet above the level of the bay.

-100 State Street represents the newest of the 'towers' of the city adjacent to the promenade in the city core.

-The Penelec building and the Museum/Library Complex (still on the drawing boards.) (Refer to Figures 3 and 5)

History

The Erie Historical Society was contacted concerning the preliminary Archaeological Investigation. Mr. John Claridge presented us with a report prepared in January, 1982 for the same purpose for the Bayfront Parkway.

The Bayfront Promenade will not disrupt any archaeological site that falls within the study area. However, the report did provide some information that was helpful in highlighting some of the important past which can be presented along the Bayfront Promenade, our little walk of history. (Refer to Figure 3)

The historical aspects should be represented in the promenade as it overlooks many of the areas that were important in the development of the city.

Important Points from west to east are:
*Cascade Shipyards
*Presque Isle Bay
*Oliver Hazard Perry
*Presque Isle
*Waterworks Park
*Northern Terminus, Beaver to Erie Canal
*Navy Shipyards
*Erie to Beaver Canal
*Eriez Indians
*Dobbins Lane
*Dobbins Landing
*Flagship Niagara
*Judah Colt House
*Erie Ethnicity
*Fort Presque Isle

Important points along the temporary path
*Perry Memorial House, Dickson Tavern

PROGRAM

Purpose

A multi-use path for passive recreation taking advantage of good views and points of historical and natural history for recreation for neighborhood residents and workforce as well as visitors. This promenade provides a link to other waterfront facilities and the State Street corridor.

To develop this program,we have worked with city and county planning officials, and local citizen groups and individuals.

Access

Walk should be accessible to handicapped persons, incorporating ramps and curb cuts as well as restricted to optimal slopes.

Make connections between areas such as other walks, parking lots,and rest areas to set up pedestrian accessible networks.

Install warning strips at intersections, or where caution should be used. Avoid installation of steps or stairs.

A visual or tactile strip can visually reinforce the edge of the walkway.

The width of the walkway, to allow for bike traffic and for easy walking and handicapped access, should be a 10 foot width. The recommendations of the Bayfront Recreation plan was 8-10 feet wide, but we feel that the wider path will accommodate the different types of traffic easier. Where circumstances will not support the 10 foot width, the City should try to make other accommodations for bicycle and pedestrian traffic.

Provide crosswalk widths that are wide or wider than adjacent sidewalks.

Paving

The layout of the path should be curvilinear suggesting a relaxing experience.

Pavement should be smooth and even. A distinctive edge should be used as a visual reinforcement for aesthetics as well as the visually impaired.

Flexible paving seems to have an advantage along the bluff where some movement of the bank may have an affect on the Promenade.

Seating Areas

Seating opportunities should be ample and present themselves in formalized seating groups and informal opportunities such as walls.

Seating heights should normally be 15-18 inches and 18-22 inches for handicapped users. Wall heights of 24-36 inches can provide a surface to lean on in a half-sitting position for those of limited strength.

Seating areas should be well defined with some degree of spatial enclosure. The modulation of space is important and strengthening the feeling of space at the nodes is important for comfort and security.

Other Street Furniture:

Trash receptacles should be placed at convenient areas along the Promenade both for use and maintenance, and should provide opportunities for recycling.

Bollards should be used for safety in separating hazards from the Promenade. Examples of these hazards include the steep bank and motor vehicles.

Signage/Historical Markers

Signage should clearly identify the Bayfront Promenade, the layout and location along the promenade and explain points of historical or natural history.

A logo should be developed and incorporated into the length of the promenade to clearly identify the route and tie together the varying elements of the Promenade.

Signage should be placed to be viewed by people of various heights, in particular children and handicapped users.

Historical Markers should be placed at each sitting area. These should be a cast metal plaque with raised letters describing important or historical facts unique to the individual location in one or two paragraphs. These historical markers will be mounted onto the central post as part of the handrail configuration. The text of the plaques should be developed with the help of the Erie Historical Society and can follow the themes laid out under 'History'.

Security

The Bayfront Promenade should provide a secure atmosphere for passive recreational uses. Therefore, the Planting should be kept fairly open with plantings less than 3 feet tall and trees that are generally branched up from a 5 foot height.

Lighting should be provided along the length of the Promenade for secure night usage and night oversite to prevent vandalism of site amenities.

Maintenance Levels

Maintenance will try to be kept to low levels, however some maintenance will be required, including:

-Trash container maintenance and pickup.

-Maintenance of lawns and plantings. These plantings should be designed for low maintenance.

-Snow plowing in the wintertime.

Materials Concept

After assessing the information available, we have decided upon the following approach. Because of the changes in land use, the Promenade will change somewhat in character also. Through the urban core from Sassafras to Holland, we are recommending a more urban character, similar to what is being used currently. This will help to keep the downtown and waterfront areas more cohesive.

However, we feel that the character should change in the residential neighborhoods. The pavement should be less formal, the seating areas blending with the paving, and the lighting should be low glare adjacent to these areas.

Paving

In the urban core, a concrete walkway should be installed which is similar to existing walkways in the downtown area. (scored 12 inches on center with a colored admix). However, the edge needs to be visually reinforced, with either cobblestones or additional scoring, or a darker admixture.

In the residential neighborhoods, a 'softer' looking asphalt material will be used. As a flexible pavement it provides some advantages for use along the bluff. However, we are recommending an edging to visually distinguish the promenade for visually impaired users and help with the maintenance by providing a firm edge. This edging should be a paving brick that will provide a more residential and rustic feel. This brick will expand to pave the seating areas.

Benches

Urban core- utilize 'period' style benches constructed of wrought iron or wrought aluminum frames and wooden slats similar to the ones existing. We recommend the use of Cambridge Designs, Restoration Model CD120in a six foot length.

Residential- Utilize existing granite materials from the existing transitway mall. These will help to minimize problems due to vandalism on the seating areas. If the materials from the transitway mall are not available we recommend using a seating system from Landscape Forms of Kalamazoo, Michigan, such as the

steel rod seat panel Bench PK-3005-BS-72-XD-E, and a matching litter receptacle PK5005-20-45-E in Grotto

Along the section of the Promenade from Peach to Sassafras there is an opportunity in grading that exists for a low retaining wall. We are planning on utilizing the granite pieces for this retaining wall along a 250 foot section of this walkway. This will provide informal seating opportunities in an area of heavy use.

Lighting

Urban Core-Period fixtures will be utilized that are matching or in character with the period lights of the existing waterfront area. We are recommending the Shakespeare Presidential Series Pole and Fixture # AP9.5-01-F1-B-01, P/AC 25-1-F-W-SE-120-C. This is an acorn type fixture on a fiberglass pole, with a 150w High pressure sodium lamp to match the others along this section of the Promenade. These fixtures should incorporate an optical reflector system to direct the light downward to help to reduce glare from these fixtures.

A similar type of fixture should be used for those areas not yet designed going through the Penelec site.

Residential areas- A more contemporary fixture that would better control the glare form the lamp should be used. We are recommending the use of a sharp cutoff, arm mounted, square luminare with flat clear lens, the Quality Lighting SJH-15-1-MH-250-120-DBZ-FD-LX these would be mounted on SQSA-18-4.0-188-DBZA-DRILL MOUNTED.

The type 1 distribution pattern spreads the light along the walk, but not back into the yard or over the bank. The 18 foot mounting height allows for a safe height from vandalism and a minimum of glare. We would recommend in these area a metal halide lamp to provide for better color rendition for plant materials and people.

Plant Materials

The selection of plant materials is important for interest as well as maintenance.

Shade Trees - Some of the plant materials that will do well in the areas of the lake deposit soils include but are not limited to oak, maple, ash, poplar,and beech. These trees must be selected for the wind tolerance as the exposure along the bluff can be extreme at times.The trees should also lend themselves to a single leader to be branched up, and should normally be taller than they are wide to keep view open in between the trees. Recommended species are:

Acer rubrum varieties, October Glory, Red Sunset, Autumn Flame.
Acer x Freemanii, a cross between silver and red maples, seedless
Acer saccharum 'Green Mountain' or 'Legacy'
Fagus spcs.
Fraxinus pennsylvanica l.'Summit' or 'Marshalls Seedless'
Nyssa sylvatica
Quercus coccinea
Q.robur
Q.rubra

Ornamental trees - for shaping space around the sitting areas include, but are not limited to,

Malus spcs.Crabapple, upright varieties with persistant fruit or sterile,
Crataegus x Crusader, Crusader Hawthorne, thornless
Amelanchier spcs., Serviceberry
Betula maximowicziana
B. japonica platyphlla borer resistant birches
Cornus kousa, Kousa Dogwood
Oxydendron arboreum
Pyrus c. Bradford, Cleveland Select, Redspire
Syringa amurensis japonica

Lower Plantings will consist of ground covers, perennials or wildflower plantings that will be less than 3 feet high and will require a minimum of maintenance.

Ground Cover
Hedera helix
Vinca minor
Potentilla verna

Wildflower seeding

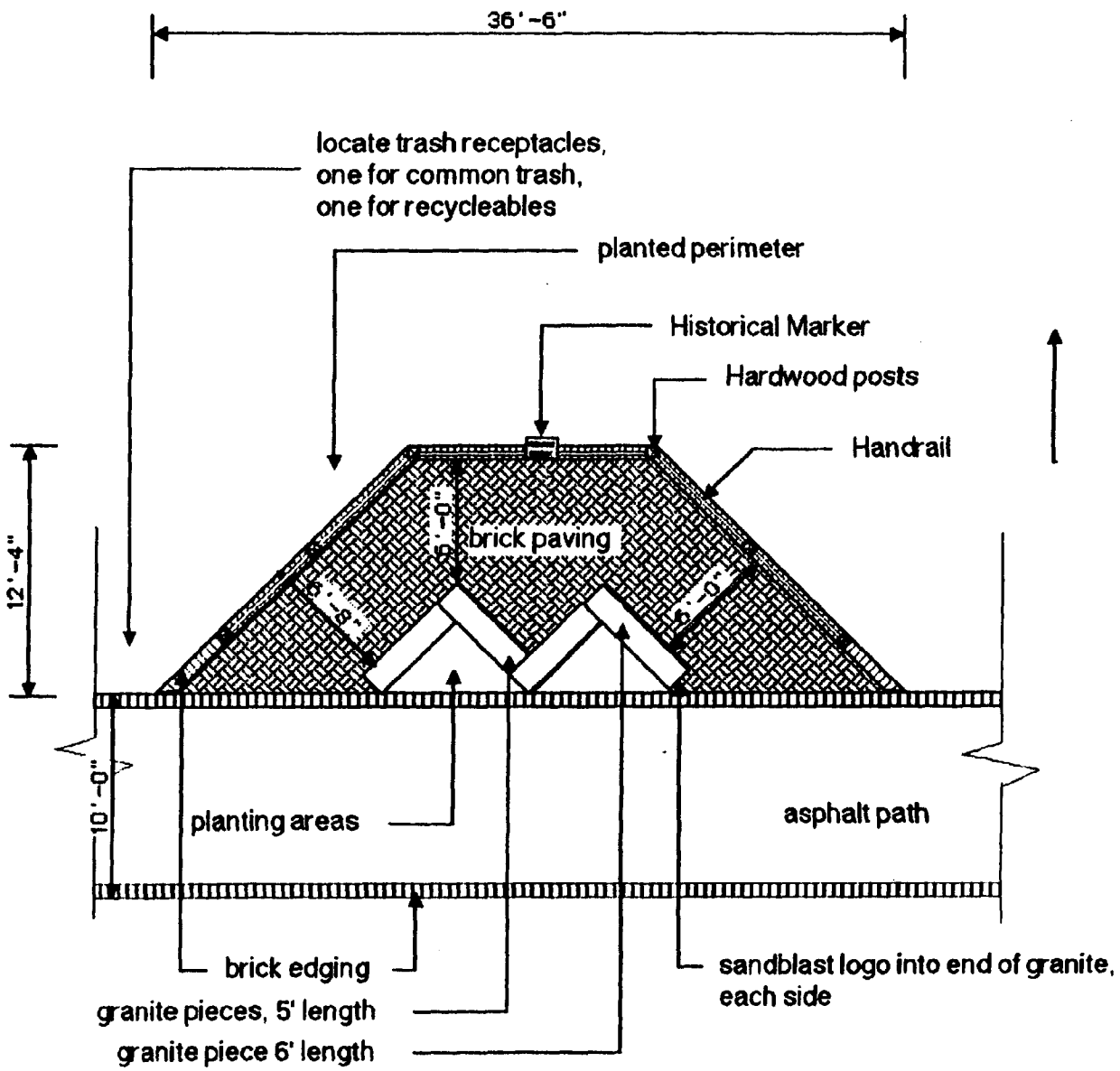
Perennials
Potentilla spcs
Rudbeckia
Hemerocallus
Coreopsis
Echinacea
Hosta
Lythrum
Sedum spectible
Pennisetum spcs.
Houttuynia cordata 'Chameleon'

Design

Using this information we had tried various alignments along the length of the site. At the meeting of December 20, 1991, we presented a conceptual layout to the Chief Planner, other government officials and interested citizens. This concept was followed and the the alignment has evolved into the final design presented on the accompanying plans. The following is a description of the sitting area and then a description along the length of the Promenade.

Sitting Areas

The sitting areas are designed as distinct areas set off of the Bayfront Promenade. They vary a little in size, but the shape is similar. (See Figure 4) The angular configuration allows for the flow of traffic easily on and off of the pathway. The seating and the



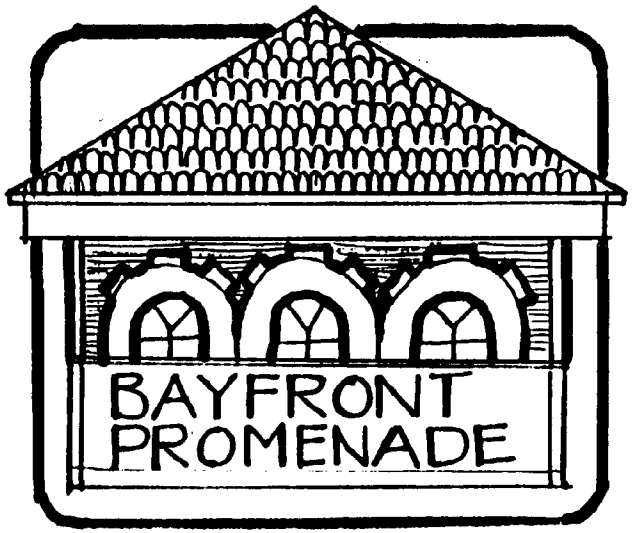
Typical Seating Area

scale 1/8"=1'0"

planting provide separation from the pathway. The configuration of the seating, utilizing granite blocks from the Transitway Mall, allows for views either east or west along the bayfront, or directly out to the bay. The end positions allow for a degree of solitude, and the central portions that angle together allow for a comfortable conversational relationship. The orientation is always towards the bay. The historical marker will be located central in the handrail configuration. There normally is a handrail around the areas because they normally jut out closer to the bank and it will provide for some sense of security. The handrail will be made up of wolmanized hardwood timbers with powder-coated rails and coated cables to keep the views open. The paving materials will utilize normally a finer texture, brick, in the residential areas, and scored concrete in the urban core areas to reflect the scale of a sitting area. The area around the handrail may be planted also for summer color and to add a lushness and interest to the sitting areas.

Logo

A logo has been developed, that is somewhat directional, graphically depicting the Waterworks Tower. This landmark is historically significant, central to the project, and differs form some of the other historical symbols used in our community. This logo is intended to mark bollards and posts, sidewalks, temporary walk areas and to be sandblasted into granite seating areas.



Bayfront Promenade

The Route

Section 1

Starting with the layout at the point of beginning, at the foot of Plum Street we will walk through the route of the Bayfront Promenade.

At the foot of Plum there are two walkways heading north that stop just short of Front Street. These will be extended to the curb line. A painted crosswalk will then extend across the street onto the Promenade. This type of extension will be made at connecting streets along the length of the Promenade. The connections will have ramps for accessibility. There is a rough area along the road that will need to be planted with low perennials around the street sign. The two walkways will flare to the middle to become the beginning of the promenade. We have to work around the existing utility poles and manholes in this area.

At this western end of the Promenade there is a sitting area which angles towards the west. At the terminus of each street we have tried to keep the sitting areas off to the side to keep views out towards the water. In this case it is to the left of the northbound lane of traffic. This sitting area is very typical, except that it is back from the bluff a little. The handrail will be maintained to provide a sense of enclosure and a mounting for the historical plaque.

The route of the promenade swings out towards the bank, past existing trees and up through a group of existing poplars. A couple of the poplars will need to be removed near station 2+00. They are in poor condition and will be replaced by new plantings. The Promenade meanders up towards Liberty Street where it swings back towards the street to pick up the feeder walks from Liberty.

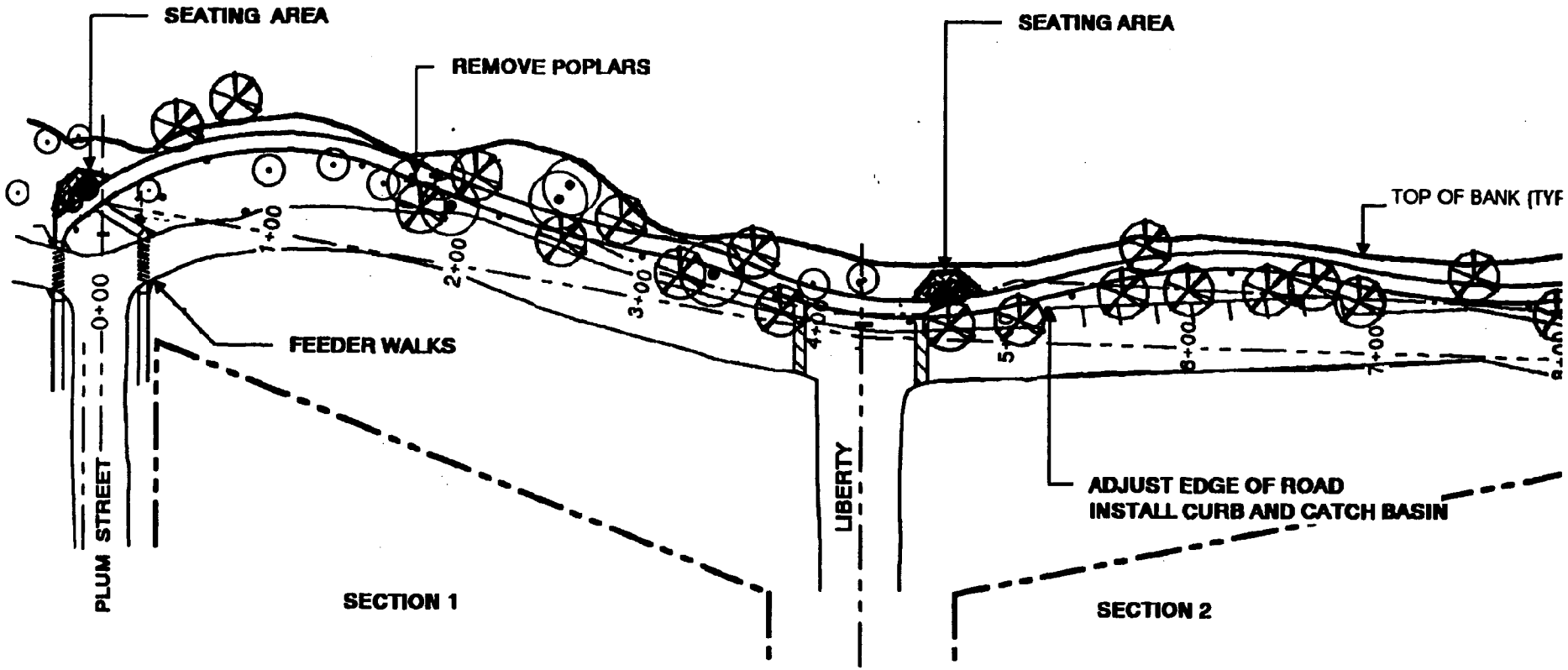


FIGURE 5 SECTION 1 &2

BAYFRONT PROMENADE ROUTE

Section 2

The connection of walkway extensions connects the Promenade into the larger circulation system of existing city walks.

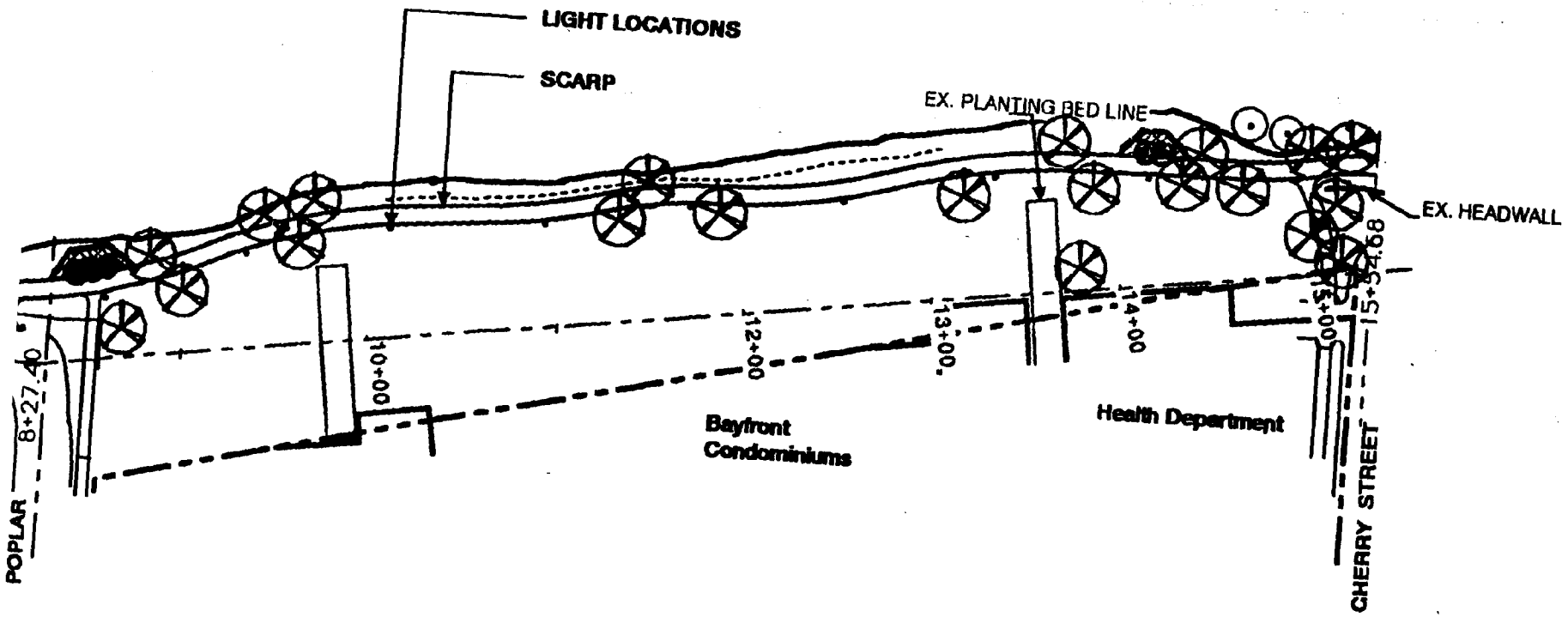
Again on our left is a sitting area off of center of the alignment of Liberty Street. In this area the edge of the roadway will need to be redefined somewhat. The existing edge is misshapen and irregular and lacking storm drainage. Traffic is controlled by unsightly railroad tie posts with or without large rusty cable strung between them.

To solve each of these problems, we recommend that the northern edge of the road be redefined, allowing for additional room for the Promenade between stations 4+00 and 6+00. The layout should allow for parking, because this area is currently well used for lunchtime parking as well as other times of the day, and probably will see increased usage when the Promenade is installed as the western terminus.

The redefined edge should be curbed or curb and guttered to both control surface drainage which is causing bluff erosion and to control traffic from going up onto the turf areas. The railroad tie posts could then be removed, visually cleaning up this area. Additionally, the surface drainage could be directed into drainage inlets placed by the City to be moved safely underground down the bank into the storm system.

Trees would be planted in groupings between the Promenade and the street for a buffer and for shade. They will also provide for a sense of movement along the path, through the trees that we were looking for. The planting style will include a natural planting with groups of different trees. This style will allow for variety in case any of the species would be attacked by blight, and interest. By grouping the trees, we allow for a staggered pattern of light and shade that will be interesting and the groupings will allow for views in between so as not to cut off the neighborhood visually from the bay. A number of houses away from the bluff have added porches and balconies to access lake views. A low planting along the bluff will provide a transition to bluff vegetation and a mowing strip. This planting would include low perennials or wildflowers.

Light locations can be found along the promenade at 80 foot centers. These are the box type lights on bronze aluminize poles.



SECTION 3

FIGURE 5 SECTION 3

BAYFRONT PROMENADE ROUTE

Section 3

Heading east, the Promenade follows the edge of the bank in at least 5 feet. The path takes a swing back towards Poplar , joining the feeder walks before coming to another sitting area. This sitting area is behind a community center and will get good use because of that facility.

The Promenade swings back to the north a little following the bank and dips down a little to an area behind the Bayfront Condominiums. Some grading will need to be done to make the transition to a pathway of less than 5%. The pathway will meander parallel to the bank,but back in a little way because of a settling problem on the bank. This was noted in the Geology section of the site analysis.

There is a scarp that shows up near the bank which is the boundary between native soils and filled soils. The Promenade cannot be placed on the filled soils. Moreover, the scarp shows a potential for an open fracture, that may lead to some further problems with the stability of the bluff in this area. We recommend that this area be graded to a lower level, and some of the fill be moved out onto the upper surface of the settled area, but not over the bank onto the bluff. This will help to level the area, and seal the fracture from allowing surface water to flow down into it and cause a potential problem. The area should then be topsoiled and reseeded.

Also in this area at about station 10+50, there is a manhole at the lakebank that is at least 4 feet above grade and is unsightly. We recommend that 2 precast sections of the manhole be removed to place the top of the manhole at or near the grade of the bluff. (slightly below would be the preferred).

The Promenade maintains its meandering course past the condominiums to the next sitting area behind the Erie County Health Department offices. There are excellent views from here, and this area will be well used by the employees. There is some vegetation to be cleaned up just past the sitting area on the bluff side for views and around a drainage structure at the foot of Cherry, that has become a dumping area.

The connection will be made to the extension of the walk from along Cherry Street, but this walk will have to flare over to go around the drainage swale. The walkway will go over the headwall/drainage structure and head east towards the baseball field.

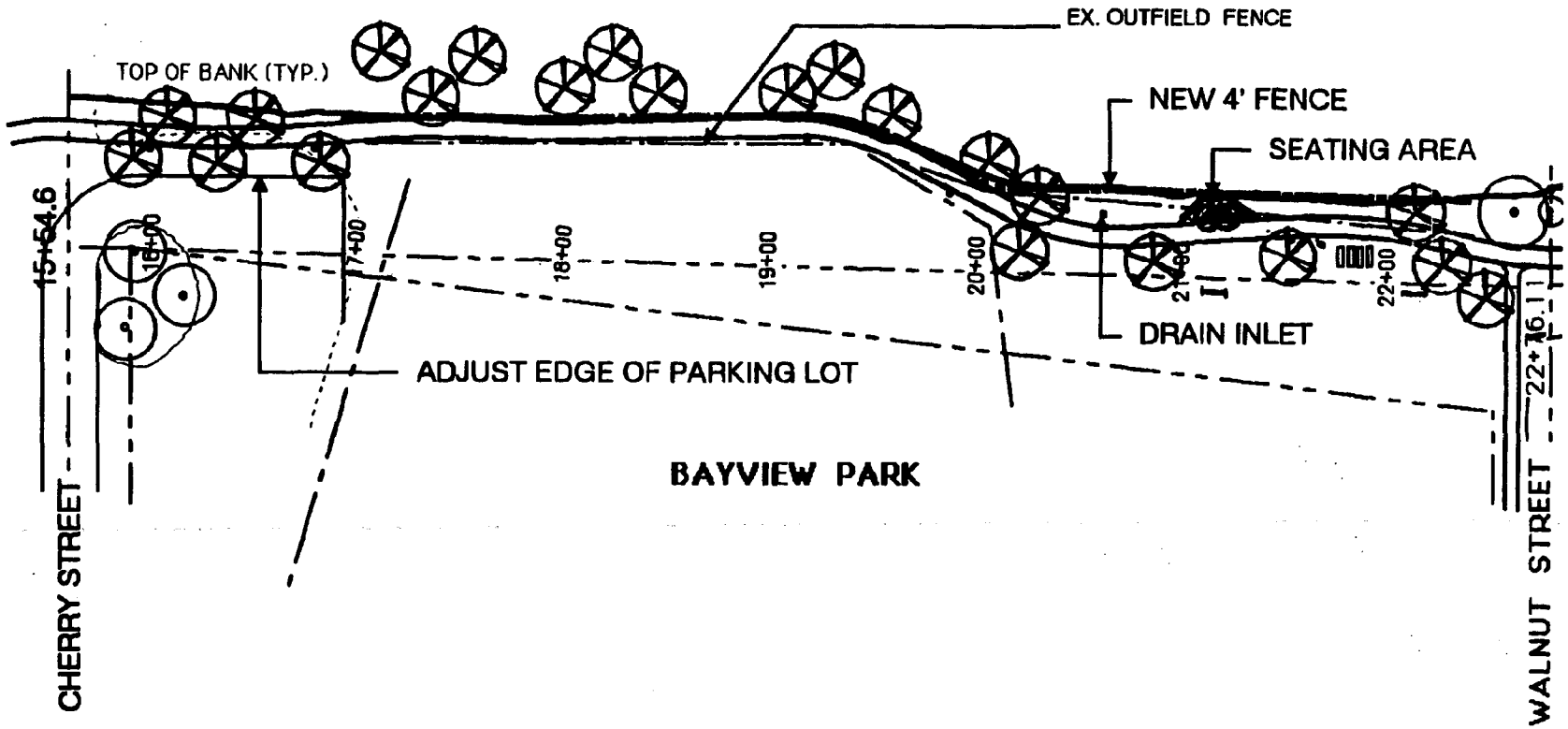


FIGURE 5 SECTION 4

BAYFRONT PROMENADE ROUTE

Section 4

In this area between Cherry Street and the ballfield the cinder lot, like Front Street between Plum and Poplar has gotten out of control. Some of this area will need to be reclaimed for green space, for tree planting and to allow for space for the walkway. The parking lot should be somewhat redefined for better parking and a cleaner look.

Behind the left field fence of Bayview Baseball Field there is not a lot of room, but enough room for our 10 foot promenade. The walk will have to hug the fence side, but not be right up against it. Because of the width and the condition of some of the area, we recommend that the handrail be placed in this section. Once you get to centerfield, the path can meander back to the south into Bayview Park, and we can drop the handrail. Behind centerfield, we will remove the 6 foot existing fence. This will be replaced with a 4 foot vinylized chainlink fence that will be on or just over the top of the bluff. This fencing is a safety fence for the children that play in this section of the park, to prevent their balls from rolling over the bluff. The concrete trough drainage structures in this area will be abandoned by the City of Erie. Drainage from the ballfield will be swaled west towards cherry Street and to the east to a low area where the City will install a new catch basin system.

As the Promenade goes through the park we have provided a sitting area for park users. This will provide a place to enjoy views and watch the children playing in the park.

The Promenade meanders around the teeter totters and back towards the foot of Walnut Street. Here we pick up the feeder walkways and then meander back towards the bank. The foot of Walnut has a similar problem as the foot of Poplar. The walkway should be extended up to the corner of Second Street. Additionally, the west side of Walnut between Front and Second should be curbed to provide better definition and allow for the removal of the railroad tie posts.

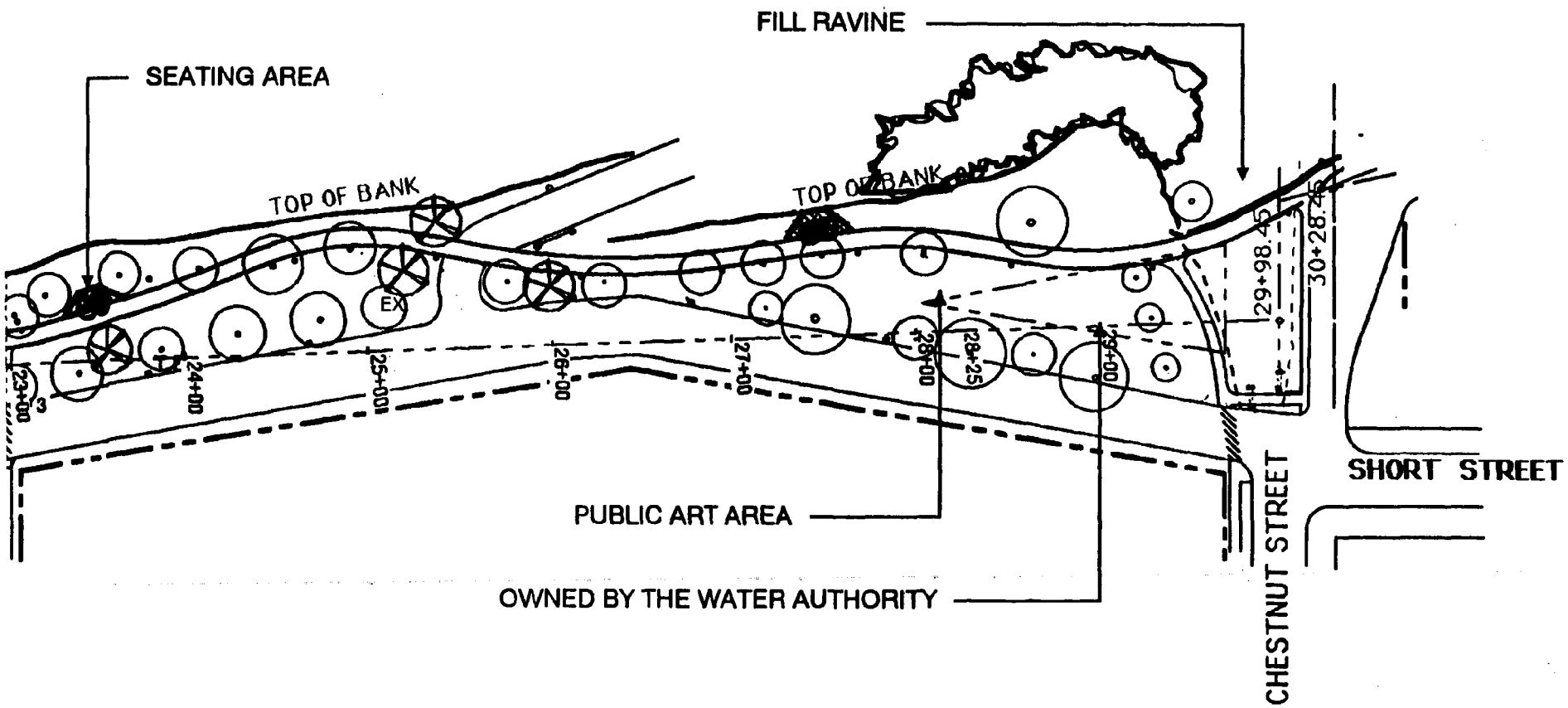


FIGURE 5 SECTION 5

BAYFRONT PROMENADE ROUTE

Section 5

Just to the east of the foot of Walnut there is another sitting area for the use of the use of the residents. There is a fine view from here. This area has quite a few planted trees and the pathway wanders between them. The walkway will need to cross an existing access road to the water department. In this case we recommend sawcutting the street and repaving the Promenade across the street, as the street is in poor repair. However this will mean moving a gate that is in place at this point, down the hill where it can still be used to close off the street.

The Promenade meanders through the rest of the park area. In this area there is a large depression from the removal of an old section of street. We recommend that this be filled with the material that is excavated for the base of the walkway. This area will then be seeded over into lawn for the park. There is another sitting area along the top of the bank at station 27+50. This is the first sitting area for some time if you would be walking to the west and it is located just past a thick area of vegetation. On the other side of the pathway there is an area reserved for a Public Art Display. This area will be kept open and it will be responded to by the local Committee for Public Art. This is located in a lush green area and is very visible as you would be walking on the Promenade from either direction.

There is currently a ravine at the foot of Chestnut. The original plan called for bridging this ravine. However, local officials would prefer that it would be filled. This would allow for the removal of the existing guardrail and would reduce the costs associated with bridging. There is also an extended feeder walk towards the foot of Chestnut that will be incorporated into the system.

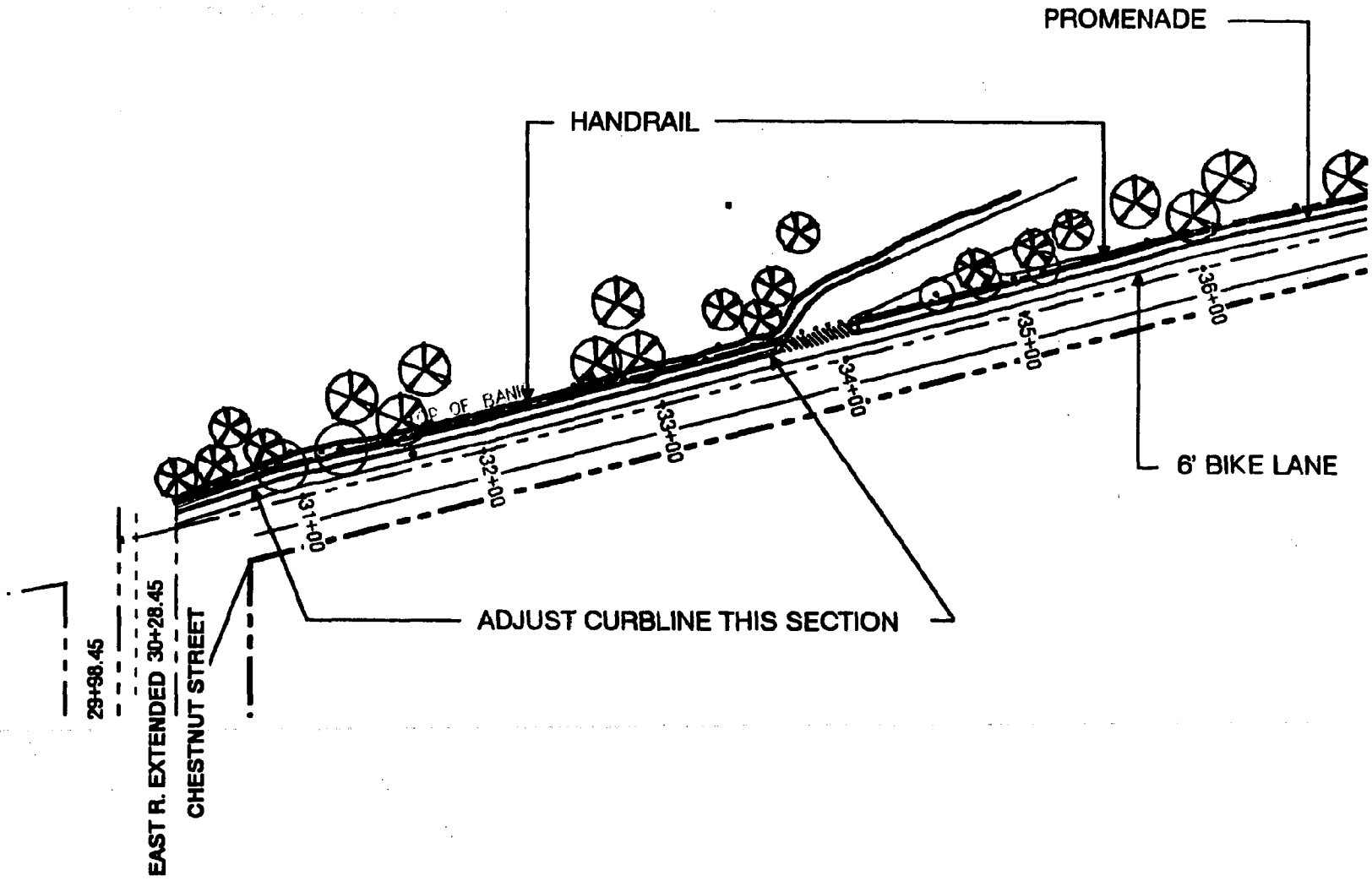


FIGURE 5 SECTION6 BAYFRONT PROMENADE ROUTE

Section 6

As we approach the connection with Front Street, there is not enough room between the street and the top of the bank to place a 10 foot walkway. There is not even enough for a 6 foot walk in some areas of the section between stations 30+25 and 33+75. However, the curbline of this area does not line up with the section beyond this to the east. The curb in this area is also in a state of disrepair and needs to be replaced. So in this section we recommend replacing the curbline 24 inches towards the centerline. This gives us extra room for the promenade and a new curb. The walkway will follow the curbline and there would be a separate bikeway striped on the north edge of Front Street. This bikeway would be 6 feet wide allowing for bike traffic and the City has agreed to eliminate parking on this side of the street. This is the same in the whole area from Chestnut to Sassafras. Where the walkway meets the access roads to the Bayfront Parkway, there would be a ramp down and a striped crosswalk.

The access roads down to the Bayfront Parkway contribute quite a bit of traffic to this neighborhood. We were informed that the closing of these streets was being considered. We would agree, that closing these streets would reduce traffic in the neighborhood and make the use of the Promenade safer in this section.

Because of the proximity of the walk to the bank and the slope of some of the areas, we recommend that the handrail detail be included from stations 30+25 to 40+50. Although some trees also need to be removed in this section, we are recommending replacement planting for along the way. At Myrtle Street there is a connection of the feeder walkways with striped crosswalks and ramps.

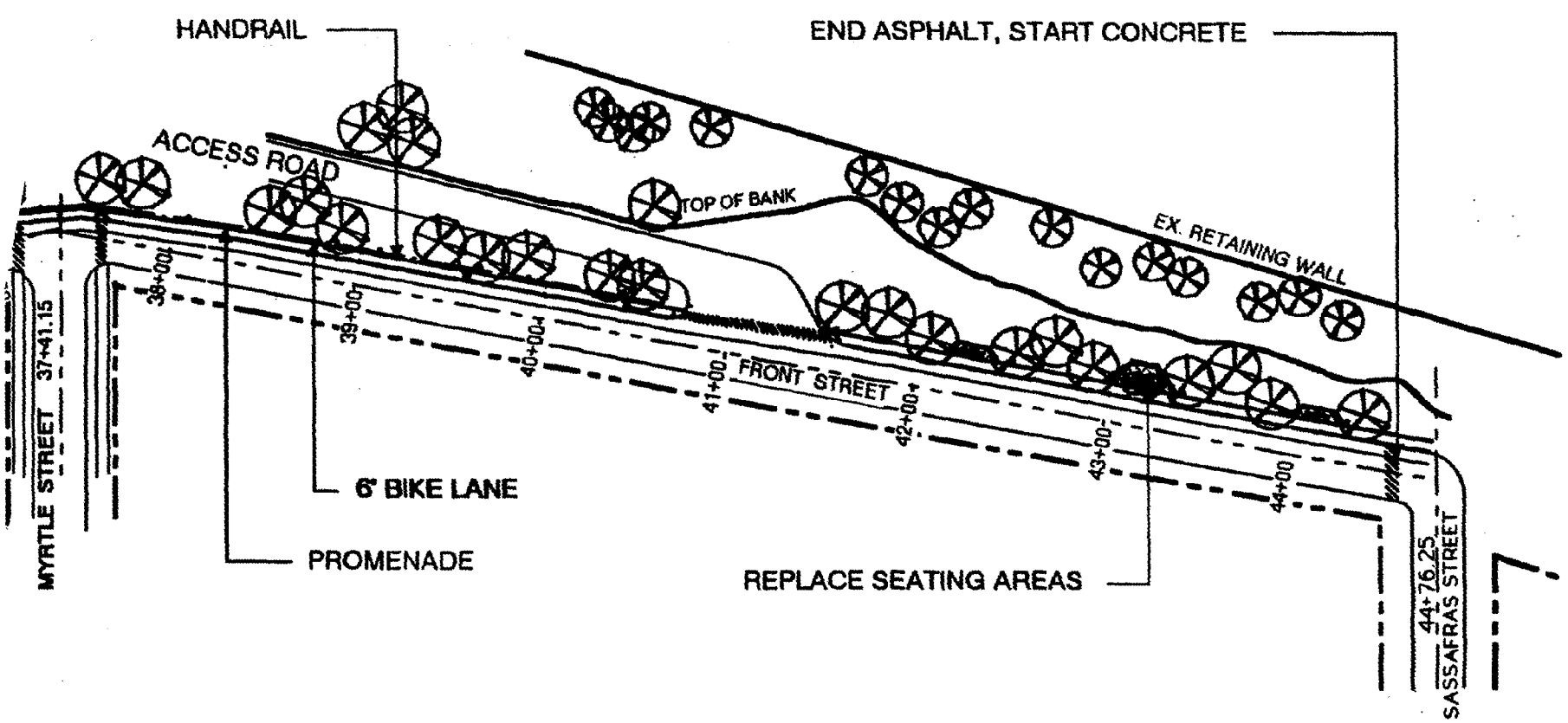


FIGURE 5 SECTION 7

BAYFRONT PROMENADE ROUTE

Section 7

There are a couple of existing sitting areas between the eastern access road and Sassafras street. These areas will be replaced to be put into character with the other sitting areas of the Promenade.

At the foot of Sassafras Street the asphalt and brick edge path will end and the concrete path of the urban core will begin. There will be a ramp to bring the bicycles onto the path again.

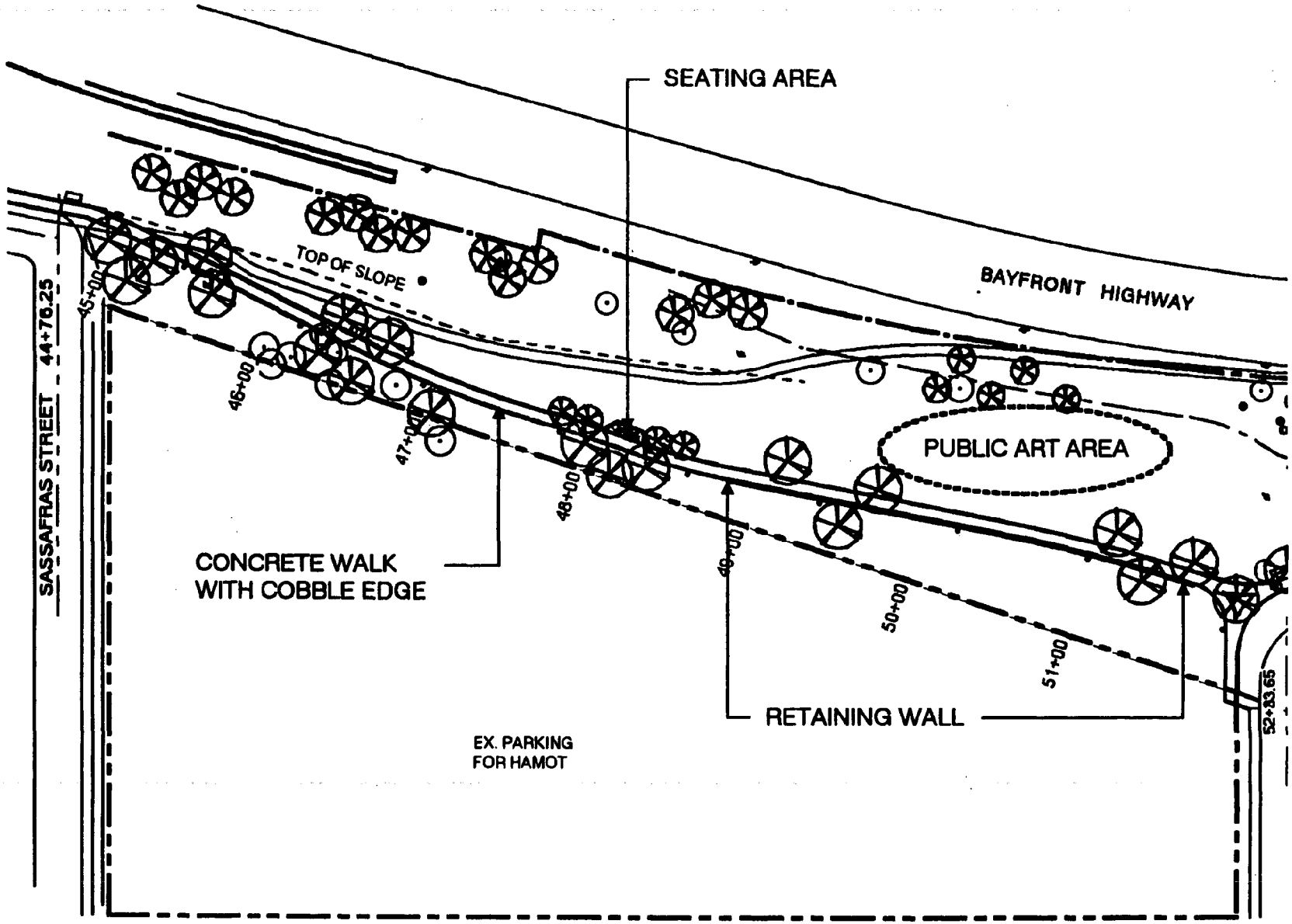


FIGURE 5 SECTION 8

BAYFRONT PROMENADE ROUTE

Section 8

However, the area of the Promenade between Peach and State Streets that is currently constructed is of only a 6 foot width. This would not accommodate both pedestrian and bicycle traffic. At the intersection with Peach Street there is not a good alternate route for bicycles. We recommend that a separate path be installed for bikes that heads to the north and along the Bayfront Parkway towards State Street. Hopefully, this section could join together with the proposed Bayfront Bikeway to be planned by the City Engineers Office. From State Street the bike path will have to be incorporated into the plans of the Bayfront Bikeway.. Hopefully it can continue to the east along the Bayfront Parkway.

The Promenade heading to the east will be 6 feet wide with an edging of cobbles, for an apparent 8 foot width. We propose a sitting area behind the Bayview Professional Building for their use. This area would be similar to the other seating areas, done in scored concrete with a cobblestone edging. Further along on the south side of the walkway we recommend a low retaining wall out of the granite materials from the transitway mall. These pieces would run level along the grade from 14-24 inches out of the ground. These would provide informal seating opportunities along a 250 foot stretch of the Promenade for a variety of users.

There will be a connection to the walkway along Peach Street that will flare in either direction as it approaches the walkway.

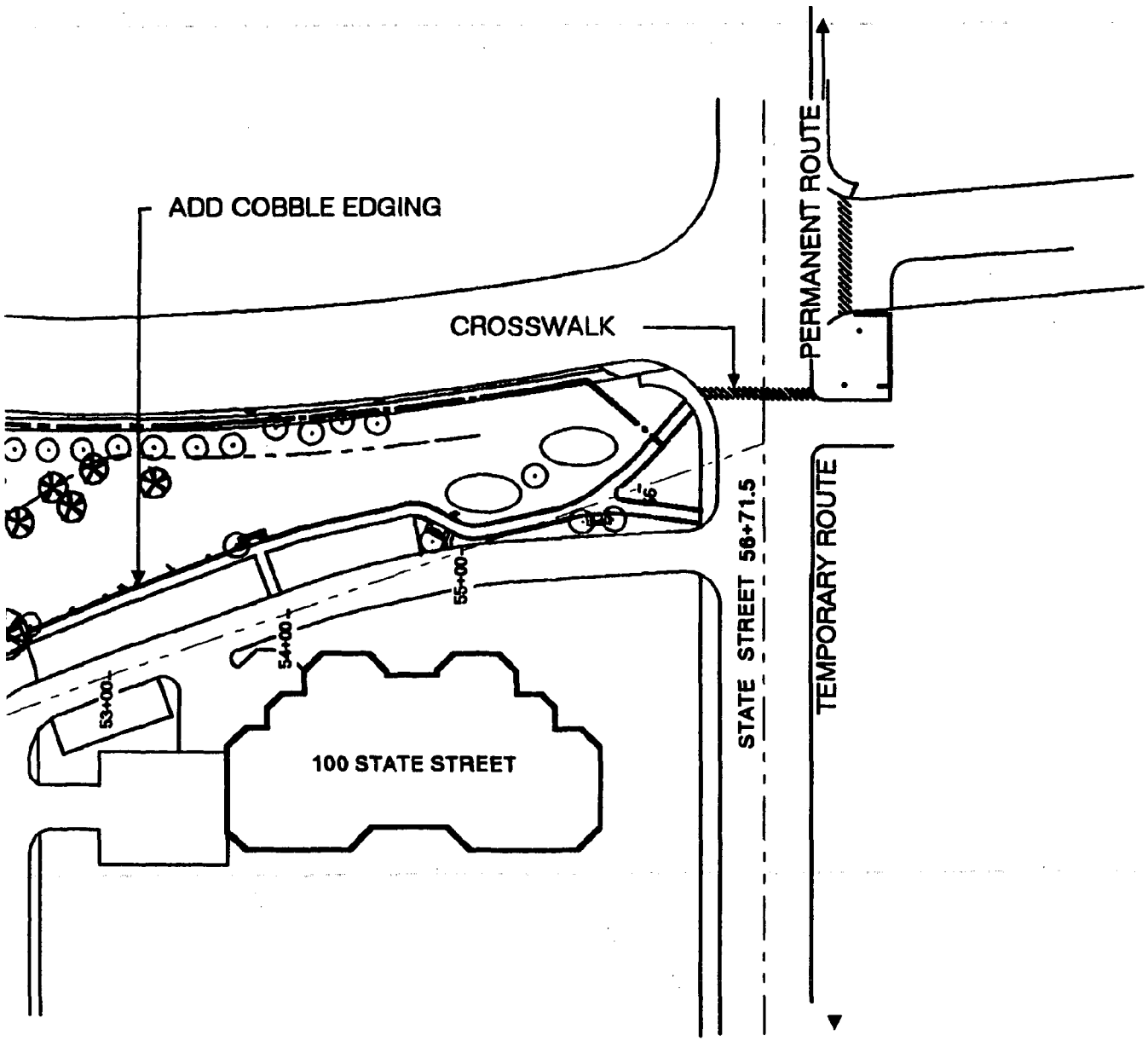


FIGURE 5 SECTION 9

BAYFRONT PROMENADE ROUTE

Section 9

Here the new section of the Promenade will tie in with the existing section of the Promenade. Along this section will be added the 12 inch cobblestone edging to visually reinforce the edge and to widen the pathway. This should continue the length of this section to State Street.

The Bayfront Promenade will cross State Street on a striped crosswalk.

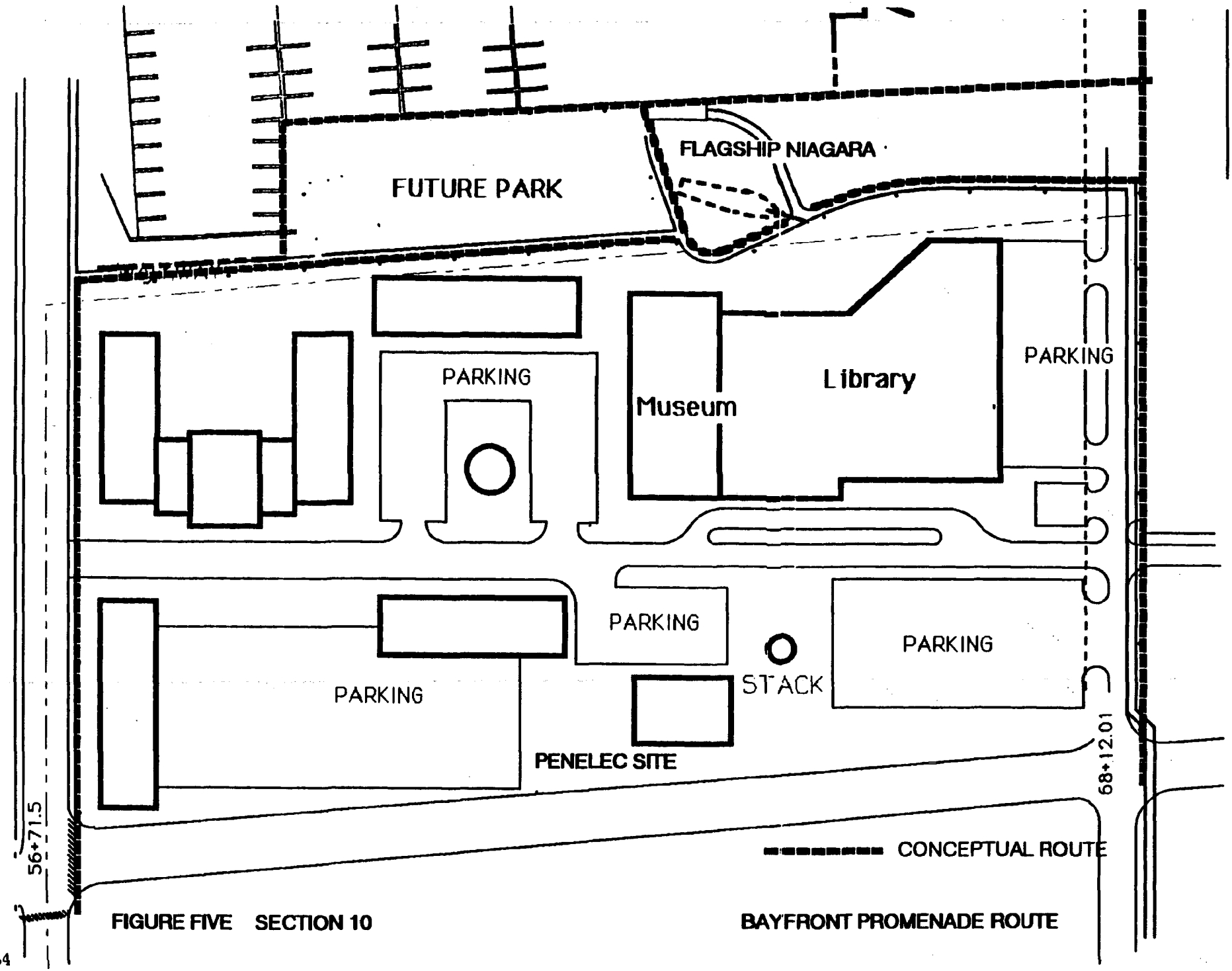


FIGURE FIVE SECTION 10

BAYFRONT PROMENADE ROUTE

Section 10

Then the Promenade will eventually cross the Bayfront Highway and proceed down the east side of State Street and at a point near the East Canal Basin, turn and go towards Holland Street through the Penelec Site. The thought is that the Promenade will deliver the residents and the visitors to the cultural center of town, the Historical Museum and County Library Complex. The Promenade will go right past the Flagship Niagara and be near the water, truly making it the Bayfront Promenade in this section. Because the plans for this section are not complete, the layout will be finalized by the masterplanners for the public areas of the site.

To keep the character of the promenade consistent, we are recommending the use of the same concrete materials, colored and scored on 12 inch centers, the use of period lighting and benches. To keep the identity of the walkway, we recommend that there be cast markers placed 50 feet on center on each side of the walkway in the scored edging and that the minimum width of the Promenade be 10 feet.

As a temporary measure, we recommend that a route be striped on existing sidewalks up the east side of State Street, across Second Street past Dickson Tavern and across to German. The Promenade will continue north on German to Front Street where the path turns east to Parade Street. The temporary marking would be a vinyl striping material. Every 25 feet there would be a the Promenade logo die cut out of this material and placed at a broken part of the stripe. This will help to tie the east and west sections of the Promenade together until the Museum/Library Complex and its site are complete.

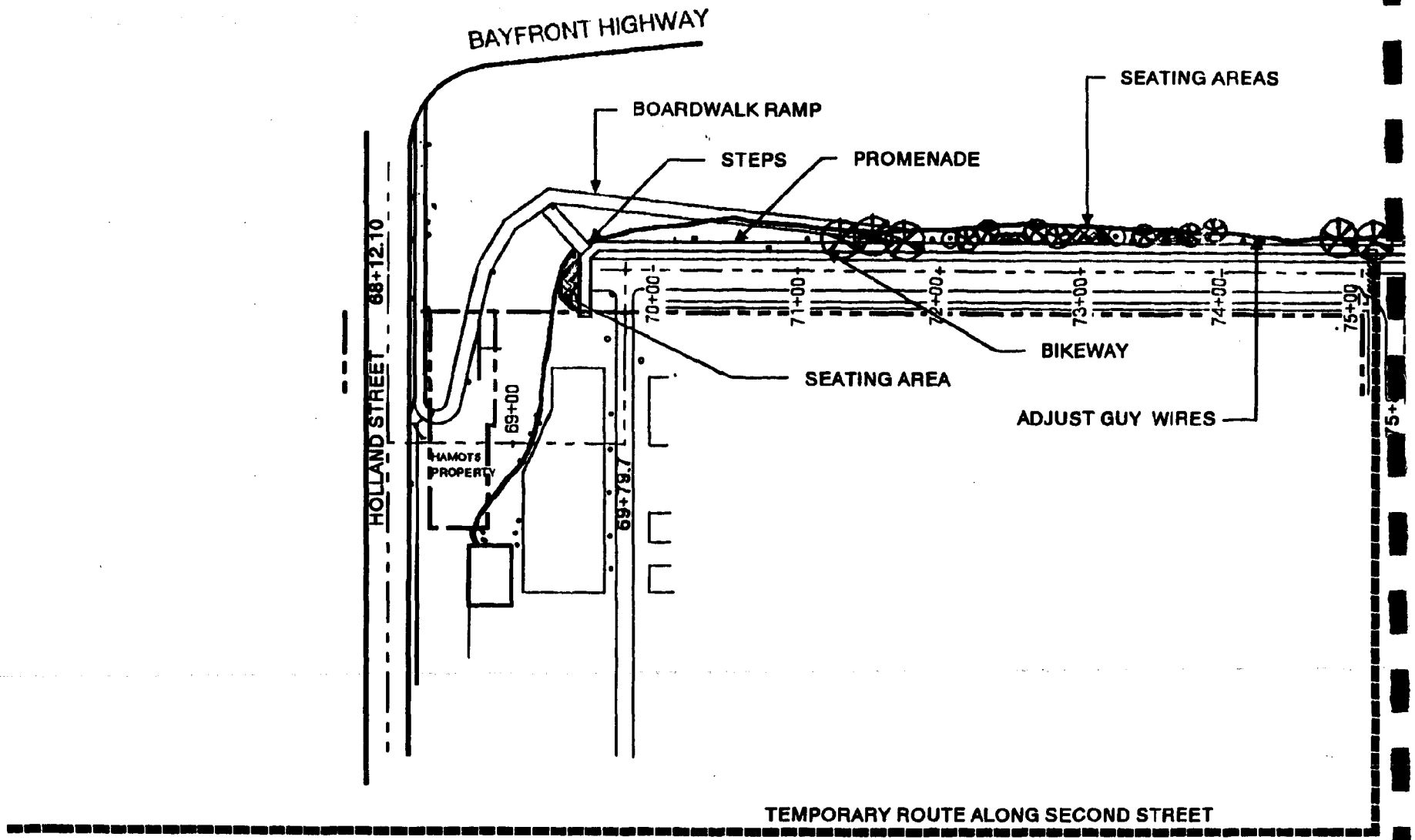


FIGURE 5 SECTION 11

BAYFRONT PROMENADE ROUTE

Section 11

One of the more difficult areas to ensure handicapped accessibility is east of Holland, below the end of Front Street. Handicapped accessibility calls for a maximum of 8.33% for distances less than 30 feet. In order to make this work we have designed a series of ramps and landings that would work across the slope going up to Front Street. To minimize disturbance to the slope we have designed a boardwalk-type structure, so that only the installation of the posts will disturb small sections of the bank. This boardwalk will have the same handrail detail as the other areas.

Up on the bluff along East Front Street, the Promenade will continue. The walkway will be 6 feet 8 inches in width and the bike path will be striped 6 feet along the curb on the roadway. There is a seating area at the very west end of this section of Front Street. This will clean up this area, and provide a great overlook onto the library and museum complex. As a shortcut, there will be a set of steps located to the north of this sitting area for access down to the ramps to the bayfront.

There will be seating areas installed across from the Russian Orthodox Church. This area has a couple of existing benches and gardens that are tended by local residents. There are feeder walks at the foot of German. Near this area there are some guy wires in the way, which Penelec has agreed to move. The walkway follows the curb all the way down to Parade street. Here you are forced into the sitting area around the marker stone for Fort Presque Isle. The walkway is extended to the point of the crosswalk of the east side of Parade Street. That is the full route of the Bayfront Promenade.

However, we recommend that we look beyond the scope of the study area. From the early parts of our analysis we recognized that the Bayfront Promenade will stand well on its own, but could become part of a larger system. The Promenade could extend west to connect into the Bayfront Bikeway system essentially given the users a loop along both the Bayfront Parkway and the top of the bluff for their use. When the Bayfront Parkway is extended to the east, then likewise the Promenade should be extended along Front Street to the east and it could tie into any bikeway that would continue along the Parkway. This would give the Promenade downgrade connections to the bayfront not only at State Street, but also at either end. This vision of a larger system will bring the usage of the Bayfront Promenade to more residents and visitors of Erie.

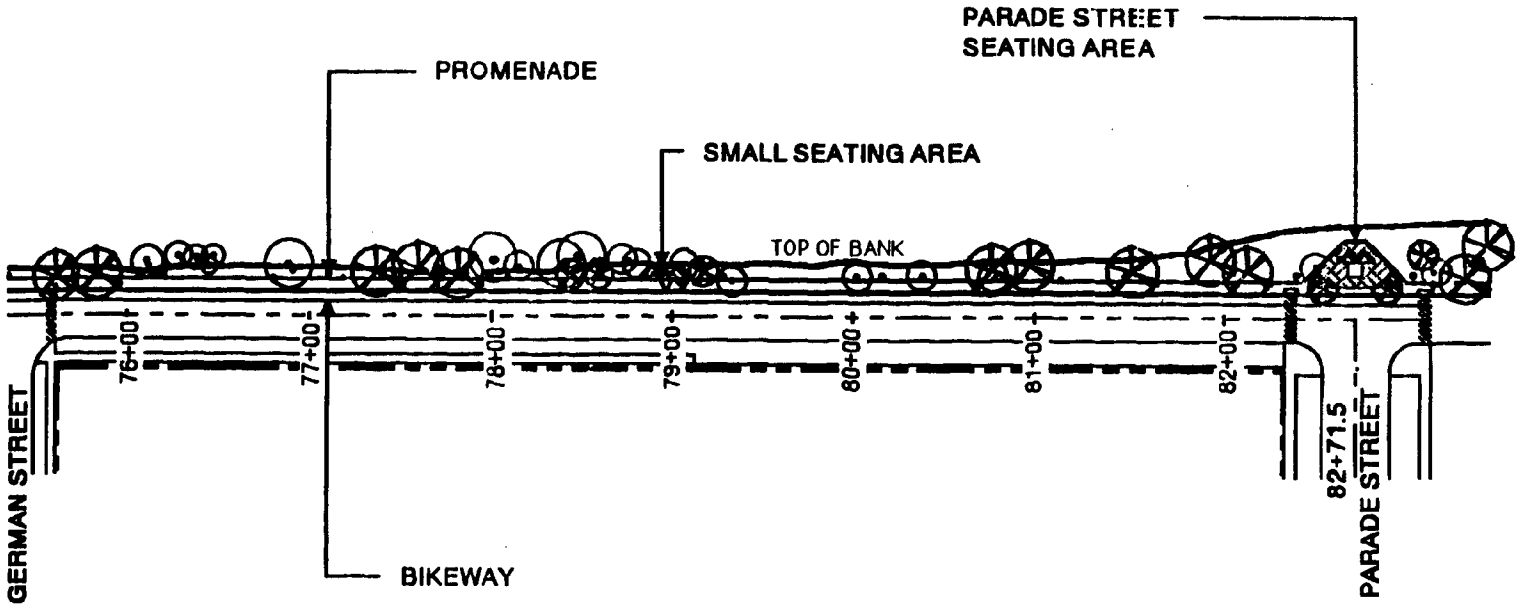


FIGURE 5 SECTION 11

BAYFRONT PROMENADE ROUTE

Phasing

The phasing that we are recommending follows this general plan. Complete walking surfaces first, in order to make the longest connection across the site. Compete these in phases. Then implement the seating areas. Then add landscaping and complete the bridge section. The lighting is the last phase because of the limited use during evening hours and the presence of streetlights along a good portion of the site along Front Street.

Phasing is recommended in $100,000 increments. Therefore the Phasing looks like this:

Phase1
- complete the work from Peach to Sassafras
- complete the section along Front Street from Holland to Parade Street
- connect these two areas with temporary striping along German to Second Street, west to Hamot up French 1/2 block, then west to State Street, and north along State to the crosswalk across from the existing part of the Promenade
- this makes an effective pathway from Parade to Chestnut if you use the 4 foot walk along Front Street from Sassafras to Chestnut
- install section of bikeway connecting Sassafras to State Street

Phase 2
- complete the pathway from Chestnut to Plum
- complete a short section at the foot of Chestnut
- install the connection from Chestnut to the main path along the ravine to where the bridge would connect
- stripe bikepath from Sassafras to Chestnut

Phase 3
- replace the walks between Sassafras and Chestnut
- replace guardrail with handrail detail
- remove trees as required
- move and replace curb as needed
- 3 sitting areas between Sassafras and Myrtle

Phase 4
- sitting areas along other sections of path already completed

Phase 5
- the section through the museum site

Phases 6&7- lighting fixtures along sections already completed

Phase 8 - landscaping, tree planting and transitional plantings along the top of the bank

Phase 9 - Holland Street Boardwalk Connector

Phase 10 - bluff cleanup, remove garbage and debris

Funding is available through Coastal Zone Management in a matching fund grant program.

Additional funding for tree planting is available through the Pennsylvania Department of Forestry SBA tree planting program.

The proposed project budget is outlined ion the following pages.

Dahlkemper LandscapeArchitects & Contractors

1650 Norcross Road Erie, PA 16510
814-825-3253

Member: Pennsylvania Nurserymen's Association
PA Accredited Nurserymen #211

Member: American Society of Landscape Architects
Registered Landscape Architect #824

Budget Costs

name			job name	
City of Erie				Bayfront Promenade
Address			job location	
626 State Street				Budget costs
City, ST Zip			Landscape Architect	
Erie, PA 16501				Daniel J. Dahlkemper, RLA
hm phone	wk phone	Client #	date of plans	date
8701378		90222		3/6/92

The pricing indicated below is a reflection of projected budget costs and is not to be used as a contract price, actual constuction costs may vary.

Section Phase 1, Central Area

4520	Walkway, Concrete installation, Peach - Sass	sf	4.00	18080.00
1440	Edge with cobblestones from lane	sf	5.00	7200.00
250	Concrete footer for granite blocks	lf	10.00	2500.00
50	Granite blocks, set on footers	ea	400.00	20000.00
2	Benches	ea	1000.00	2000.00
6360	Asphalt paving, 6'x1060'	3-2-1	2.00	12720.00
	Lawn Repair			
20000	Residential seeded lawn	s.f.	0.15	3000.00
150	Topsoil	c.y.	20.00	3000.00
	Holland to Parade			
9150	Asphalt paving	8-2-2	2.00	18300.00
1670	Brick/concrete pavers on sand	s.f.	7.50	12525.00
1264	Pave Tech PVC Edging	lf	4.40	5561.60
2	Trash Receptacles	ea	350.00	700.00
2500	Stripe area from Holland to State	lf	2.00	5000.00
100	Vinlyl logos dye cut from vinlyl	ea	6.00	600.00
1	Project Sign, Die cast	24"x36"	1000.00	1000.00

The budget for Phase 1, Central as outlined above according to the plan concept totals: $112,186.60

Budget for City of Erie

date 2/19/92 page 2

code	quantity	item	size	unit price	extension
Section		Phase 2, Chestnut to Plum			
	31000	Asphalt paving	8-2-2	2.00	62000.00
	4060	Brick/concrete pavers	s.f.	7.50	30450.00
	174	Fill in old front street right-of-way	cy	9.00	1566.00
	1	Remove old fence		500.00	500.00
	220	New Fence by Bayview Park	lf	15.00	3300.00
	20000	Seeded lawn, from Liberty-Plum	s.f.	0.15	3000.00
	1	Adjust fence along back of outfield to join		300.00	300.00
	28	Remove green posts from near Chestnut	ea	25.00	700.00
	1340	Stripe along Front Street	lf	0.50	670.00
	200	Topsoil	c.y.	17.50	3500.00
	2	Remove existing poplars	ea.	500.00	1000.00
	25000	Residential seeded lawn	s.f.	0.15	3750.00
	200	Topsoil	c.y.	20.00	4000.00
	320	Handrail	lf	20.00	6400.00
	850	Curb and Gutter, between Plum and Poplar	lf	25.00	21250.00
	250	Curb along Walnut	lf	30.00	7500.00
	1500	Asphalt paving, walk along Chestnut	3-2-1	1.75	2625.00
	46	Remove existing posts by Plum to Poplar	ea.	20.00	920.00
	900	Fill Dirt	c.y.	12.50	11250.00
	90	Topsoil	c.y.	17.50	1575.00
	9000	Residential seeded lawn	s.f.	0.15	1350.00

The budget for Phase 2, Chestnut as outlined above according to the plan concept totals: $167,606.00

code	quantity	item	size	unit price	extension
Section		Phase 3, Sassafras to Chestnut			
	9825	Asphalt paving	8-2-2	2.00	19650.00
	1800	Brick/concrete pavers	s.f.	7.50	13500.00
	1340	Pave Tech PVC Edging	lf	4.40	5896.00
	670	Remove existing guardrail	ea.	5.00	3350.00
	1	Remove existing stump	ea.	400.00	400.00
	2	Remove existing polars	ea.	750.00	1500.00
	2	Remove existing maples	ea.	200.00	400.00
	1125	New Handrail	lf	20.00	22500.00
	6000	Remove existing concrete	sf	0.75	4500.00
	1	Large sitting area	ea	7500.00	7500.00
	2	Small Sitting Areas	ea	3500.00	7000.00
	12000	Residential seeded lawn	s.f.	0.15	1800.00
	100	Topsoil	c.y.	20.00	2000.00
	3500	Wildflower Seeding	s.f.	0.20	700.00
	725	Curb extraction and replacement	lf	35.00	25375.00

The budget for Phase 3, Sassafras as outlined above according to the plan concept totals: $116,071.00

Budget for City of Erie

date 2/19/92 page 3

code	quantity	item	size	unit price	extension
Section		Phase 4, Sitting areas			
	10	Seating Area 'A'	ea	5800.00	58000.00
	20	Betula papyrifera	6-8'	132.00	2640.00
	38	Carve logo into granite benches	ea	100.00	3800.00
	4	Seating Area 'C'	ea	3800.00	15200.00
	24	Trash Receptacles	ea	350.00	8400.00
	17	Historical Plaques	18"x24"	450.00	7650.00
The budget for		Phase 4, Sitting	as outlined above according to the plan concept totals:		$95,690.00
Section		Phase 5, Through Museum site			
	20,000	Concrete installation	sf	4.00	80000.00
	27	Cast Markers placed into the concrete	6"x6"	75.00	2025.00
	36	Period Lighting Fixtures	ea	1500.00	54000.00
	3000	Trenching and wiring	lf	4.50	13500.00
	10	Period Benches	6'	1000.00	10000.00
The budget for		Phase 5, Through	as outlined above according to the plan concept totals:		$159,525.00
Section		Phases 6&7, Lighting			
	87	Fixtures	ea	1200.00	104400.00
	9000	Trenching and Wiring	lf	4.50	40500.00
The budget for		Phases 6&7,	as outlined above according to the plan concept totals:		$144,900.00

Budget for City of Erie

date 2/19/92 page 4

code	quantity	item	size	unit price	extension
Section		Phase 8, Planting			
		Tree Planting		?	0.00
	29	Acer rubrum 'varieties'	1.75"	196.50	5698.50
	29	Acer x Freemanii	1.75" cal	172.50	5002.50
	5	Fagus grandiflora	1.75" cal	258.00	1290.00
	19	Fraxinus pennsylvanica 'Summit'	1.75"	165.00	3135.00
	2	Nyssa sylvatica	1.5" cal	222.00	444.00
	7	Quercus robur	1.75"	180.00	1260.00
	62	Quercus rubra	1.75	162.50	10075.00
	23	Betula papyrifera	6-8'	110.00	2530.00
	24	Malus 'Adams'	1.75"	160.00	3840.00
	41	Malus zumi calocarpa	1.75" cal	160.00	6560.00
	13	Amelanchier canadensis 'clump'	6-7'	145.00	1885.00
	19	Syringa amurensis japonica	1.75"	156.25	2968.75
	4	Oxydendron arboreum, clump	5-6' b&b	150.00	600.00
	600	Hemerocallus varieties	1g	8.25	4950.00
	200	Rudbeckia 'Goldsturm'	1g	8.25	1650.00
	2000	Coreopsis lanceolata Moonbeam	1g	8.25	16500.00
	80000	Wildflower Seeding	s.f.	0.25	20000.00
	9000	Trumpet Daffodil	12-15cm	0.75	6750.00

The budget for Phase 8, Planting as outlined above according to the plan concept totals: $95,138.75

Section		Phase 9, Holland Street Connector			
	1,050	Boardwalk Construction	sf	100.00	105000.00

The budget for Phase 9, Holland as outlined above according to the plan concept totals: $105,000.00

Section		Phase 10, Bank Cleanup and Planting			
	1	Removal of garbage, debris, dead wood from Plum to Chestnut, an Holland to Parade		?	100000.00

The budget for Phase 10, Bank as outlined above according to the plan concept totals: $100,000.00

The budget for the total project as described above is : $1,096,117.35

Appendix A
Progress Meetings

1. December 18, 1991 Progress Report

This progress report contains the information pertaining to the development of the Bayfront Promenade plans thus far. Although the contract for this project was not received until December 5, a great deal of progress has been made in the meantime.

The Initial Co-ordination Meeting was held on October 25th, as scheduled. In attendance were Ron Desser and Mark Kukla from the City, John Mong representing the County Planning Department, Dan Dahlkemper, Julie Wisniewski from Dahlkemper Landscape Architects and Contractors, an their subcontractors, Mike Nagy, Kilduff-Nagy, Art Kuholski, Lake Engineering, Dr. David Thomas, geologist. There were a couple of observers including Ned Smith from the Bayfront Condominiums and Jeff Gault, Spiegel Realtors.

In this meeting Dan Dahllkemper reviewed the methodology that would be followed for the project and gave a slide presentation showing important areas of the site. Following the slides there was discussion and input from the various parties expressing their views of the project. Important among these were:

* The general feeling that the Promenade should be a pedestrian way.
* Lighting should be non-glare.

(review minutes)

At this meeting the base information was received from the City Engineer's office. A site plan at 200 scale from the Bayfront Parkway was obtained for general site study and analysis.

With this site information we began to proceed with site analysis.

The 200 scale site plan was scanned into the our CAD system for use and overlay of information. Concurrently, 30 scale information was digitized for use in the CAD system.

Progress Report Meeting- November 11, 1991
In Attendance were Julie Wisniewski, Ron Desser, Mark Kukla, Jeff Gault, Ned Smith. At the meeting we received base plans at 1"= 30' from Mark Kukla. Jeff Gault showed historical slides of areas along the site. We were referred to John Claridge from the Erie County Historical Society.

Other topics covered were concerns about lighting and potential glare.

The concern about the conflict between pedestrians and bicycles was reiterated.

Concerns regarding tree planting were voiced. The point was made that trees should not take away views to the bay

A number of drawings at 30 scale were delivered for use as site plans. These included a base line for the layout of the promenade. Absent from these drawings was information between State and Holland, and any topographic information.

November 15, 1991
In attendance, Ron Desser, Jeff Spaulding and Dan Dahlkemper to review the possibility of reusing the materials that may be removed from the Transitway Mall.

November 27, 1991
Mr. John Claridge

Julie A. Wisniewski met with Mr. Claridge to review the important areas of history that should be respected along the trail.

December 9, 1991 - -Progress Report Meeting
In attendance were Ron Desser, Mark Kukla, Dan Dahlkemper, Julie Wisniewski and Mike Nagy. The information that was reviewed was information regarding the location of the bike trail. Mike Nagy and Dan Dahlkemper presented slides that illustrated sitting areas, trails and alternate materials.

December 13, 1991
Mr. Phil Temple, Hamot Real Estate

Expressed his interest on behalf of Hamot in the plans for the Promenade. We discussed the materials used on the existing pathway and the reasons for their use.

Fr. Steven Simon, Orthodox Church of the Nativity, BEST

Responded positively to the idea of the promenade, and the idea of connecting it into the Museum/Library complex. Noted that the area along Front Street had formerly been called the dumps. In or around 1978 the area was filled and as part of Erie Insurance's UDAG, the street was renovated, and storm sewers, curbs, and paving now installed. The monument at the foot of Parade was installed. The width along the length of this section was about the same. Penelec was a help with trees and benches. This area was named Lou Tullio Bayfront Park. He indicates that the residents work hard on keeping up the flower gardens in this area.

2. Final Design Presentation, March 6, 1992

The purpose of this report is to indicate the progress of the design of the Bayfront Promenade to its final stage. We will reference in this report the Progress Report of December 18, 1991 as a preceding part of this report. The conclusions in this report are based upon site analysis and research done in that portion of the study. This part of the study will seek to support the design conclusions that take shape in the plans that accompany this report.

Progress Meetings

Since the meeting of 12/18/91 we have continued the bi- monthly progress meetings as called for in the RFP. Briefly we will summarize the activities at each of these meetings.

1/7/92 At this meeting some preliminary layouts were reviewed to show the progress made so far. There was some discussion regarding the removal of the Downtown Transitway Mall. Jeff Spaulding and Ron Desser had indicated using materials from the Transitway Mall if at all appropriate. There is quite a bit of granite, and this was taken off of a drawing provided to us by the engineering department. There are also 4000 sf of brick pavers in the Mall and we asked if it should be used. Mark Kukla indicated some of it is in poor shape and that it

is a thinset paver. Art Kuholski of Lake Engineering had indicated that the weight of a walkway we are talking about warranted no compaction tests since there would be no load caused by walk installation.

At this meeting Dan Dahlkemper reviewed information gathered at a meeting with Herm Weber of Weber Murphy Fox regarding progress on the Library-Museum complex. (The site information presented was in its early design stages and has since changed)

At this meeting we presented the City Engineer with a list of areas requiring additional grading information.

1/28/92 At this meeting we discussed for some time the width of the walkway. In the previous report it was indicated that the walkway was going to support pedestrian traffic only. DLAC had designed a parallel bikeway to provide bike traffic an access to bluff views and alleviate any conflicts with pedestrians. This parallel bikeway would have tied in with the Bayfront Bikeway being planned by the City Engineers Office, creating a larger biking network. However, Mr. Dan Borgia of the Parks Department, has urged that the Promenade accommodate both pedestrian and bike traffic through its length, indicating that he didn't think that it would be a conflict. He further indicated that he thought the path should be multi-purpose, and that a wider walkway than 6 feet would be safer for combined traffic. The City Planner, Ron Desser, then indicated that we accommodate bike and pedestrian traffic along the length. The existing section of the Promenade was pointed out as being a problem with bike traffic. A suggestion was made to widen this section, although benches and lighting as well as grading in place only supports a 6' walk.

Other items discussed were the concern for light and noise pollution from the walkway. There was a request to use rumple strips to deter skateborders and roller blades.

2/12/92 Further progress on walkway layout was reviewed. Phasing was discussed. Rather than a block by block completion, a phasing plan implementing walkway first, sitting areas next, landscaping then lighting was discussed and seemed to meet general agreement of those in attendance. Ron Desser indicated that phases would probably be in $100,000 increments and to phase it accordingly.

Dan Dahlkemper brought up the fact that there was a conflict with the width of the walkway between Peach and State. His recommendation was to bring a separate bikeway down towards the Bayfront Parkway and separate bike and pedestrian traffic. Otherwise, there was no convenient connection at Peach, as Dobbins Lane is too rough to accommodate most bicycles. This route was tentatively approved.

Dan Dahlkemper also asked the Engineer if parking along front street could be restricted to the south side of the street only, so that a bike lane could be accommodated on the north side of the street. This also was tentatively approved.

We were instructed to review the marker by Smitty's Bait Shop as an example of what would be required to commemorate the project.

During this meeting Ron Desser indicated that the front street ROW that was described as being owned by the City previously is actually currently owned by the State of Pennsylvania. He indicated that the City is looking into a long term arrangement with the State.

Because the recommendation on the route includes the Penelec site, we were asked to contact Frank Hager of Penelec to co-ordinate our efforts. This is important in the light of weekly changes to the masterplan of the site.

2/20/92 Phasing recommendations were discussed during this meeting,and budget figures presented to Ron Desser and Jeff Spaulding. These figures were noted as not being complete and further figures would be forthcoming.

A list of areas that have insufficient information for grading was presented to the City Engineer. He said he would follow up on this information.

2/26/92 Some areas of the plan that were not covered in detail were reviewed. In particular, the transition from Holland Street to Front Street, a vertical difference of around 30'. Mark Kukla of the City Engineer's Office indicated that the Holland Street grade exceeded 8% and would not be acceptable for an alternative handicapped route. John Mong of the County Planning Department indicated that this transition should then be handicapped accessible.

Ron Desser, Mark Kukla, John Mong, Julie Wisniewski and Dan Dahlkemper then went afield to review some details in the field. Several areas were reviewed.

Front Street from Plum to Poplar. Dan Dahlkemper pointed out that there were some surface runoff problems created by lack of storm drains in the area, recommending that a curb or curb and gutter section be installed to direct runoff into a catch basin and prevent traffic from driving on the turf. This would eliminate the need for the unsightly posts. Mark Kukla said he would look further into a catch basin. But he also indicated that there were no plans for paving that section of the street and curb would be inappropriate for the tar and chip road. Perhaps a curb and gutter section would be better. Dan indicated that the road would need to be redefined due to the narrow section near the foot of Liberty.

The manhole behind the Bayfront Condominiums was reviewed and Mark Kukla said that 2 sections could be removed to get the top nearer to grade.

Mark Kukla said he would look further into the drain structure at the foot of Cherry that seems to be missing near the head wall structure.

After reviewing the concrete gutter drain structures behind Bayview Baseball Field, Mark said to leave them in place, rather than remove them. An alternate structure should be placed just east of the centerfield fence in the low area to remove excess surface water runoff from the park area.

Along the section from Chestnut east to the first access road down to waterworks, Mark said that the curb, which needs to be replaced, could be moved towards the centerline, approximately 2' to align with the curbline on the other side of the access road. He noted that east to Sassafras that curb should be replaced wherever it was crumbled.

3/6/92 Final Design Presentation

Recommendations

As a result of these meetings and design studies, we have these recommendations that are represented in the drawings.

The Bayfront Promenade should have a clear identity that can be defined with the use of a symbol or logo that can be used in identifing it along its length through its different sections. At this time the logo proposed is a graphic depiction of the tower of the Waterworks Plant at the foot of Chestnut. This symbol is somewhat directional in its design and the tower is visible from a large part of the Promenade. The Waterworks is a strong symbol of the bayfronts history.

The width as previously discussed, should accommodate both bike and pedestrian traffic. Where these uses are combined, the pathway would be 10' total width. However, there are sections of the bluff that will not accommodate 10', in these areas we will try for a minimum of 6' width for pedestrians and try to accommodate bikes on painted bike lanes adjacent to the pathway on front street, which is normally a fairly low volume street. In recommending this approach, we further recommend that the incline streets from waterworks to front street be closed to further reduce traffic through the neighborhood.

The section of the Promenade from Sassafras to Holland has been identified as part of the urban core, and therefore it should have a more urban character. In this section the concrete will be similar to that already found in the completed section from Peach to State; a minimum of a 6' width, with a color admixture, scored on 12" centers. This type of concrete is also found along State Street from the Bayfront Highway north and along the west dock area, so it will provide some consistency in these areas. Also, the lighting will be consistent by providing a period type lightpost with an acorn fixture similar to those in the area. Period benches will also be utilized in these areas. Where possible, cobblestones from the roads that have been removed should be used as an edging, to visually strengthen the sides of the pathway. In the area of the Penelec site, the masterplan is yet unfinished. Some progress has been made towards a final masterplan that has altered our concept of Promenade location. A portion of land has been swapped with the Erie-Western Pennsylvania Port Authority to allow public access to the water. We are suggesting a route to the masterplanners of this site for their consideration in their final designs. To maintain consistency we would like the pathway to remain concrete, scored on 12" centers with the colored admixture. However, to further identify the Promenade we would like to include a cast marker 25' o.c. in a better defined edging.

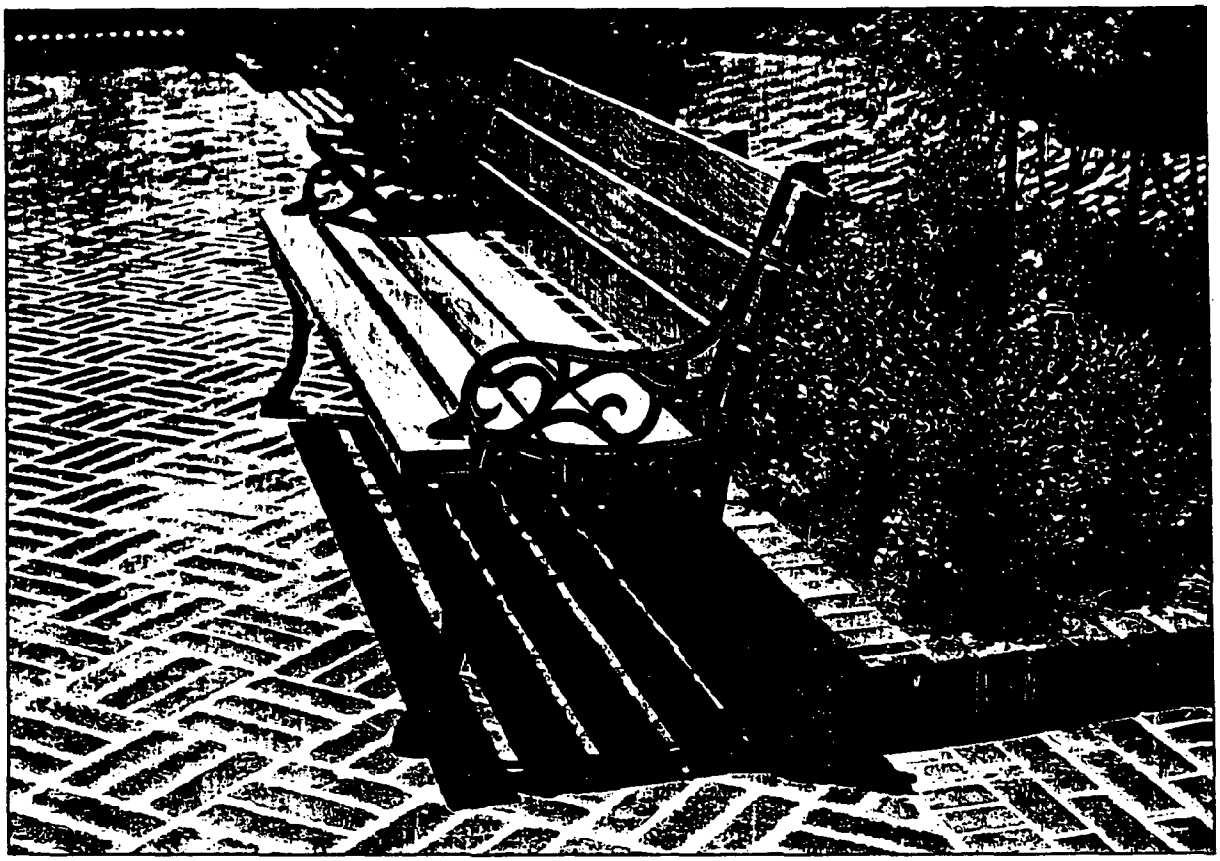
In part of this zone, a section is completed from Peach to State Streets. Due to the layout, there is not enough room to safely accommodate pedestrians and

bicycles. Because of the layout of benches, lights and existing grades, there is not enough room to expand the area to accommodate bicycles at the 10' width that is recommended. Therefore, as an alternative, we are suggesting an asphalt path, taking the cut on the grade heading east from Sassafras Street and a lower route to State Street. This will help to alleviate the conflict with pedestrians while insuring the continuum of the bicyclers experience. Hopefully this bikeway can be joined up with the Bayfront bikeway being planned by the City Engineers office.

Outside of the urban core, from Sassafras west to Plum and Holland Street east to Parade, the surface of the Promenade will change. We are recommending an asphalt surface. This flexible pavement is prefered as some of the bank areas do experience geologic 'creep' and the asphaltic surface would tend to be more forgiving and easier to repair. However, this surface needs a strong edge, and we recommend that it be edged with brick to reinforce it visually and add a warm, 'residential' feel to those areas through which it goes. However, due to the concern with light pollution, we are recommending the use of a more contemporary box type light fixture at and 18-20' mounting height. These will help to direct the light down, decreasing glare into residential neighborhoods, and reducing the risk of vandalism. In these areas we are intending to use granite blocks from the transitway mall for seating areas. Durable and reasonably priced, they will make a good addition to the seating areas in combination with brick paving. Protection near the banks will be provided by a pipe handrail and cable combination mounted between hardwood treated posts. These posts can double as individual bollards where needed and can be marked with the promenade logo for identification.

Originally we were going to recommend the replacement of the RR tie posts from Poplar to Plum with these hardwood type bollards. However, in view of the problems with drainage a better solution to this problem would be to install curb or curb and gutter in that area. This would help to direct stormwater and eliminate the need for bollards to keep the traffic off of the turf areas. This solution has helped solve a similar problem that had existed between Holland and Parade on the east side.

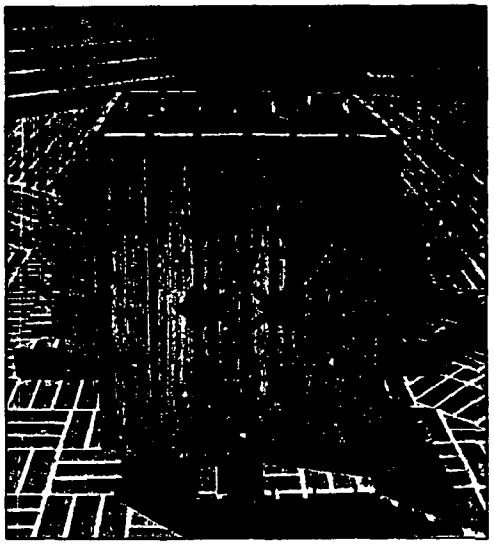
Apendix B
Product Recommendations



RESTORATION

Memories of a romantic lifestyle, in classic settings, are evoked by the gentle grace of these designs. Sturdy, yet economical, these pieces fit any site.

BENCH / MODEL CD120
Frame of class 30 gray iron cast, weight 30 lbs. per casting. Assembled size is 29″ high × 21 1/2″ deep, finished with primer and high gloss or flat enamel. Feet are pre-drilled for anchoring. Wood slats are 2″ × 4″, pressure treated pine, clear oak or clear all-heart redwood. Seven slats per bench, in 4′, 5′ or 6′ lengths. Woods can be finished with linseed oil or polyurethane. Hardware is zinc plated.

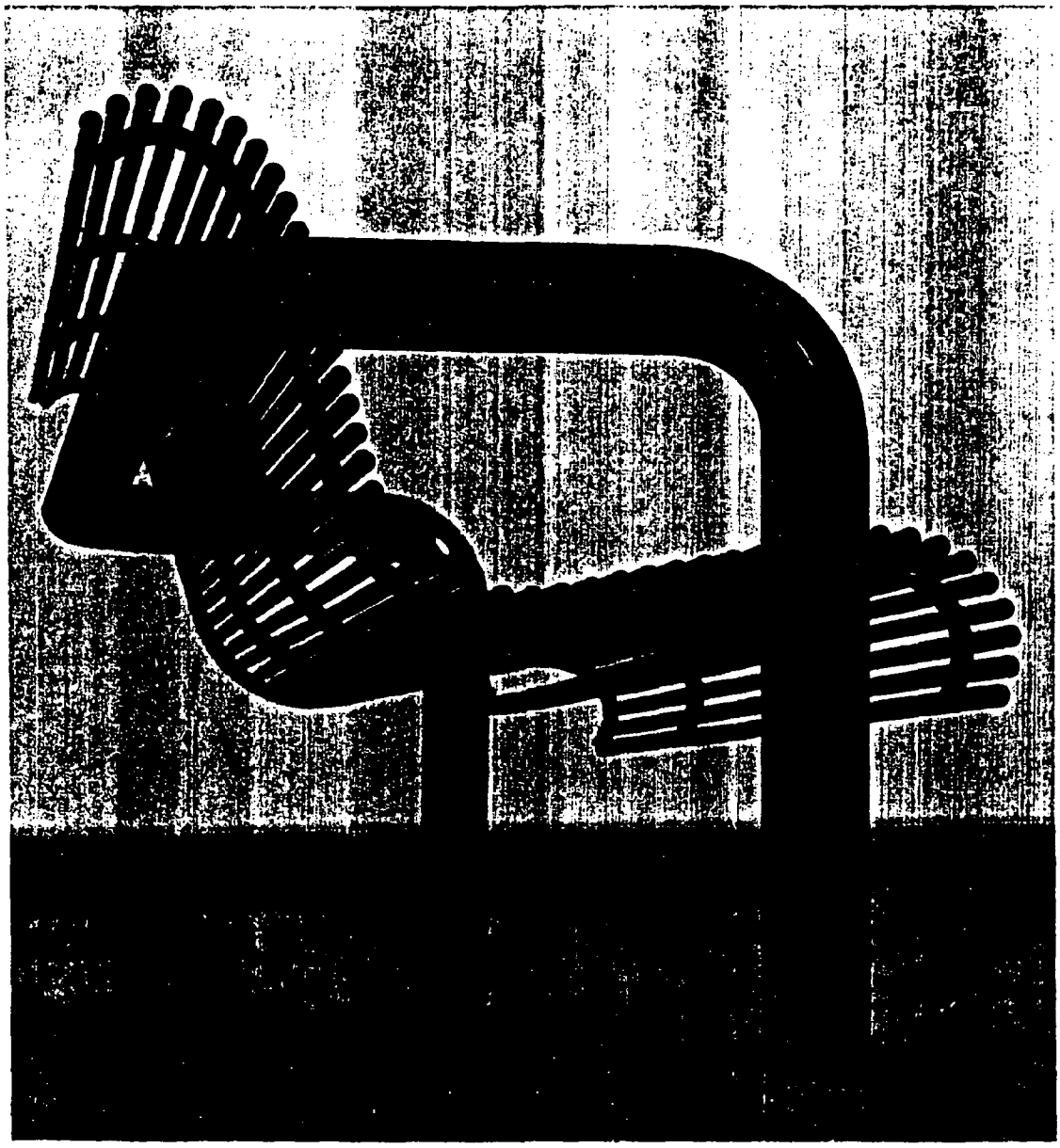


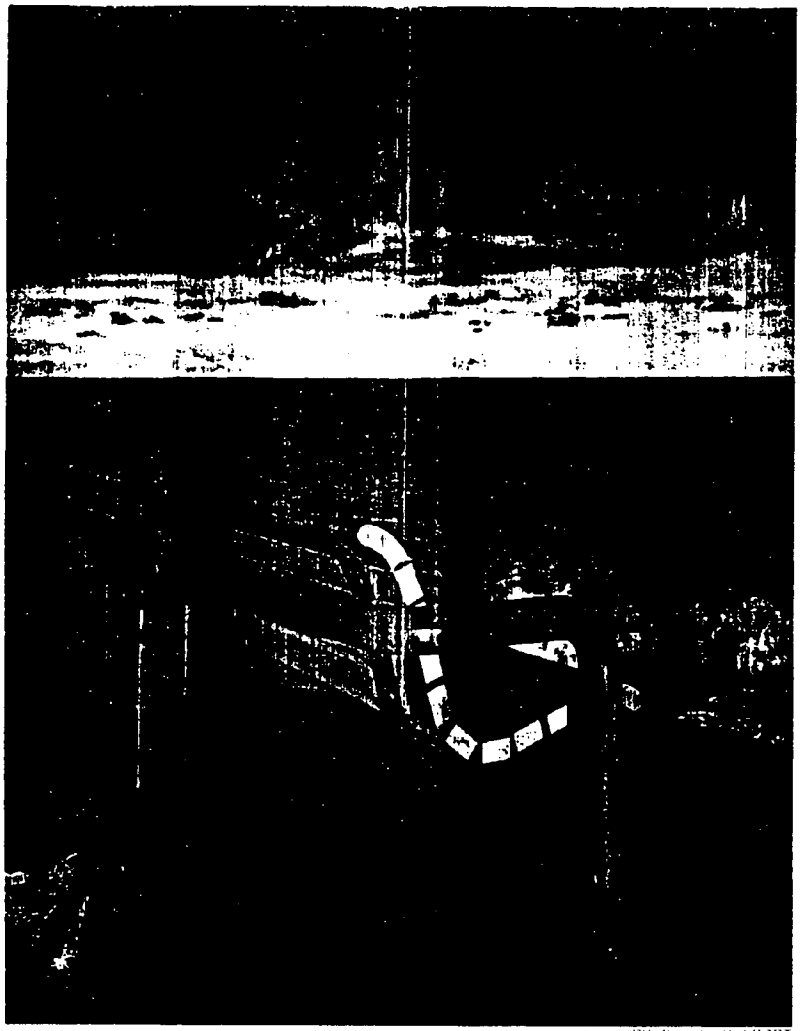
RECEPTACLE / MODEL CD124
Frame of 1 1/2″ × 3/8″ rolled steel strap at top and bottom. Bottom strap has 2 1/2″ × 3/8″ T-Bar to hold liner. Permanent or portable mount available.

Wood slats available in pressure treated pine, redwood and oak. Slats are 1″ × 4″, 24 slats, 30″ high, size 24″ × 24″, zinc plated hardware. Liner not included.

Receptacle can also be used as planter.

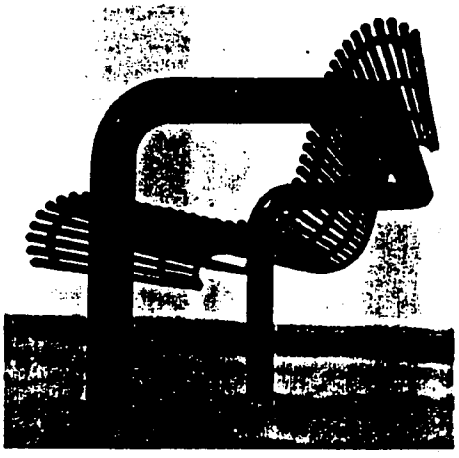
Landscape Forms





THE PETOSKEY™ GROUP

- Design concept by Beckett and Raeder, Inc.
- Rugged 3" steel tube support
- Choice of wood, perforated metal, or solid ⅝" steel rod bench construction
- Pangard II® finish for outstanding durability and rust resistance
- Two-leg embedded design or four legs, freestanding with glides, surface mounted or embedded
- Matching all-steel receptacles
- Photos: Freestanding red oak Petoskey bench in Hollyberry; Petoskey litter receptacles in Cranberry; two leg steel rod embedded bench in Grotto (also pictured on the cover)



Presidential Fiberglass Light Poles

Shakespeare Decorative Fiberglass Lamp Posts turn back time to a more formal period of our history when style and elegance were a way of life. These unique fiberglass replicas of their cast iron forerunners are playing a vital role in the restoration of America's inner cities as well as creating that special nostalgic atmosphere in discerning residential communities, shopping malls, theme parks and public areas across the country.

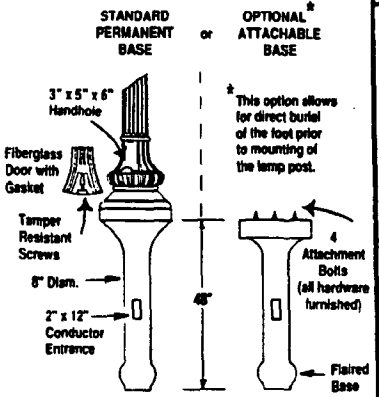
Although esthetically pleasing, the true beauty of Shakespeare Decorative Posts lies in their fiberglass construction. Developed in the 1940's, fiberglass eliminates all the undesirable features of cast iron as a construction material. They are strong, lightweight, easily installed without expensive lift equipment and impervious to weather, salt and corrosive roadway chemicals. Rusting and continual repainting are things of the past. The beautiful black finish is blended into the pole resin itself, not just on the surface, and then is coated with a highly weather-resistant pigmented polyurethane which means dramatically reduced maintenance costs for years to come.

ANCHOR BASE OR DIRECT BURIAL

The Option is Yours.

Specify the traditional anchor base post or choose the new functional direct burial style, as illustrated, to further reduce your total installation investment by eliminating anchor bolts and the concrete foundation. The 4 captive bolts in Shakespeare's optional direct burial stub attach to the pole's exclusive fiberglass recessed base plate just as the anchor bolts do on anchor base models.

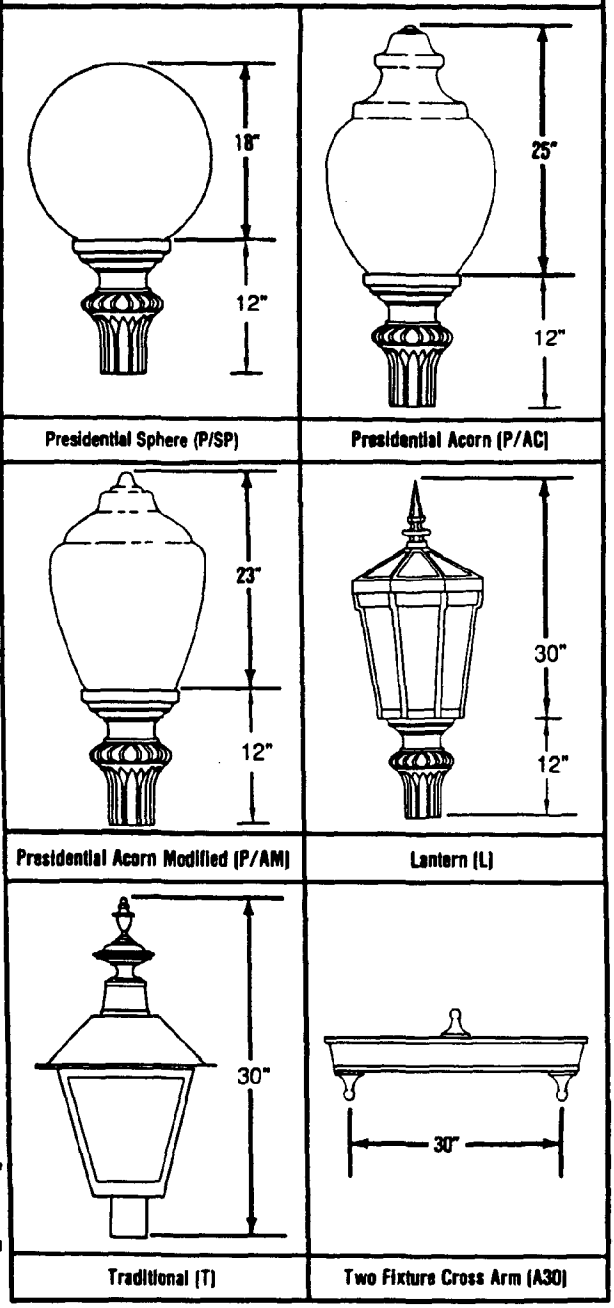
TWO DIRECT BURIAL STYLES TO CHOOSE FROM



OPTIONS

- Single Fusing (120, 240, 277V)
- Double Fusing (208, 480V)
- Photo Control
- Weatherproof Receptacle (120v, top or base)
- Anchor Bolts

Available Classic Fixtures



Presidential Sphere (P/SP) | Presidential Acorn (P/AC)

Presidential Acorn Modified (P/AM) | Lantern (L)

Traditional (T) | Two Fixture Cross Arm (A30)

FIXTURE SPECIFICATIONS

CAT. NO.	SIZE	DESCRIPTION	RECOMM. MAX. WATTAGES *I	*V	*M	S
P/SP	18"	WHITE POLYCARBONATE SPHERE	300	175	175	150
P/AC	25"	CLEAR TEXTURED POLYCARBONATE ACORN	500	250	250	250
P/AM	23"	CLEAR TEXTURED POLYCARBONATE ACORN MODIFIED	500	250	250	250
T	33"	CAST ALUMINUM TRADITIONAL, CLEAR PRISMATIC ACRYLIC LENS	300	175	175	150
L	33"	CAST ALUMINUM OCTAGONAL LANTERN, TEXTURED ACRYLIC LENS	300	175	175	150

*I = Incandescent; V = Mercury Vapor; M = Metal Halide; S = High Pressure Sodium

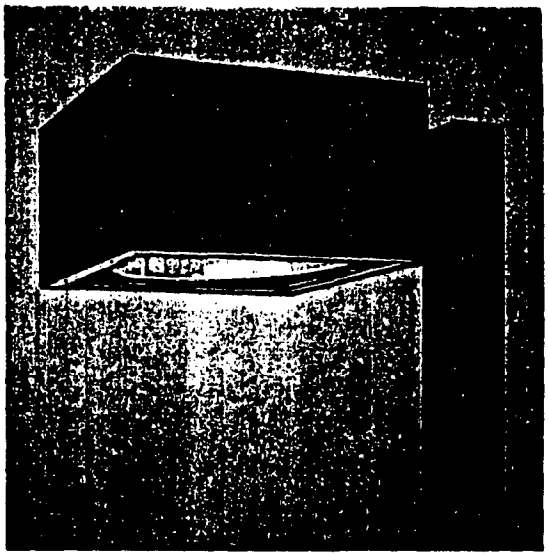
EPA RATING

Presidential Posts are engineered to withstand 100 mph wind forces (calculated per AASHTO standards and include a 30% gust factor) with luminaires having a maximum size of 6.2 EPA (sq. ft.) weighing up to 150 lbs.

Design SJH

Sharp Cutoff, Arm Mounted, Square Luminaire with Flat Clear Lens for Low to Medium Mounting Heights - 70 to 400 Watt

- ☐ The low profile housing enhances and blends with contemporary architectural styles.
- ☐ A selection of six cutoff reflector systems combined with internal cutoff blades eliminates wasteful light pollution.
- ☐ A choices of two housing sizes assures proper aesthetic appearance at any mounting height.
- ☐ Innovative design and quality construction reduces installation and maintenance costs.



Distribution Patterns:

Type S | Type VS | Type 1 | Type 2 | Type 3 | Type F

Consult pages 31-34 for specific photometric data.

Specifications:

Housing: Each SJH housing shall be formed from heavy-gauge aluminum and internally welded. There shall be no seams, weld beads or other visible disturbances to the housing's smooth surface. All external hardware shall be stainless steel. Design SJH shall be available in two housing sizes: 1) 15.25" x 15.25" x 9.5" for 70 to 250 watt lamps; 2) 19" x 19" x 10.75" for 250 to 400 watt lamps. Each fixture shall be U.L. listed "suitable for wet locations."

Lens Frame: The extruded, clear anodized aluminum lens frame shall be concealed pin hinged to the housing and secured with two flush mounted, captive, vibration resistant stainless steel fasteners.

Lens: The flat, thermal and shock resistant glass lens shall be sealed to the lens frame and secured with four corner keys.

Dual Gasketing: The lens shall be silicone sealed in the extruded "U" channel lens frame. The lens frame shall be gasketed to the housing's internal reinforcement ring with silicone impregnated Dacron gasketing.

Installation: Each Design SJH shall be provided with an extruded aluminum mounting arm (1.75"W x 4.5"H x 7"L, 3"W x 5"H x 7"L or 3"W x 5"H x 12"L). Please specify number and configuration of fixtures to assure correct arm. The fixture shall be secured to the pole with captive through bolts and a one-piece backup nutplate. (See Ordering Information for alternate mounting options). Luminaires shall be prewired with high temperature wire, making disassembly for installation unnecessary.

Reflector System: Each electrobrightened, anodized and sealed aluminum reflector shall be mounted to a mounting platform. The mounting platform shall be hinged to the housing for ease of access to the ballast compartment. The fully enclosed optical system shall hold a porcelain lamp holder and an insulated lamp support. Design SJH shall be available with the following sharp cutoff reflector systems: 1) Type S - square distribution, horizontal lamp, segmented reflector; 2) Type VS - square distribution, vertical lamp, segmented reflector; 3) Type 1 - fully rotatable asymmetrical distribution, horizontal lamp, segmented reflector; 4) Type 2 - fully rotatable, asymmetrical distribution, horizontal lamp, segmented reflector; 5) Type 3 - fully rotatable, asymmetrical distribution, horizontal lamp, segmented reflector; 6) Type F - fully rotatable, forward throw distribution, segmented reflector. Each sharp cutoff reflector system shall be available with internal cutoff blades and louvers for custom tuning. All photometric data shall be certified by an independent testing facility.

Ballast: All CWA ballasts (+10% to -10% lamp power regulation) shall be tray mounted and supplied with quick-disconnects. Ballasts are rated for -20 degree F operation.

Finish: The fixture shall be pretreated, primed, baked, covered with a high solids polyester finish and baked again. (Standard finish is dark bronze-313.) The double baked finish shall meet or exceed all AAMA requirements for 1,000 hour salt spray exposure. Optional anodized finishes shall be applied over brushed aluminum surfaces of a uniform grain.

Bibliography

John R. Claridge, " Cultural Resources Management Study,"
Erie Historical Socity, January, 1982

"Bayfront Recreation Plan", August 26,1988
Burgess & Niple, Limited

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IR 1003 Section A00, Bayfront Port Access Road Volume 1
FEderal Highway Administration, PENN-DOT, and City of Erie

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