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Pennsylvania. Department of Environmental Resources

Massey, Albert L.

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FEASIBILITY STUDY
for an
AMPHITHEATER
in
WILLIAM L. SCOTT COUNTY PARK
for the

ERIE COUNTY DEPARTMENT OF PLANNING

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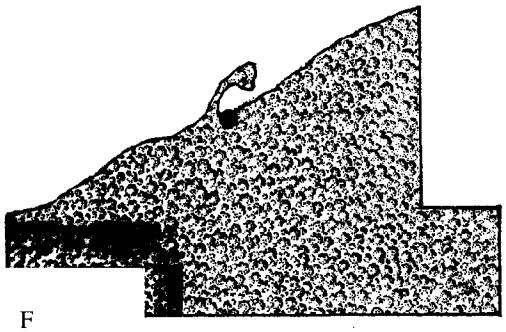

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AUTHENTICATED
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FEASIBILITY STUDY
FOR AN
AMPHITHEATER
IN
WILLIAM L. SCOTT COUNTY PARK

RUSSELL D. ROBISON

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This Study was financed through a planning assistance grant from the National Oceanic and Atmospheric Administration as administered through the Pennsylvania Department of Environmental Resources Office of Coastal Zone Management and the Erie County Department of Planning.

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Pennsylvania, Department of Environmental Resources

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INTRODUCTION

1. SCOPE OF STUDY

A Master Plan was completed in May, 1976. Since the completion of the Master Plan, interest has warranted the addition of an amphitheater in the plan as a viable facility in the Park.

This study is investigating the addition of an amphitheater, which will:

A. Review the natural features of the Park and how these features will effect an amphitheater.

B. Review the Master Plan and the first two phases of construction to see how an amphitheater will fit in with the current recreation program.

C. Determine the need for an amphitheater in the Erie area and investigate the requirements and needs of potential users.

D. Review some existing similar facilities in neighboring communities.

E. Review governmental regulations which apply to this proposed amphitheater.

F. Prepare a proposed operation plan for potential programming, admissions, fees and required equipment.

G. Investigate the construction options of an amphitheater and appropriate costs.

2. TECHNIQUES

The design process applied for developing this study took place in three phases: basic research, analysis of the findings and then synthesis of the studies into a proposed development program.

A. Research Phase

This phase ferrets out the past through discussions and reading to find the best options of space relationship, needs, construction techniques, materials investigation and the natural and aesthetic considerations necessary for the development of an appropriate building program for a successful amphitheater.

B. Analysis Phase

Utilizing the data found in the research phase, studies are made to develop abstract relationships, space diagrams and circulation studies in conjunction with the site and existing development to date. The

schematic studies develop into conceptual drawings based upon the physical form of the site and the organization of the building program.

C. Synthesis Phase

The summary of the studies is synthesized into physical development plans showing site circulation, utilities, land use and relationship of the site amenities. This plan is further developed into capital improvements, staging of development, cost estimates, operation and maintenance plans.

3. ACKNOWLEDGMENTS

In compiling this study, information was obtained from many different sources. First, many of the potential users provided input of their requirements. These organizations included: Bayfront Ballet, Bayfront Orchestra, Dance Theater of Erie, Erie Civic Ballet, Erie Commodores, Erie Concert Band, Erie Philharmonic, Erie Playhouse and Sweet Adelines.

Owners of existing facilities who contributed information about their amphitheaters included: Parks and Public Property, Lancaster, Pennsylvania; Division of Recreation, Lima, Ohio; Bureau of Parks, Allentown, Pennsylvania; Westmoreland County Parks Department, Greensburg, Pennsylvania; Arlington County Park Division, Virginia; Presque Isle State Park, Erie County, Pennsylvania; Department of Parks and Public Property, Erie, Pennsylvania.

Additional information about amphitheaters was obtained from Gregory Gibson, Executive Director, Arts Council of Erie; William M. Fairgraves, Secretary-Treasurer, Local 17, A. F. of M.; Professor Louis F. Twardzik, Chairman, Department of Park and Recreation Resources, Michigan State University.

4. DEFINITIONS

Webster's New World Dictionary, second edition.

Amphitheater - Amphitheatre:
1. a round or oval building with an open space (arena) surrounded by rising rows of seats.
2. a scene of contest; arena.
3. a sloping gallery in a theater.
4. a lecture hall with a sloping gallery, for observing surgical procedures in a medical school or hospital.
5. a level place surrounded by rising ground.

Band Shell: an outdoor platform for concerts, having a concave, nearly hemispherical back serving as a sounding board.

Arena:
1. the central part of an ancient Roman amphitheater, where gladiatorial contests and shows took place.
2. any place or building like this (an arena for boxing matches).

3. any sphere of struggle or conflict (the arena of politics).
4. the central stage in an arena theater.

Auditorium:
1. a room for the gathering of an audience, as in a school, library, etc.
2. a building or hall for speeches, concerts, etc.

Theater - Theatre:
1. a place where plays, operas, motion pictures, etc. are presented; esp., a building or outdoor structure expressly designed for such presentations.
2. any place resembling a theater, esp. a lecture hall, surgical clinic, etc., having the floor of the seating space raked.
3. any place where events take place; scene of operations.
4. a. the dramatic art of dramatic works; drama,
   b. the theatrical world; people engaged in theatrical activity,
   c. the legitimate theater, as distinguished from motion pictures, television, etc.
5. theatrical technique, production, etc. with reference to its effectiveness (a play that is good theater).

SUMMARY

1. An amphitheater would be compatible with the existing recreational facilities and proposed facilities in Scott Park.

2. The expected use of the facility would be between the middle of May and the middle of September.

3. The facility has the potential of being used between two and four times each week.

4. The best location for an amphitheater is located east of the entrance drive, in the field of low vegetation.

5. Based upon the survey of potential users, an optimum size for an amphitheater will have a stage to accommodate 40 persons comfortably and up to 70 persons on crowded conditions.

6. The average successful audience should be between 600 and 1200 people with potential crowds of 4000 people.

7. There should be parking for between 300 and 400 cars.

8. An expected cost of a facility could be between $250,000 and $400,000.

EXISTING CONDITIONS

1. REGIONAL INFLUENCES

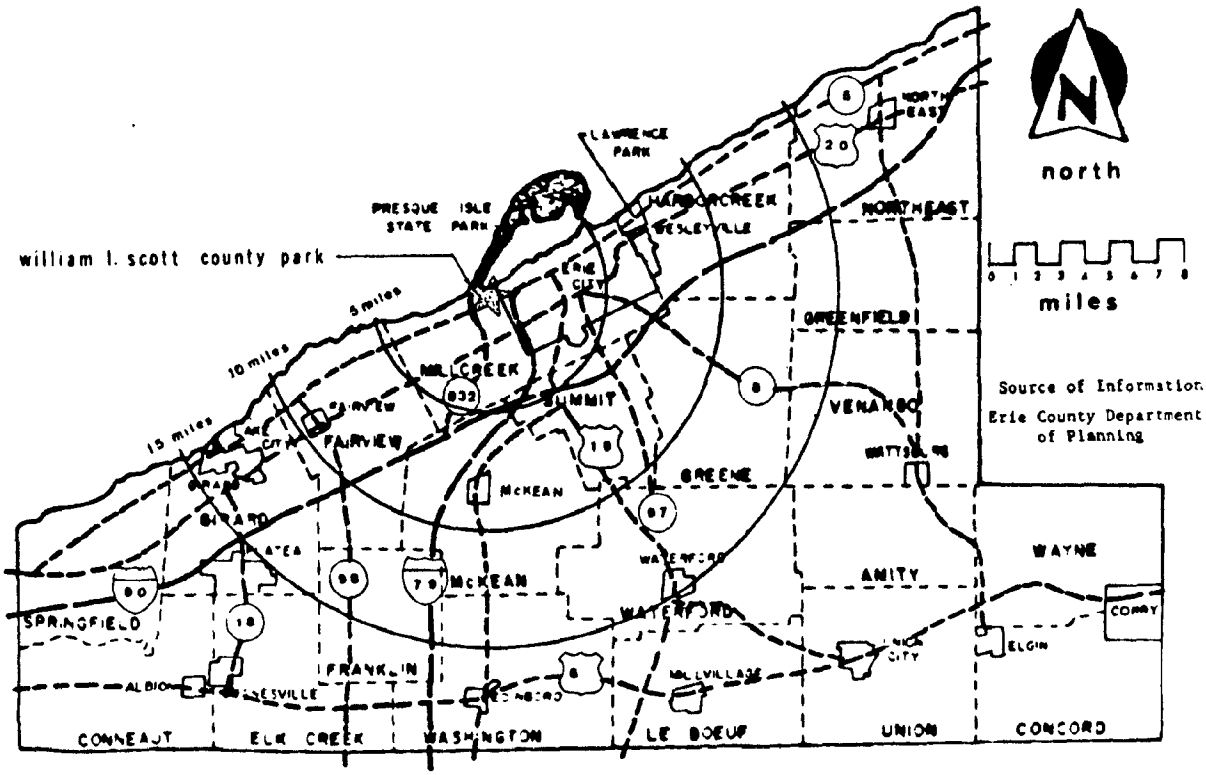
William L. Scott County Park is located in Millcreek Township on the shores of Presque Isle Bay and adjacent to Presque Isle State Park.

Although the Park does not abut a major highway, the Park has frontage on West 6th Street, a busy east-west thoroughfare. The Park entrance is only 1500 feet east of the intersection of West 6th Street and Peninsula Drive (PA 832).

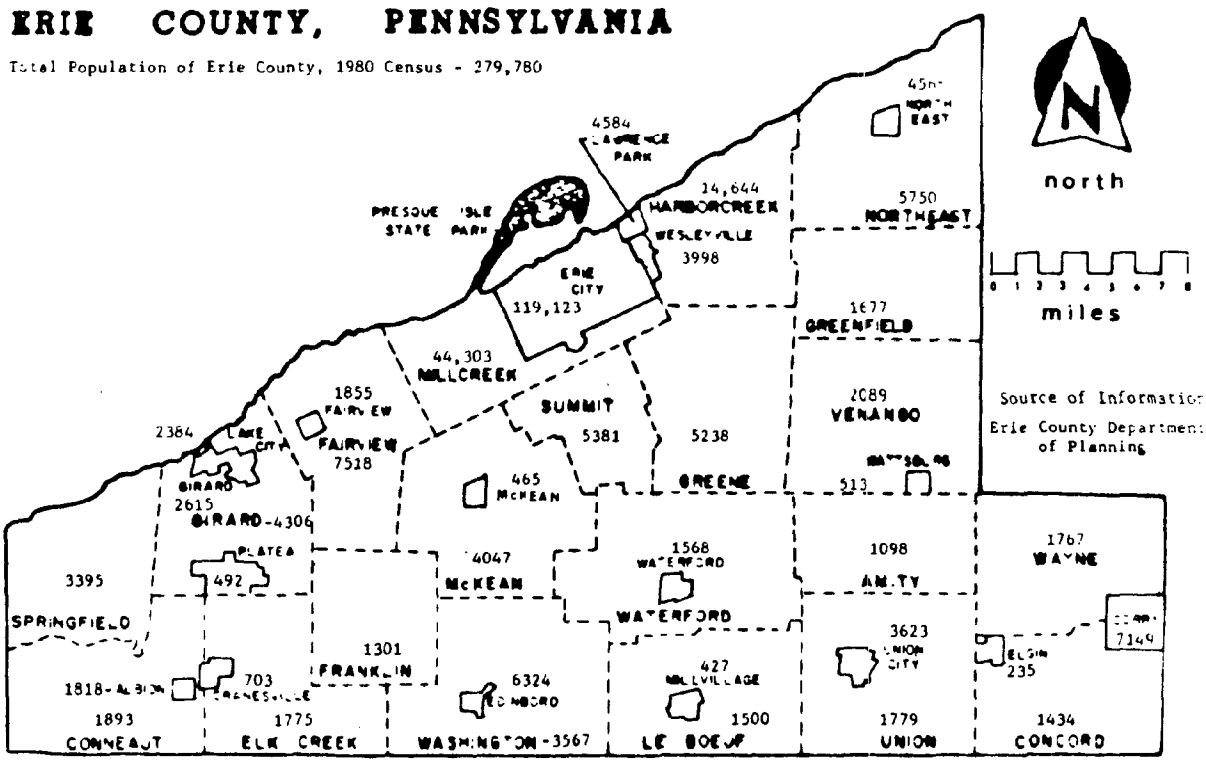
The Park entrance road begins opposite the beginning of Lowell Avenue. Lowell Avenue runs north and south between West 6th Street and West 8th (PA Alternate Route 5). The Park is readily accessible to all major roads in Erie County, either by West 6th Street or Peninsula Drive.

The Park is located in the heart of the most popular tourist area in Erie County. The focal point of the tourist area is Presque Isle State Park. In 1980, 4.6 million persons visited Presque Isle State Park.

Much of the land in the vicinity of Presque Isle State Park is oriented to providing services for the visitors. These services include many motels and restaurants. It could be expected that these visitors will utilize programs in an amphitheater in addition to other tourist attractions.



LOCATION MAP AND MAJOR HIGHWAYS LEADING TO WILLIAM L. SCOTT COUNTY PARK



POPULATION OF ERIE COUNTY, BY MUNICIPALITY

The recent census showed that there were 279,780 residents in Erie County. Of that total, those residents closest to Scott Park include 119,123 residents in the City of Erie, 44,303 residents of Millcreek Township and 9,373 residents of Fairview Township and Borough. This is a total of 172,799 residents living in relatively close proximity to the Park, leaving 106,981 in the rest of the County.

As previously indicated, Presque Isle State Park had 4.6 million visitors in 1980. Of course, many of the visitors live in Erie County.

According to the Erie Chamber of Commerce, there are approximately 500 motel rooms in the vicinity of Presque Isle State Park.

2. WILLIAM L. SCOTT COUNTY PARK

A. Master Plan, May 1976

The general concept of the Master Plan called for the Park to be developed into four use areas:

1. Active Recreation: This area is the southern portion of the site, with proposed activities such as field and court games, fit trail, and picnic facilities.

2. Passive Recreation: This area is in the northern portion of the site. The proposed activities include nature study, hiking and nature center. Archeological remains have been discovered in this area.

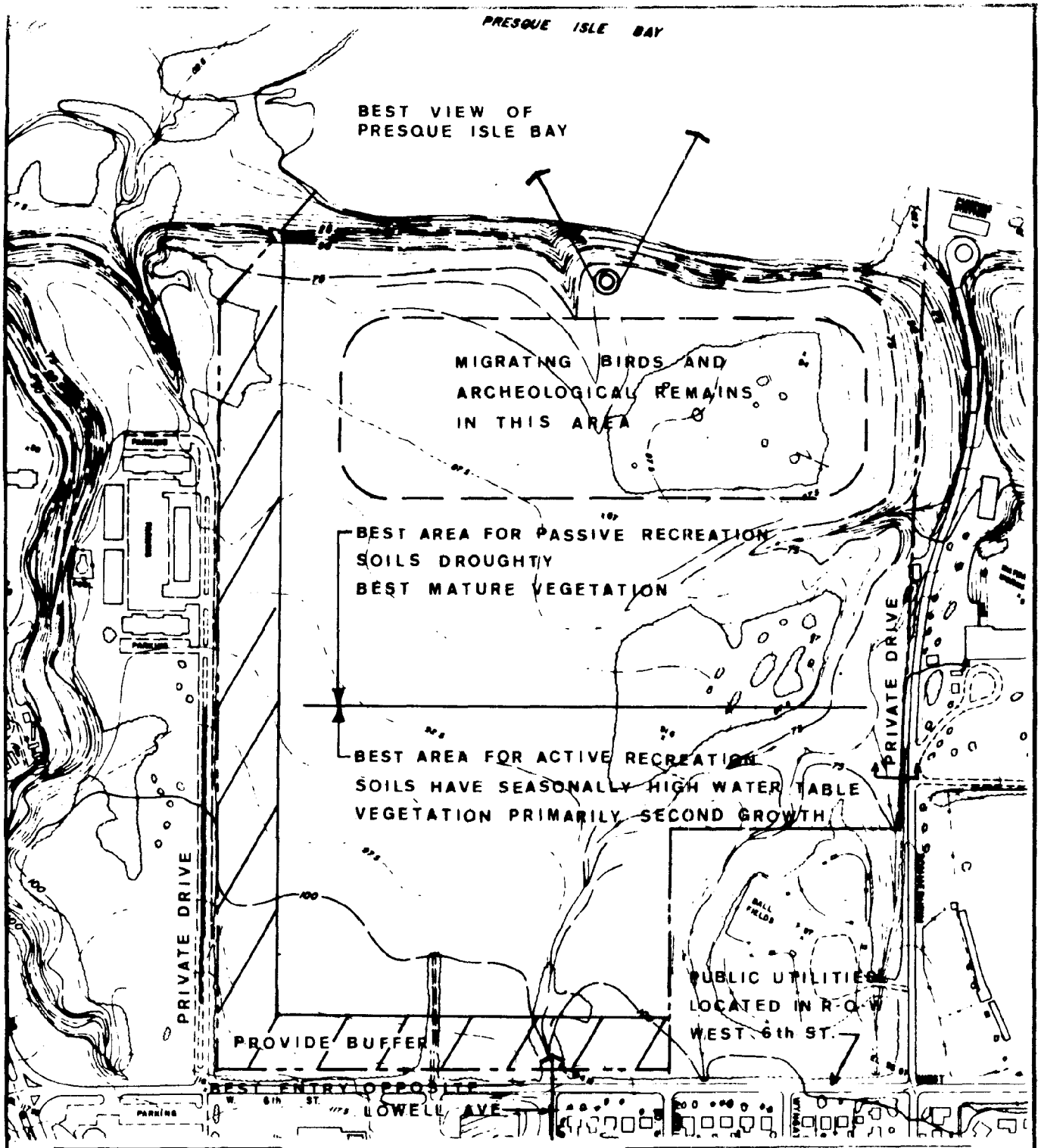
3. Buffer: This land is the perimeter of the Park and will serve to keep the interior of the Park isolated from the influences of the adjacent land. The buffer land to the east is separated by topography, drainage and vegetation, while the land to the south and west is separated by vegetation only.

4. Park Administration: The southeast corner of the site was reserved for administration facilities.

5. Vehicular Circulation: The circulation system of the Park was designed to discourage sightseers and pleasure drivers. The road dead ends in a parking lot. The parking is evenly divided with recreation activities spaced on each side of the proposed parking lots. The proposed two major lots should be able to support approximately 550 cars. A small lot in the nature center area could accommodate 50 cars.

6. Pedestrian Circulation: Utilizing existing paths and trails were planned to move visitors throughout the park for experiencing nature at her best. All trails were planned as looped trails and which will lead people by the varied areas within the Park, such as the woods, creeks, the reverting fields, the archeological dig, the Bay bluff and the various recreational activities. The former three-quarters of a mile, oval, horse training track is visible on the ground in some places and overgrown in other areas. No effort has been made to restore the track because the long straight legs are not very exciting for nature walks. A trail with bends and turns provides new visual experiences more readily for the user.

7. Sanitary Facilities: Sanitary sewer, potable water and electric are available at the toilet building. These utilities can be extended as required and within the limitations of utility design. The entrance drive is lighted for night use.



THIS SQUARE EQUALS 10 ACRES

200 0 200 400 600 feet

NORTH

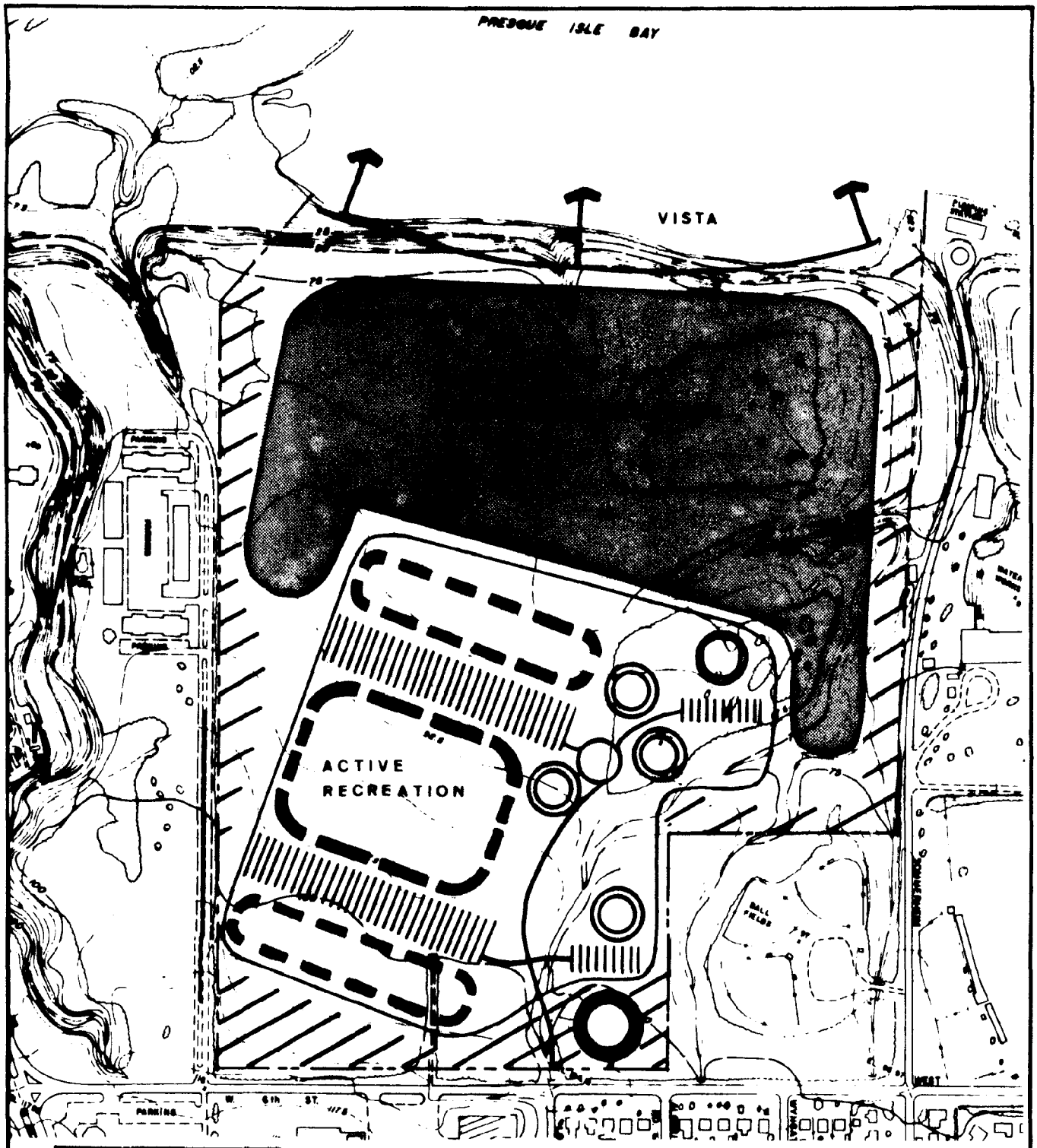
Master Plan for the William L. Scott County Park
Erie County Parks and Recreation Department
Erie Pennsylvania

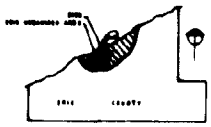
SCALE: noted | APPROVED BY | DRAWN BY
DATE | REVISED

Albert L. Massey Landscape Architect
1324 Baldwin Building Erie Pennsylvania 16501

SITE ANALYSIS

DRAWING NUMBER 75 17





THIS SQUARE EQUALS 10 ACRES

LEGEND

- PARK ADMINISTRATION
- NATURE CENTER
- PICNIC AREA
- PARKING
- BUFFER

200 0 200 400 800 feet

NORTH

Master Plan for the William L. Scott County Park
Erie County Parks and Recreation Department
Erie Pennsylvania

SCALE: noted | APPROVED BY | DRAWN BY
DATE | REVISED

Albert L. Massey Landscape Architect
1324 Baldwin Building Erie Pennsylvania 16501

SCHEMATIC PLAN

DRAWING NUMBER

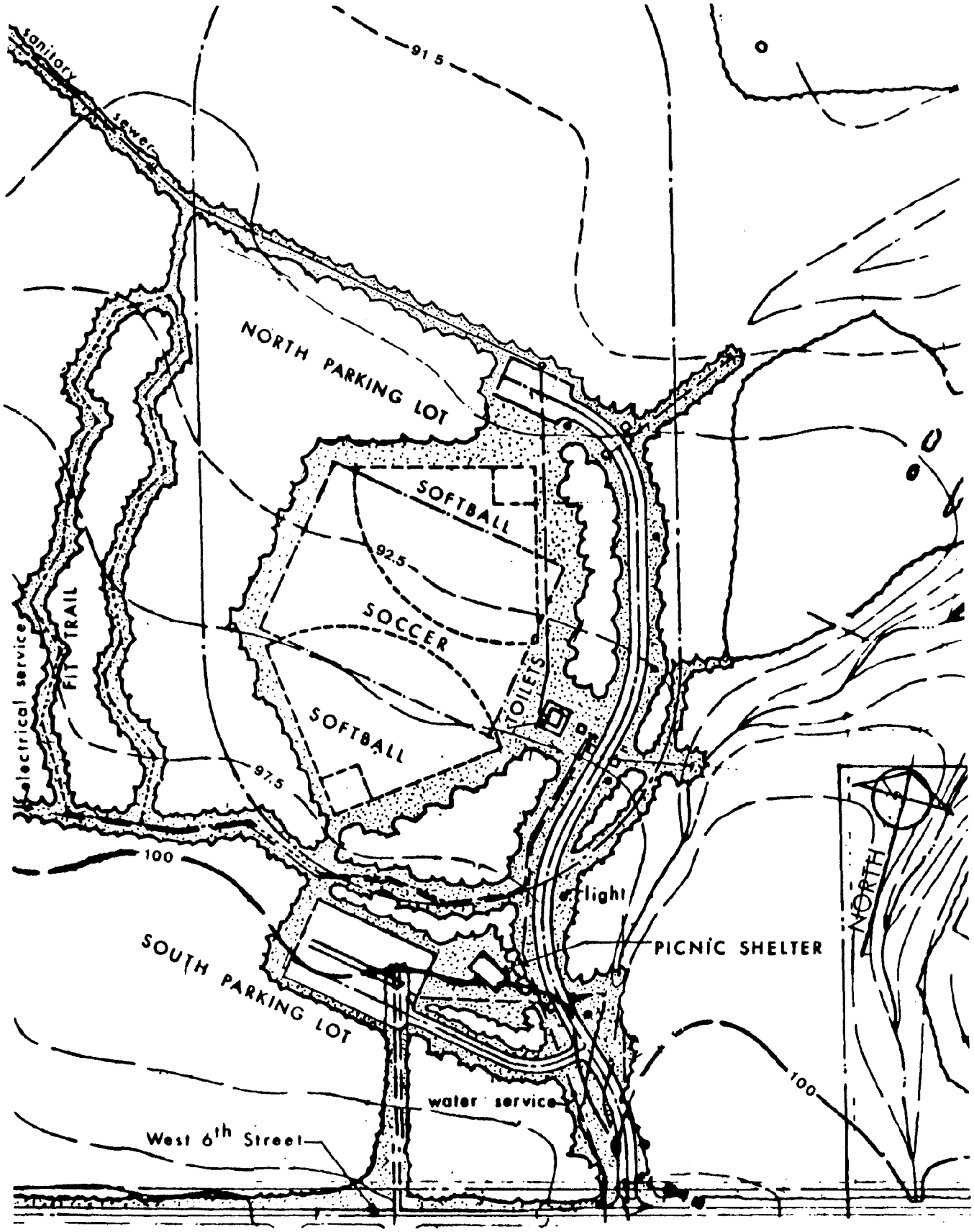
B. Development to Date

Since the 108-acre Park was acquired by Erie County as a gift from the Scott Estate in 1975, several studies for the development of the land have been made.

Based upon the most recent Master Plan of 1976, there have been two construction projects initiated. A summary of the work is as follows:

Phase A: Completed in 1979		$254,455.00
General Construction	$191,000.00	
Entrance Road		
Parking		
Soccer/Football/Softball Field		
Fit Trail		
Toilet Building		
Storm Drainage Work		
Electrical Construction	$29,000.00	
Electrical Service		
Roadway Lighting		
Plumbing Construction	$34,455.00	
Sanitary Sewer		
Water Line		
Phase B: Under Construction and Expected to be Completed in 1981		$97,616.50
General Construction		
Drive and Parking Lot		
Picnic Shelter		
Softball Field		

To date the Park has been well received by the residents of the County. The soccer field, softball field and fit trail have been well used. Gannon University has an archeological dig in the northeast corner of the Park. People have been observed practicing golf, training sled dogs on a wheeled carriage, and riding bicycles. A limited number of picnic tables were placed along the edge of the athletic field and they have been utilized with some success. It can be expected that the new picnic shelter will bring many more picnics to the Park.



plan · existing development scale 1" = 200'

C. Future Development and Studies

The rate of development of the Park will depend basically on capital development money. To date, the source of development money has been state and federal reimburseable funds. The first phase was constructed with the local share being the land donation. In the second phase, the County matched the State grant on a 50-50 basis. To date, the County has not been overly aggressive in providing park development monies. At this time there is no talk of a third development phase.

There is another proposed feasibility study being completed. This study is to provide a bikeway from West 6th Street to Presque Isle State Park other than utilizing Peninsula Drive and, in addition, providing interior bikeways in the Park.

D. Natural Features

1. Soils:

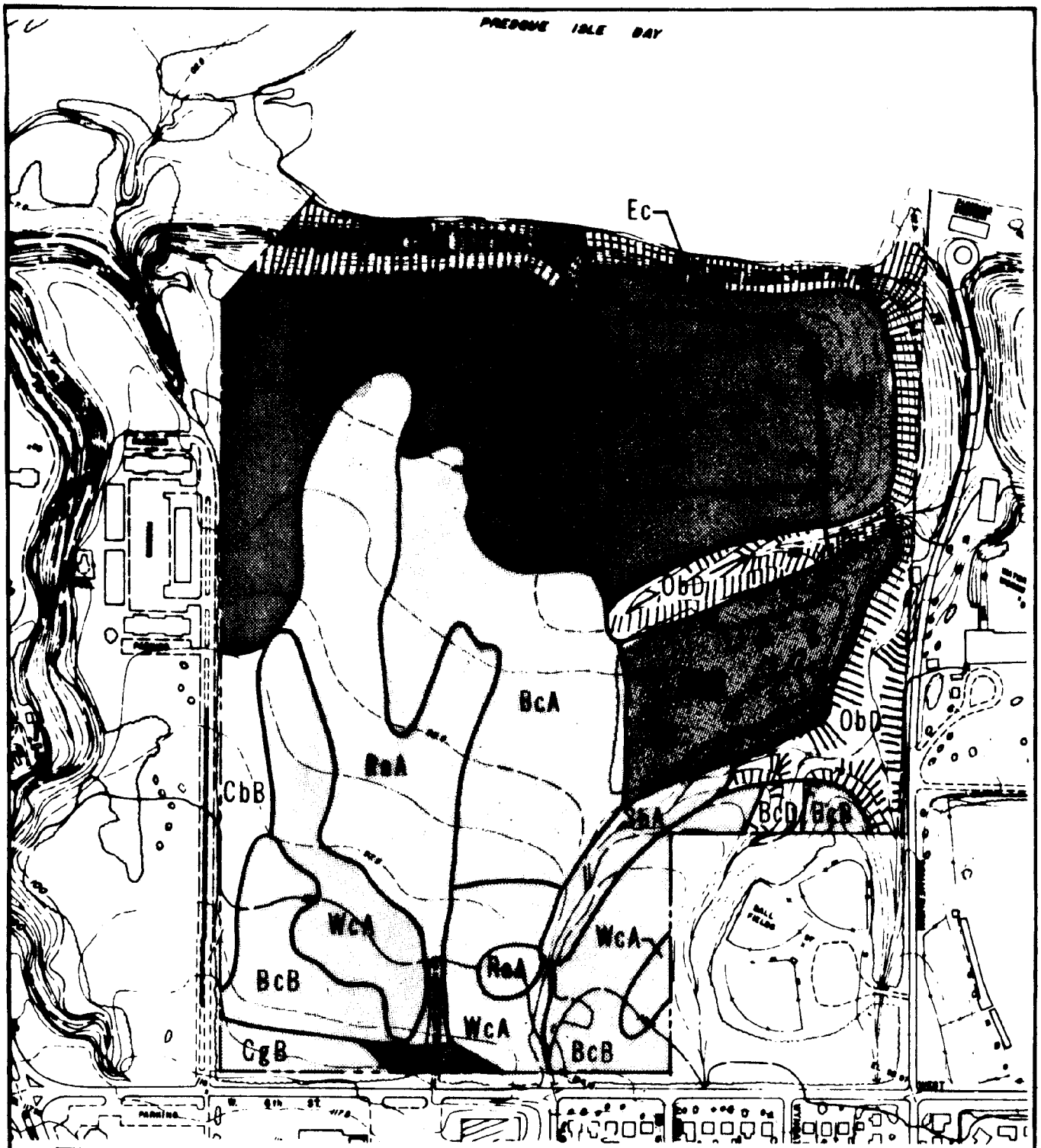
The soils should not hinder the development of an amphitheater. Additional site work may be desirable, depending where the facility is located. If the area is extremely wet or has a seasonally high water table, a subdrainage system may be necessary. Because of the highly intense use, an irrigation system may be desirable on any soil. A subdrainage system can make the soils droughty, particularly in dry periods. If the soils are very sandy in texture and therefore naturally droughty, an irrigation system may be necessary for optimum growth of lawn areas.

2. Drainage:

Scott Park has four culverts entering the park from 6th Street. These culverts bring water onto the site from the south. If an amphitheater is located in the path of one of these culverts, additional drainage work may be required.

There is a lot of subsurface water in the park. Construction work to date has relied on subsurface drainage systems for drying out areas of work. This ground water will have to be considered when designing an amphitheater, particularly if there is much excavation work. Subsurface water can be seen coming out of the ground all along the escarpment.

The surface of the park slopes slightly toward the northeast. There are two major swales that pick up surface water and drain towards Sommerheim Drive. Outside of the escarpment, these drainage ways are the only topography in the park that exceeds 8%. An amphitheater could be located in a drainage way, however, it could be expected that the water could cause more problems and discomforts than would be the benefits of the sloping ground. Of course, the drainage way could serve as a moat for the platform.



LEGEND

SOIL LIMITATIONS FOR RECREATION

HIGH WATER TABLE AND SEASONAL HIGH WATER TABLE

SANDY SOIL TEXTURE

SLOPES OVER 8%

THIS SQUARE EQUALS 10 ACRES

200 0 200 400 600 feet

NORTH

Master Plan for the William L. Scott County Park
Erie County Parks and Recreation Department
Erie Pennsylvania

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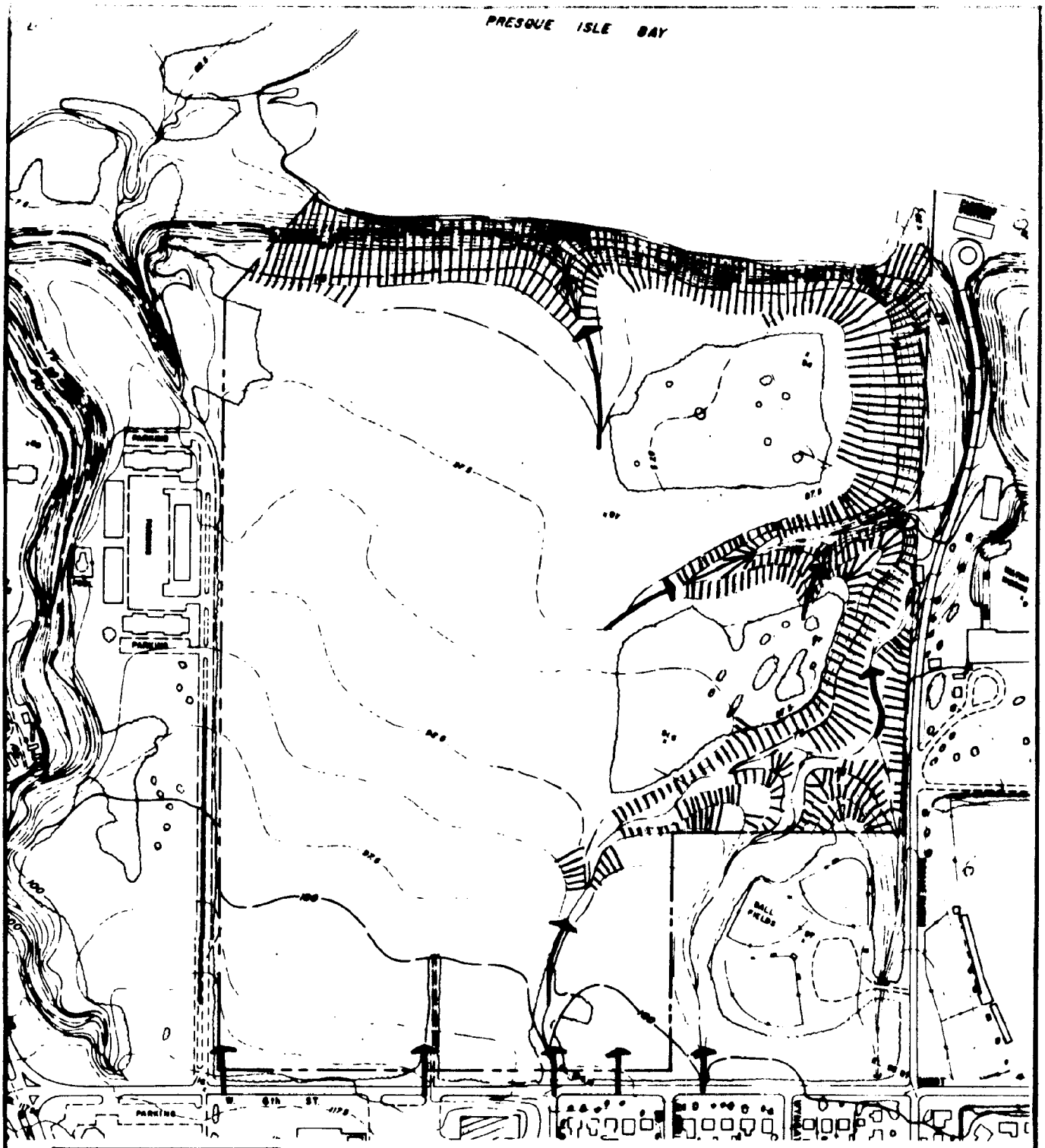
SOILS

DRAWING NUMBER 75-17



LEGEND

SLOPES LESS THAN 8%
79% TOTAL AREA

SLOPES GREATER THAN 8%
21% TOTAL AREA

DRAINAGE

THIS SQUARE EQUALS 10 ACRES

200 0 200 400 600 feet

NORTH

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Erie County Parks and Recreation Department
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SCALE: noted | APPROVED BY | DRAWN BY
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SLOPE - DRAINAGE

DRAWING NUMBER 75 17

3. Slope:

The site slopes gently from south to north. On the aerial topographic survey made for designing the construction work in the park, the average elevation along 6th Street is between 105 and 110 feet, and the average elevation along the top of the escarpment is 90 feet. The elevation of the Bay is 0.0 feet.

The average distance from 6th Street to the top of the escarpment is 2300 feet. The average slope is 0.7%. This is extremely flat. In designing earth, one usually tries to obtain at least a 2% grade for reasonable drainage. The soils of the site are sandy in texture and will absorb the surface water in many instances.

4. Topography:

The site is flat, except for two drainage ways in the nature center area of the site. Therefore, there are three basic choices of facility.

A. Flat viewing ground, with a stage three to four feet above grade.
B. Making a hole in the ground, depressing the stage and using the earth to build a sloped spectator area. This concept will require a good storm drainage system so a bathtub concept will not be created.
C. Utilizing one of the drainage ways and seating spectators on one side on the sloping ground and have the stage near the bottom of the drainage way. The drainage way could act as a barrier between the two uses.

5. Climate:

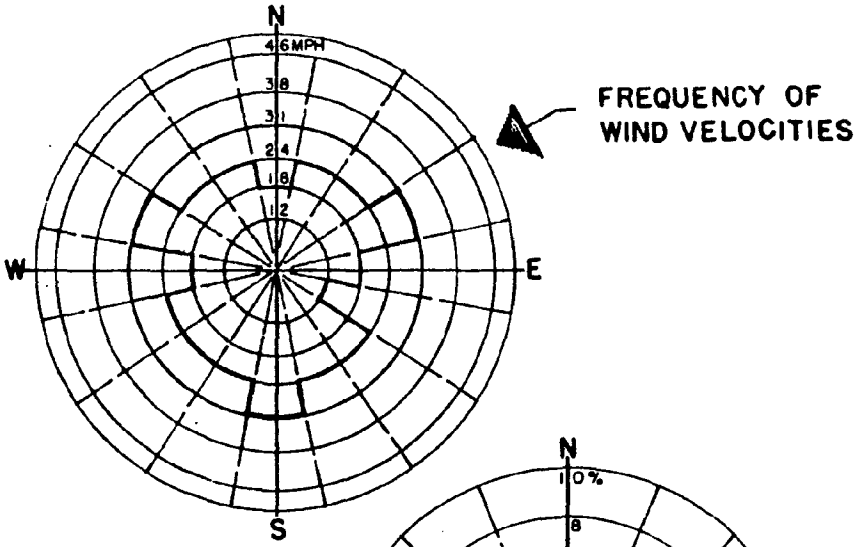
A summary of the climatological data for Erie was provided by the National Oceanic and Atmospheric Administration (NOAA). The weather station is located within two and a half miles of the park.

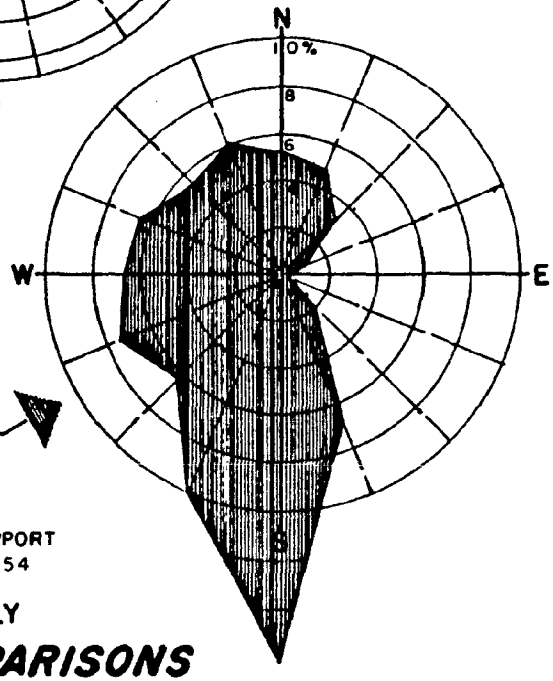
Three areas of climate can have a lot of bearing on the success of a program presented in an amphitheater, these being wind, precipitation and temperatures.

The wind should create little discomfort for the users of the amphitheater. Except in the cleared areas, the Park is well clothed with maturing vegetation. Many trees are well over forty feet tall, and those areas reverting to woods contain vegetation at least 15 feet tall. The vegetation works to reduce the speed of the wind.

As can be seen on the two pages graphically showing wind in occurrence and velocities at the Erie Airport, the bulk of the wind is from the south and west. During the summer months, the average velocities are under eight miles per hour. The wind comparisons were available for the month of July. This shows maximum wind velocity is 31 miles per hour.

By maintaining existing vegetation on the south and west sides of the facility, it could make the visitors more comfortable on windy days. One disadvantage to reducing the wind is the possibility that mosquitoes might be more plentiful.



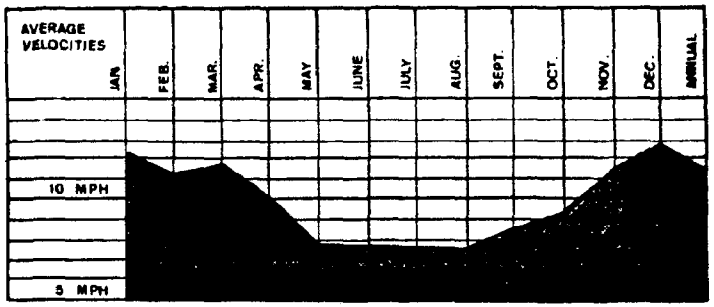


SOURCE: PORT ERIE AIRPORT
data gathered 1950-54

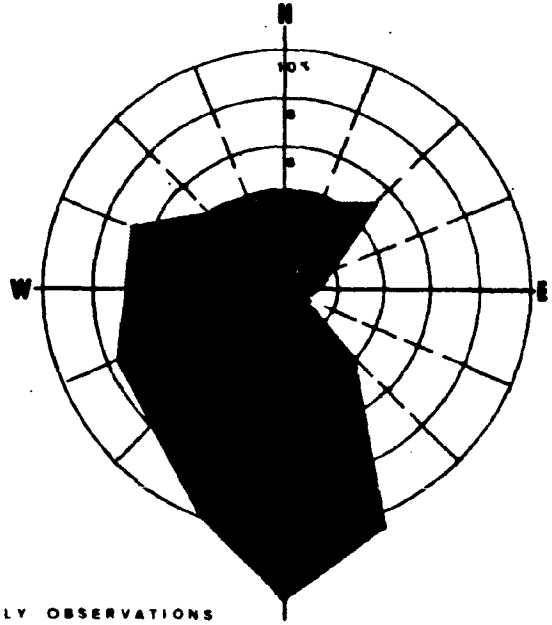
JULY

WIND COMPARISONS

ERIE, PENNSYLVANIA

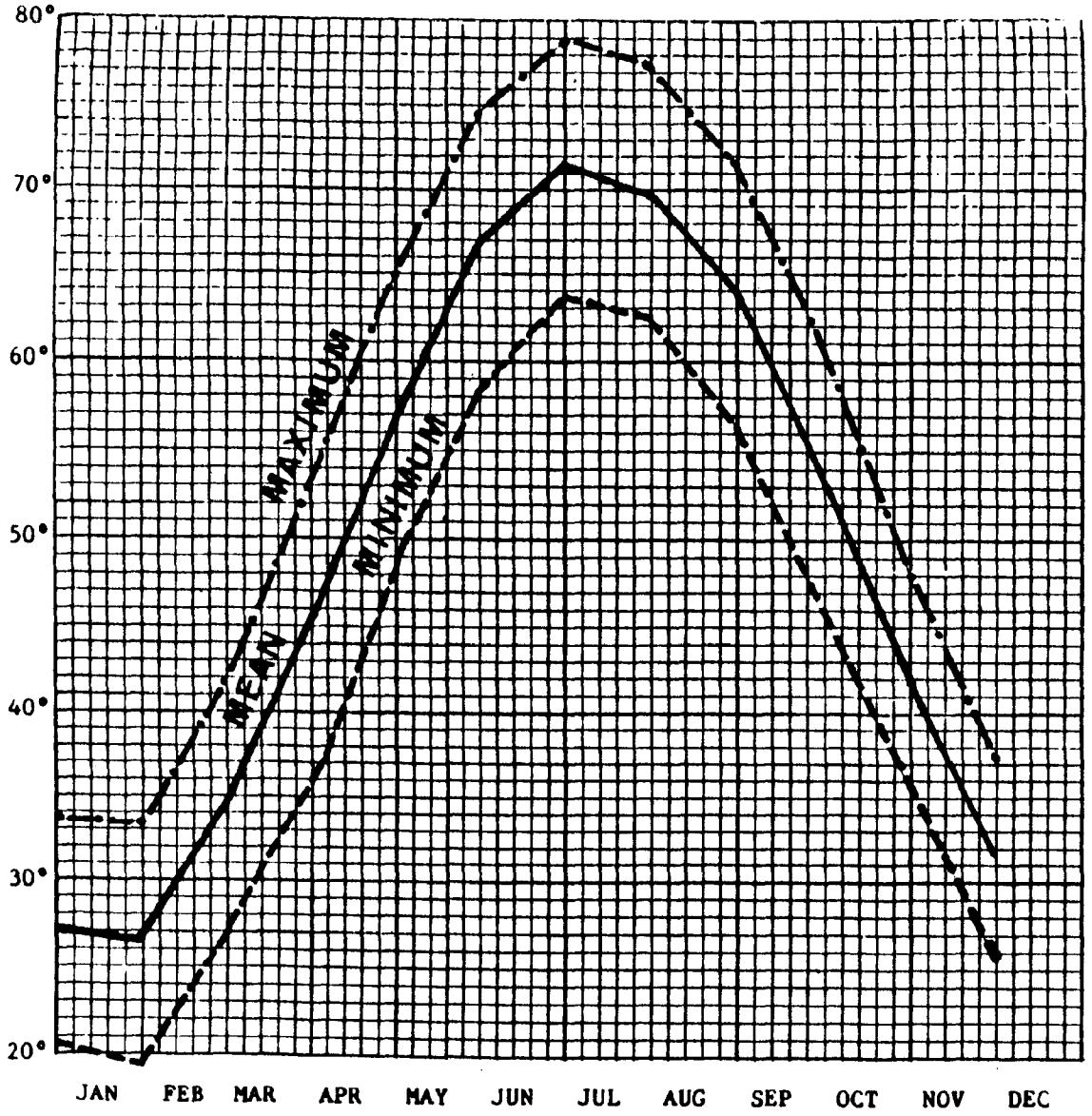


AVERAGE VELOCITIES OF WIND



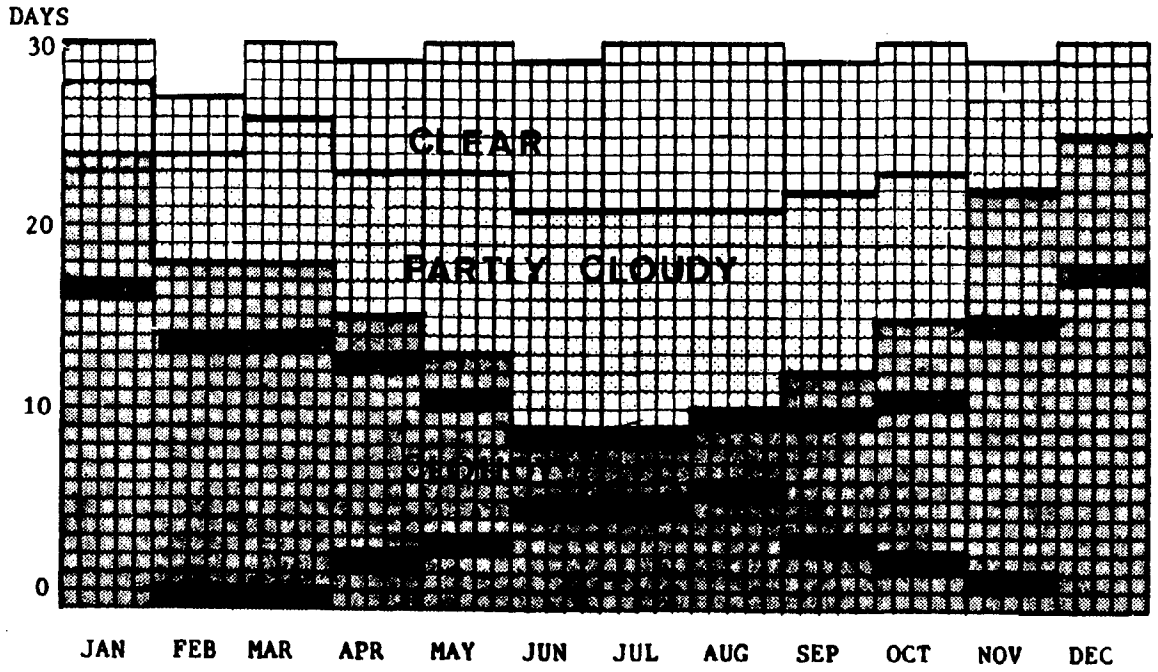
HOURLY OBSERVATIONS

TABLE OF ANNUAL WIND COMPARISONS
ERIE, PENNSYLVANIA



MINIMUM, MEAN AND MAXIMUM AVERAGE TEMPERATURES

Comfortable outdoor temperatures arrive in Erie sometime after the middle of May and leave in September. Warm spells before and after these times occur but cannot be predicted. Because of the warm water in Lake Erie moderating fall weather, it would be far safer to extend the outdoor season in the fall of the year, rather than try to start the season too early.



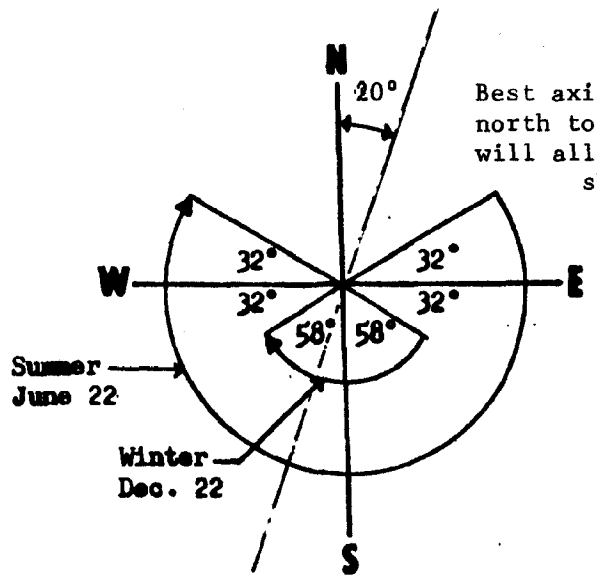
MEAN NUMBER OF DAYS (SUNRISE TO SUNSET) OF CLEAR, PARTLY CLOUDY, AND CLOUDY WEATHER; DAYS WITH PRECIPITATION OF 0.01 INCH OR MORE; AND DAYS WITH THUNDERSTORMS.

Precipitation ▮▮▮ Thunderstorms ▮▮▮

Precipitation in Erie is fairly uniform throughout the year. Usually between two and three inches falls each month. The above chart shows the average distribution of weather by month. In the months of June, July and August, one can expect six to seven thunderstorms each month. One out of every three days has at least 0.01 inch of precipitation.

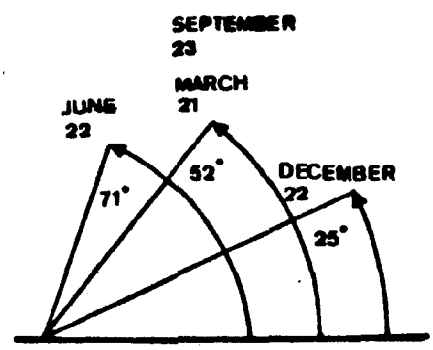
As the result of the average quantity of rain over the summer months, one can expect there will be either postponed events or rain dates.

The unpredictable weather could cause organizations to utilize indoor facilities to insure no postponed dates. However, what could be more pleasant than listening to a stage production in an amphitheater on a summer evening with temperatures above 75 degrees.



Best axis for an amphitheater, north to 20° east of north. This will allow some afternoon sun to shine on the stage.

AZIMUTH OF SUNRISE AND SUNSET



ALTITUDE OF SUN AT NOON

6. Sun Orientation

As we all know, the sun can be annoying as well as enjoyable. An amphitheater should be oriented so the sun will be an asset and not a liability. The above diagrams show the path of the sun and the altitude of the sun on the summer solstice.

One goal in planning the amphitheater should be to keep the low evening sun out of the eyes of the participants and viewers. The existing vegetation could also be a big aid in blocking the late afternoon sun.

7. Mosquitoes:

This is an unknown liability at this time. Presque Isle State Park is loaded with mosquitoes, particularly beginning at nightfall. Crystal Point is sometimes free of mosquitoes because of wind conditions. Mosquitoes require standing water to breed. Depending on a dry or wet summer, there could be more or fewer mosquitoes. However, because historically Erie has a uniform supply of moisture, one would have to expect there would be good breeding conditions most years.

Mosquitoes hide in vegetation during the day. With much of the Park being in woods, there are many hiding places for mosquitoes.

Much of the land of the Park is flat. There are several drainage ways running in a north and south direction. The bottom of drainage ways and the flatness of most of the ground create pockets of standing water which are potential breeding places. The closer an amphitheater is located to water and drainage ways, the greater the potential mosquitoes will be a problem.

There are insecticides which can be utilized for partial control; however, there are some disadvantages of insecticides: costs, no guarantee as to thoroughness of job, environmentally not accepted and build up of an immunity by breeding population.

The influence of mosquitoes on this type of facility may be hard to predict. However, several mid-summer samples should be made in the general park area.

An alternative to the mosquito problem would be to try the new electronic flying insect exterminator lights. There are several different manufacturers and models. This machine plugs into 115 V electrical current. The machine is a black light that attracts flying insects and kills them. There are no chemicals or sprays used in the killing process. Several lights placed around an amphitheater should keep the facility relatively free of flying insects.

8. Vegetation:

Outside of the areas recently cleared for the field games, the site is in woods or reverting to woods. In addition, there are two former fields that are basically free of trees and contain herbaceous growth. The southern-most field was proposed for a nature center area; the northern field was planned to be left natural.

MARKETABILITY

1. PARTIAL LISTING OF EXISTING PUBLIC ASSEMBLY FACILITIES

Places of public assembly in Erie County are limited to school districts, colleges, the Erie County Field House and the Erie Civic Human Resources Center. Many of the school and college facilities are limited to programs of that particular institution. All facilities, except for the athletic fields, are indoor facilities.

An outdoor facility designed for stage productions will have an aura of its own. However, coordination for use with the indoor facilities will have to be considered. All facilities will be in competition for many of the same audience.

A partial listing of places of public assembly should provide a feel for the physical sizes of facilities. An amphitheater with some fixed seating and lots of lawn can carry large audiences.

Lawn seating will not be as efficient as seats. For example on a seat, one individual will take up an area of two feet wide by three feet or six square feet. This comes to 7250 persons per acre, less aisles.

The final form of the seating will depend on several items:

A. Sole or multi-use of amphitheater and adjacent ground
B. Construction budget
C. The programs to be presented and the goal of the audience size.

Audience size is difficult to assess. However, the size can be anticipated based on other communities and the established audiences of those who present programs in this facility. An unknown factor will be the attendance of visitors vacationing in Erie.

A Partial Listing of Public Assembly Places in Erie County

	Name	Primary Use	Seating
A.	School District of Millcreek Township		
	1. Gus Anderson Field	Football Stadium	4,000
	2. J. S. Wilson Middle School	Auditorium	1,200
	3. Westlake Middle School	Auditorium	900
	4. McDowell Intermediate High School Little Theater	Theater	940
	5. McDowell High School	Auditorium	900
B.	School District of the City of Erie		
	1. Erie Veterans' Stadium	Football and Track	9,300
	2. Ainsworth Field	Baseball	1,500
	3. Tech Memorial High School	Auditorium	1,100
C.	Iroquois School District		
	1. Iroquois High School	Auditorium	1,077
D.	Fairview School District		
	1. Fairview High School	Auditorium	985
E.	Wattsburg Area School District		
	1. Seneca High School	Auditorium Football Field	800 2,000
F.	Erie County Field House 5750 Wattsburg Road	Multi-Use	3,750

This facility is primarily an ice hockey rink. Also, it has been used for rock concerts, graduations, fund raisers, trade shows, etc. The stage is portable, and is limited by curtain drops and lighting. In addition to the permanent seats, 1,500 temporary seats are available. Parking is provided for 1,400 cars.

G.	Erie Civic Center Authority, Erie Civic Human Resources Center		
	1. Warner Theater	Performing Arts	2,506
	2. Convention Hall (under construction) Will accommodate basketball, ice hockey, concerts		
	3. Exhibit Hall (Sears)	Not Applicable	

2. EXISTING PUBLIC ASSEMBLY FACILITIES WITH PROGRAMS

In the Erie area there are no amphitheaters. However, there are three platform stages. One is located at Presque Isle State Park, just east of the Administration Building. The second is a temporary platform utilized in conjunction with the Erie Summer Festival of the Arts. The City of Erie utilized a portable band shell for summer concerts in the City parks.

Presque Isle State Park

The Presque Isle State Park platform is adjacent to the Bay. There is no vehicular access or off-street parking available. It is reported that one reason it is not used is because of the mosquitoes in the vicinity, particularly at dusk. The platform is at the edge of a clearing approximately two acres in size. This platform is between three and four feet above the adjacent grade and is fifty feet long by twenty-five feet wide. There is no backdrop. Portions of the lawn area in front of the platform do not have adequate slope, and therefore hold water.

In the last four years, when there was an "Arts in the Park" program as part of the "We Love Erie Day" program, Crystal Point was utilized.

At the present time, it can be expected that there will be little competition or duplication of programs with the facilities of Presque Isle State Park. Current austere budgets prevent the State Park from providing more than a site on which to hold such activities.

Erie Summer Festival of the Arts

There is a temporary stage which is erected each year on State Street between East and West Perry Square Parks.

City of Erie

A portable band shell is utilized. The City supports twelve concerts, and the local musicians' union matches those concerts with twelve additional concerts. The concerts are presented in various City parks with the assistance of a Wenger Showmobile that is 32 feet long and is capable of making a stage 24 feet deep.

Millcreek Township

Currently the Township sponsors one summer concert with the Erie Civic Orchestra. The show is presented on the second floor of Asbury Barn. The Summer Recreation Program also includes a group of high school and college students interested in drama. This group, known as the Mill Players, meets at the McDowell Intermediate School and presents plays. There is the possibility this group could use a facility in Scott Park.

3. EXISTING PERFORMING ARTS--ORGANIZATIONS AND PROGRAMS

Arts Council of Erie

In Erie, arts are served and supported by the Arts Council of Erie. There is an Executive Director, a Board of Directors and a membership of direct members and associate members. Broad-based financial support is supplied by local businesses, industries and individuals.

The objective of the Arts Council is to support and extend cultural activities in Erie and northwestern Pennsylvania. The Council raises money and provides volunteers and staff assistance to the local arts groups. In addition to assisting in the funding of the local arts groups, the Council provides an arts calendar, master scheduling service, community-wide artist registry, central mailing list and a central box office. Regional workshops are held. Educational programs include technical, program and management assistance. The Council provides and administers the Erie Summer Festival of the Arts and assists in the arts programs of "We Love Erie Day."

Assistance was received from the Arts Council of Erie in the preparation of this study.

It can be expected that if an amphitheater is constructed in Scott Park, the Arts Council of Erie will be a valuable resource in the management of the facility.

The use of the facility will fall into two separate categories. First, events open to the general public with programs of broad-based appeal. This type of program will usually be sponsored by a governmental body. Second, events of limited appeal, either by narrow scope of the program or by a gate charge.

4. PARTIAL LIST OF POTENTIAL FACILITY USERS

The most prominent group of users of an amphitheater facility will most likely be performing musicians or drama groups. Therefore, nine such groups were contacted by letter and asked to complete a questionnaire. All groups returned the questionnaire and all were interested, intrigued and enthused about the possibility of such a facility.

The purposes of the inquiry were:

A. To see if there was interest by potential users in such a facility.
B. To see what the potential users thought their physical needs were.
C. To see the amount of use which could be expected.

These organizations (groups) contacted include:

A. Bayfront Ballet, Mary Becht, Bayfront NATO Martin Luther King Center, 312 Chestnut Street, Erie, PA 16507 (459-2761)

B. Bayfront Orchestra, Mary Becht, Bayfront NATO Martin Luther King Center, 312 Chestnut Street, Erie, PA 16507 (459-2761)

C. Dance Theater of Erie, Lawrence W. Jones, 1511 State Street, Erie, PA 16501 (455-5573)

D. Erie Civic Ballet Company, Chris Sorce, 130 West 8th Street, Erie, PA 16501 (455-9373)

E. Erie Commodores, Walt Holt, 5271 West 52nd Street, Fairview, PA 16415 (833-4733)

F. Erie Concert Band, Joseph Sulkowski, 1039 West 24th Street, Erie, PA 16502

G. Erie Philharmonic, Earle C. Batchelder, 409 G. D. Baldwin Building, Erie, PA 16501 (455-1375)

H. Erie Playhouse, David Matthews, 1515 State Street, Erie, PA 16501 (454-2851)

I. Sweet Adelines, Beth Holt, 5271 West 52nd Street, Fairview, PA 16415 (833-4733)

A summary of the needs and desires of these organizations are as follows:

A. The expected use would be:

1. once a season: 2 groups
2. twice a season: 2 groups
3. once a month: 5 groups

B. The support the County would be required to provide for these groups is evenly split. About one-half would organize, manage and promote the event. The County should expect to provide facility management, such as entry control, parking attendants, policing and facility management. Groups would manage their own production requirements.

C. Two groups require admission charges.

D. Historically performance charges run from $50 to $4700, depending upon the group and the size performing. The groups' performance charges run from a low of $2.50 for a child to $7.00 for an adult.

E. In order for an amphitheater to be utilized by this group of organizations, it was almost unanimous that the following features would be required:

1. Backdrop with acoustical treatment
2. Stage lighting
3. Sound system
4. Dressing rooms/toilets
5. Risers (for singing groups)
6. Offstage area (storage) for stage shows
7. Resilient flooring for dance groups

F. The groups which would perform ranged in size between 5 and 75 performers with a mean of between 30 and 40 performers. The desired stage size was:

	Minimum	Maximum
Width	40'	55'
Depth	15'	40'

G. It can be expected that these groups would prefer to perform in the evening. Several groups indicated that weekend afternoons would be suitable also.

H. These groups performed before audiences as small as 30 and as large as 2,000. A medium-size audience would be 1,000 persons.

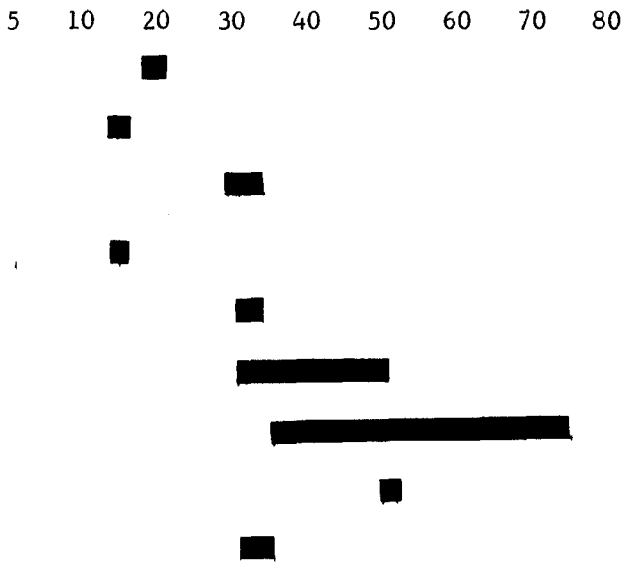
I. Only two of these groups performed for benefits; most internally generated their programs.

J. Comments pertaining to the design of an amphitheater showed a concern for a good acoustical backdrop. If the amphitheater was going to be utilized as a playing stage, theater groups asked to be consulted in the design of the stage.

The following two charts, Preferred Stage Size and Preferred Audience Size, will show the desired requirements for some of the possible users. The optimum stage size will be one of between 800 and 1,200 square feet. The optimum audience size will be 1,000 people.

PREFERRED STAGE SIZE

User	Minimum / Preferred / Optimum Preferred (square feet)
Dance Theater of Erie	1350
Erie Bayfront Ballet	1200 / 2000
Erie Bayfront Orchestra	1200 / 2000
Erie Civic Ballet	800
Erie Commodores	375
Erie Concert Band	1620
Erie Philharmonic	800 / 1375
Erie Playhouse	1000
Sweet Adelines	375



PREFERRED AUDIENCE SIZE

Status of the Users

In programming the facility, management will have to consider that there will be both union and non-union participants.

The Musicians' Protective Association represents many individuals in Erie County who perform for a fee. The membership ranges from soloists to the 80 players in the Erie Philharmonic.

Therefore, the use of the facility by these members indicates that arrangements for funding of performances will have to be considered.

Sponsoring performances can be through several methods, including:

A. Charging of entry fees and presenting a performance on a profit-making basis.

B. Sponsoring of musical performances by government, industrial or commercial establishments, or sponsoring non-profit organization.

   1. First, by a direct payment for the services.

   2. Second, on a matching basis of one for one. Qualifying organizations have to meet guidelines of the Music Performance Trust Fund of the Recording Industries to receive this subsidy. Each year through this fund the City of Erie sponsors twelve concerts in various City parks.

Non-Union Participation

There is little or no way to predict what the requirements of non-union participation might require.

These groups perform in Erie regularly and would have to expand their program for participation in this facility.

If there are costs involved, it can be expected that they would be comparable to similar type performances. It can be expected there would be some expense incurred to sustain the particular organization.

5. DEMAND, PROJECTIONS, POTENTIAL USAGE

A. Government Sponsored Programs

Through their Departments of Parks and Recreation, many local governments sponsor cultural activities. These activities could include:

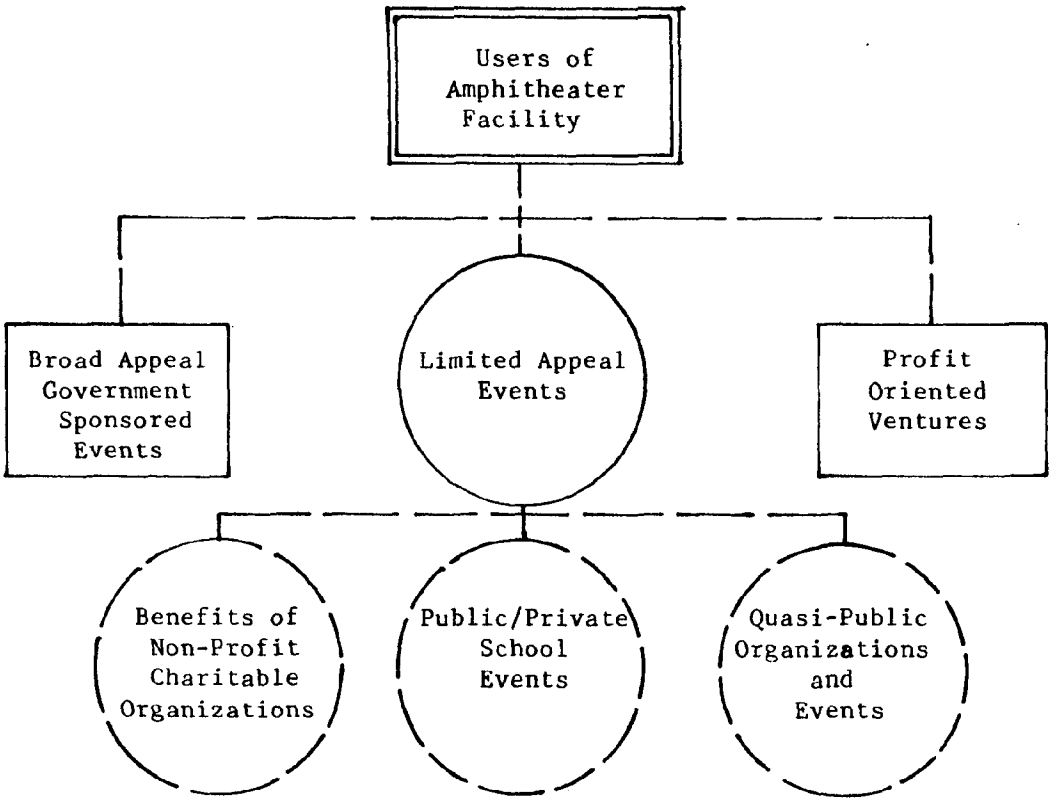
1. Drama groups
2. Concerts

These activities are generally funded in the annual budget of the Department. Funding for cultural programs could also be secured from trusts, foundations and industrial or commercial sources. This type of activity would normally be open to the general public.

Those programs which will appeal to a limited audience would include:

1. Public/private school events
2. Fund raisers
   A. Non-profit, charitable organizations
   B. Quasi-public organizations
3. Profit-oriented ventures

Schematic Diagram of Users



B. School Events

An amphitheater would give schools an opportunity to have outdoor graduations, present concerts or plays, or present other assembly-type programs.

C. Fund Raisers

Non-profit and quasi-public organizations could utilize the facility to raise money to benefit a particular organization. Some of the interest groups could include:

1. Volunteer fire departments
2. Service clubs
3. United Way agencies
4. Health-oriented agencies
5. Erie Arts Council member organizations

D. Quasi-Public Organizations

This type of program would have limited appeal, because of special interest in nature. However, organizations such as the Boy Scouts or Girl Scouts could present an area-wide spectator activity, or political groups could conduct rallies.

E. Profit-Oriented Ventures

The facility could be utilized by organizations who desire to sponsor music festivals or rock concerts. The end line to this type of an activity would be to turn a profit for the promoters or organization.

6. PROPOSED OPERATION PLAN

A. Programming

In the potential summer program, there are approximately 17 weeks and 18 weekends. The national holidays include:

1. Memorial Day--the last Monday in May
2. The Fourth of July
3. Labor Day--the first Monday of September.

Major community programs which could compete with the scheduling of the programming of the amphitheater include:

1. Erie Summer Festival of the Arts. This program is held in Perry Square usually the third week in June.

2. We Love Erie Day. This program is held the last weekend in August and is oriented toward the downtown facilities.

3. Regularly scheduled arts programs held throughout the City of Erie.

4. The Millcreek Summer Concert.

5. The City of Erie Summer Concerts.

There is always the possibility of some of these regularly scheduled summer events being moved to and held in Scott Park. It will be difficult to determine how many events can be rescheduled at Scott Park. Once an amphitheater is constructed, the quality of the facility will draw users.

Nine performing arts organizations were queried. All nine responded positively that they could be interested in utilizing the proposed facility. It should be assumed that the final product will determine the amount used.

The query asked if the organizations were interested in the utilization of a facility in three different ways.

The three choices are indicated below in conjunction with the responses of the performing arts organizations:

1. Once a month (May, June, July, August and September)

   A. Dance Theater of Erie
   B. Erie Civic Ballet
   C. Erie Concert Band
   D. Erie Philharmonic
   E. Erie Playhouse
   F. Dance Theater of Erie

2. Twice a season

   A. Bayfront Ballet
   B. Bayfront Orchestra
   C. Sweet Adelines

3. Once a season

   A. Erie Commodores

B. Tentative Calendar

A tentative calendar was prepared from mid-May to mid-September. The nine arts groups indicated that there is a potential usage of 34 times. All scheduling will most likely be coordinated with the Arts Council of Erie.

The scheduling of events before Memorial Day and after Labor Day might be unsatisfactory. Only time and experience can tell.

Looking at the schedule, one can see there are usually two events each week. This should be a minimum goal for usage.

C. Potential Usage for Summer

Events		Average Attendance				
Per Week	Per Season	250	500	750	1,000	1,200
1	17	4,250	8,500	12,750	17,000	20,400
2	34	8,500	17,000	25,550	34,000	40,800
3	51	12,750	22,500	38,250	51,000	61,200
4	68	17,000	34,000	51,000	68,000	81,600

A chart was prepared to project possible attendance figures. The basis of the chart was a seventeen-week season, with a scheduling of 1-2-3 and 4 events per week. A reasonable goal for usage could be 2½ events per week, and an average attendance of 500 people would be 21,250 for the season. An excellent season might have upwards to 50,000 in attendance.

TYPICAL CALENDAR OF OPERATIONS--ESTIMATED 17 WEEKS (Total Uses--34)

Month	Day 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
May															E.Phil.			D.T.E.		E.Civ.B.		E.Play.			E.Con.B.						Holiday
June		E.Civ.B.			E.Phil.			S.A.		B.O.		E.Play.			E.Con.B.		D.T.E.					Erie Summer	Festival	of the	Arts			B.B.		
July				Holiday	Holiday			E.C.		E.Play.			E.Con.B.		D.T.E.		E.Phil.			E.Civ.B.					B.O.					
August			E.Civ.B.				E.Play.			E.Con.B.		D.T.E.		E.Phil.			S.A.					B.B.					We Love	Erie Day		E.Civ.B.
September		E.Con.B.			E.Phil.	Holiday			D.T.E.		E.Play.																				

Potential Users

D.T.E.--Dance Theater of Erie
B.B.--Bayfront Ballet
B.O.--Bayfront Orchestra
E.Civ.B.--Erie Civic Ballet
E.C.--Erie Commodores
E.Con.B.--Erie Concert Band
E.Phil.--Erie Philharmonic
E.Play.--Erie Playhouse
S.A.--Sweet Adelines

7. FACILITY MANAGEMENT

The County will incur some expense. The expenses will vary depending on if a fee is charged for entry or all events are open to the public.

If all events are open to the public, then there will have to be a sponsor or funding agency for each event. If all events are free, this could change the amount of use the facility will receive, particularly by the arts groups.

The basic costs to the County for each use will be utilities, audience control, cleaning up and ongoing maintenance.

Where there is a charge to enter, the using group should oversee the gate, tickets and money.

The County should take an overall policy of providing a facility and have the using groups provide for management of audiences (entry fees, admissions) and program presentation.

Each event will require three major steps and at least nine minor steps. Each step will have to be assigned either to the County or the using organization. All steps assigned to the County will require knowledgable people to execute that area of responsibility. In order to assure reasonable care to the facility, the County should assume that certain duties are going to be a part of the ongoing maintenance of the facility.

A chart was prepared of one way to manage the facility, with major areas of responsibility indicated. Policies will have to be developed for all phases of managing an event.

Proposed Program for Facility Management

Steps for Holding an Event	Responsibility	
	County	Using Organization
A. Preplanning Event		
Scheduling Facility	X	
Promotion/Advertising		X
Funding/Admissions		X
B. Presenting Event		
Set-Up/Preparation/Presentation		X
Entry Control/Gate		X
Audience Control/Parking	X	
Utility/Facility		
PA System		X
Lighting		X
Concession	X	
C. Post Event		
Clean-Up	X	
Maintenance of Facility	X	

A concession stand could be incorporated in the design of an amphitheater. The County could utilize a concession stand to help pay for the maintenance of the amphitheater. This could happen by using either County employees or leasing the stand on a yearly basis.

Another option for providing food and beverage facilities to those in attendance would be to provide and lease space to concessionaires who own their own carts, trailers or trucks.

8. FACILITY EQUIPMENT

The following is a partial list of equipment required for a musical performance:

A. Acoustical backdrop
B. Public address system
C. Piano
D. Risers
E. Music stands
F. Chairs
G. Stage lights

The availability of these items can be based upon the following:

A. County-owned and stored at Scott Park or elsewhere
B. Privately owned and available for use at Scott Park
C. Rented
D. Owned by the performing group

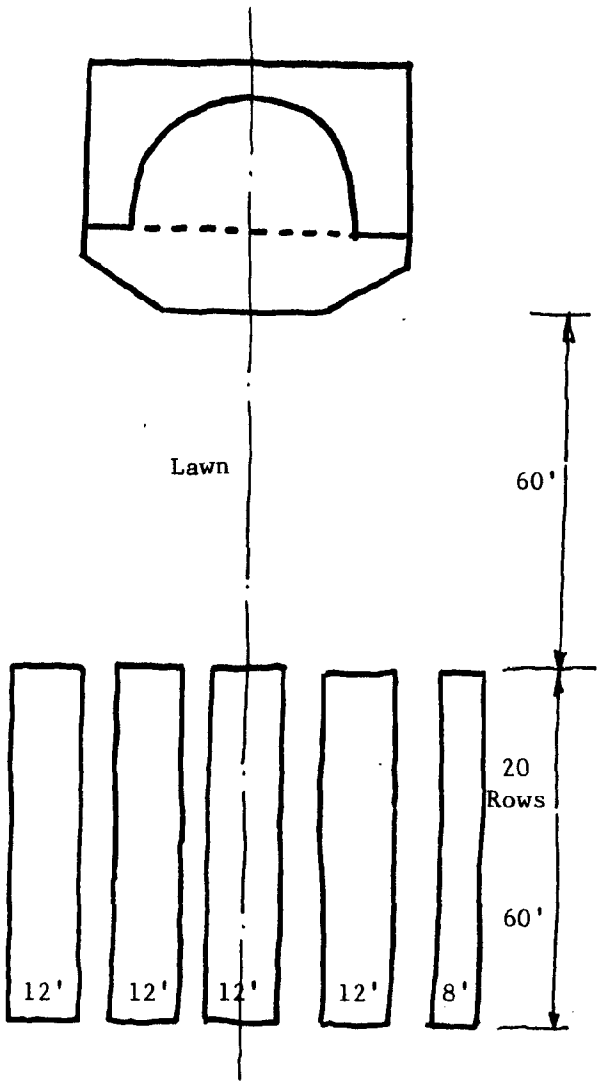
DESIGN CONSIDERATIONS

1. SUMMARY OF EXISTING AMPHITHEATERS AND BAND SHELLS

Prior to the beginning of the design of this amphitheater, considerable time was spent making an inventory of existing facilities. A questionnaire was prepared and sent to several owners. Of those receiving the questionnaire, the following owners responded: Lancaster, Lima, Westmoreland, Allentown and Arlington County. In addition, the following amphitheaters were visited: Sharon, Williamsport, Lancaster, Allentown, Meadville and York. From other resources, information was obtained on Cheshire, Williamsport and Blossom Music Center.

The facilities researched generally would be classified as gazebos and band shells. In the true sense, they were not amphitheaters. The facilities were all utilized for musical productions. In all the public facilities, there were no provisions for charging for admission. Any seating which was provided was the use of park benches. There were no permanent benches. The oldest facility was built in 1913 and the newest facility was completed in 1981. In general, the communities felt the facilities to be of value to a summer recreational program.

BAND SHELL--BRANDON PARK--WILLIAMSPORT, PENNSYLVANIA

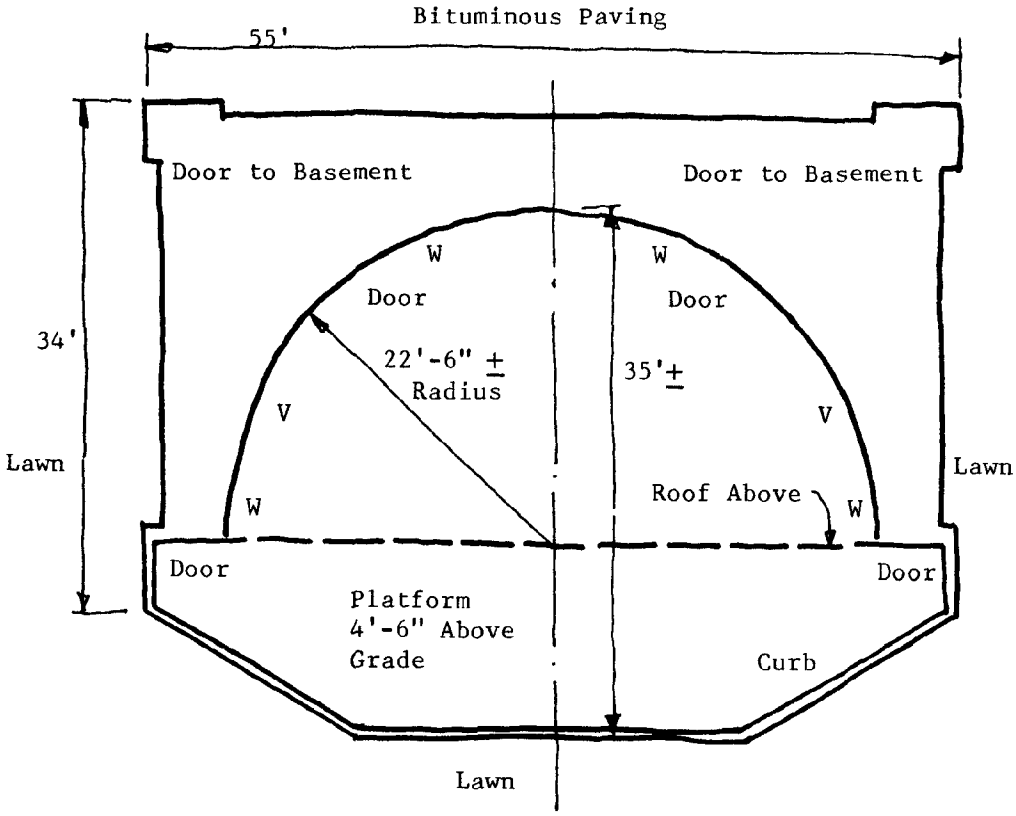


site plan

The estimated seating capacity for this band shell is for 560 people. It was built in 1931 and designed by F. Arthur Rianhard, Architect.

The Summer of 1981 schedule of free summer concerts shows a total of twelve were held. Most concerts were held on Sunday evenings at 8:00 PM.

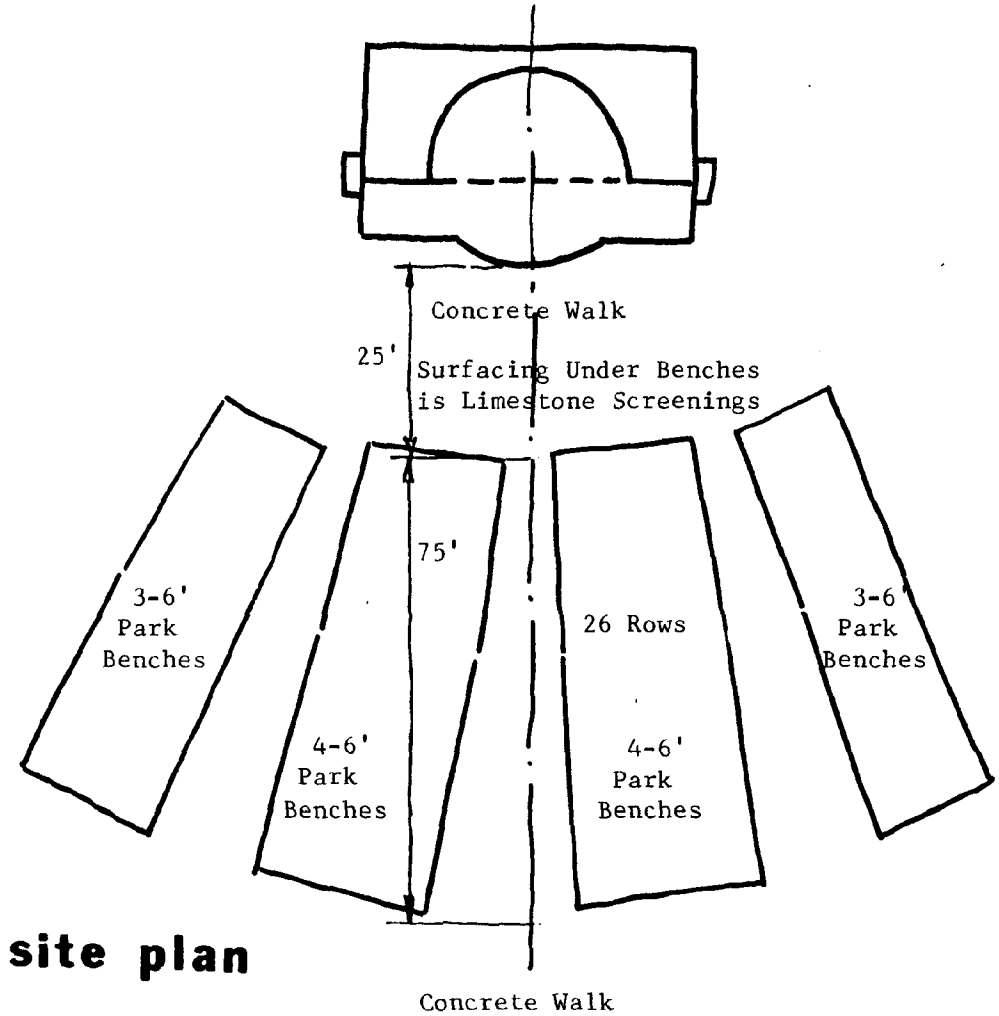
BAND SHELL--BRANDON PARK--WILLIAMSPORT, PENNSYLVANIA



W - Sound/Phone Jacks or Electric on Wall
V - Viewer 4' Above Floor

floor plan

BAND SHELL--WEST PARK--ALLENTOWN, PENNSYLVANIA



This band shell was built in 1904 and is still a vital part of the summer recreation program. For the last four years it was used for an average of 55 times with an approximate attendance of 500 persons per use.

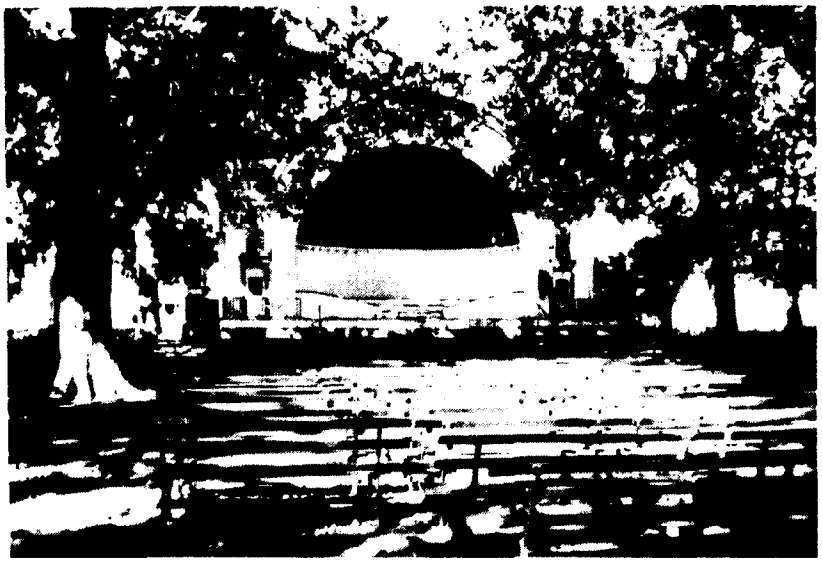
This structure is what one might consider as the "classic" band shell. The platform is three feet above grade, irregular in shape and contains more than 1,000 square feet. The backdrop is circular and the stage is partially roofed. Adjacent to the stage there are toilets and dressing rooms for the performers.

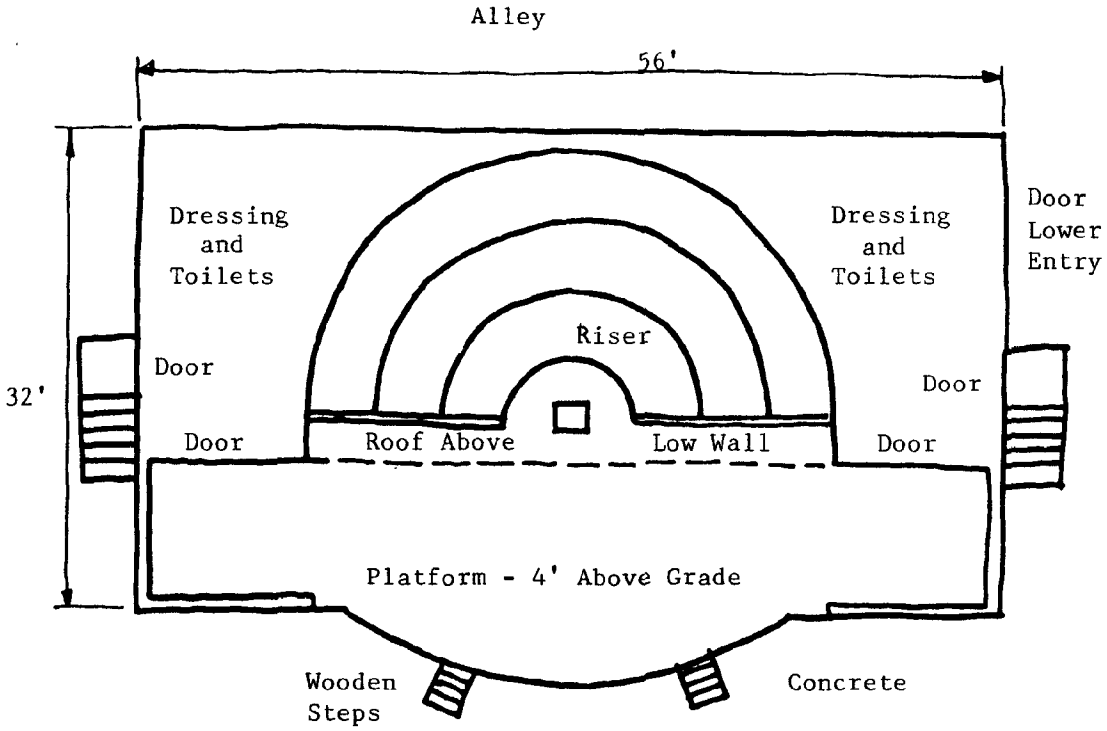
Additional amenities include an office and public toilets. The structure is heated and has stage, security and area lighting. This facility is utilized for all types of musical productions.

There is both lawn and fixed seating. The facility uses approximately two acres. It is estimated that 1,000 persons can be seated on the park benches. The area is entirely shaded by mature trees.

The annual maintenance runs about $1,500. Vandalism has been limited to light breaking.

BAND SHELL--WEST PARK--ALLENTOWN, PENNSYLVANIA





floor plan

AMPHITHEATER--LONG PARK--LANCASTER, PENNSYLVANIA

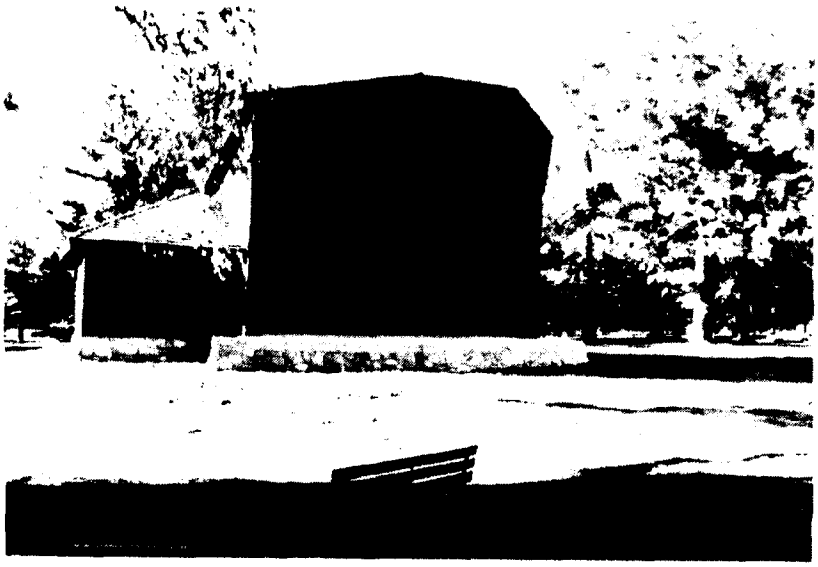
This facility was constructed in 1962. Even though it is called an amphitheater, the platform is above grade and the surrounding terrain is level.

It is utilized approximately fifty times each year. Programs generally run May through the first week in September.

The facility has a platform, roof and backdrop, dressing rooms, toilets for the dressing rooms and the public and a sound system. There is no storage room, and it is felt a food service facility would be useful.

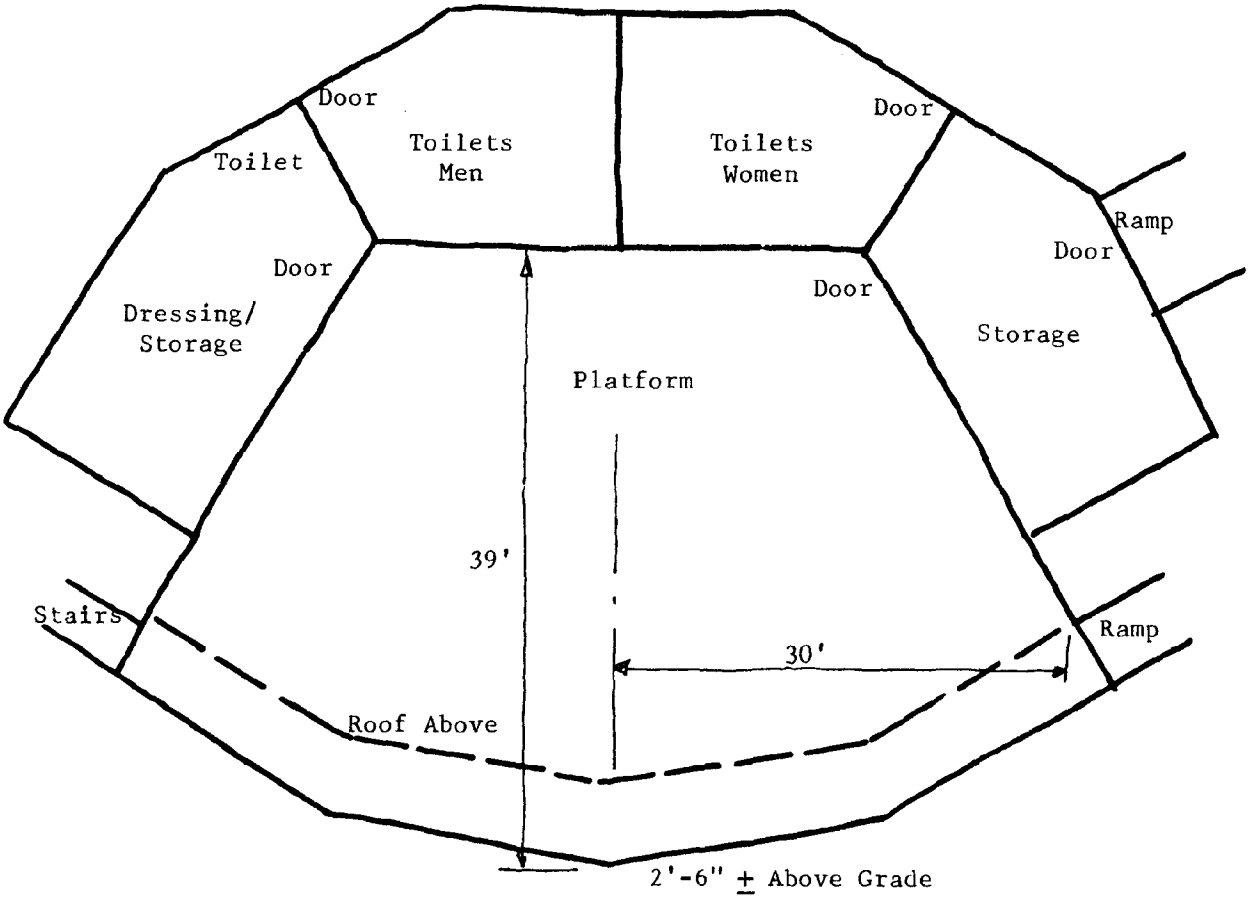
The annual maintenance cost in 1977 was $5,000. The facility was constructed in 1967 for the cost of $80,000. Projection of these construction costs to 1981 shows the facility would cost over $500,000.

BAND SHELL--F. H. BUHL FARM--SHARON, PENNSYLVANIA



This amphitheater was constructed in 1981. There are approximately 3000 square feet in the structure. This amphitheater is a public park, but the facility is administered by the Buhl Farm Trust rather than a municipal government.

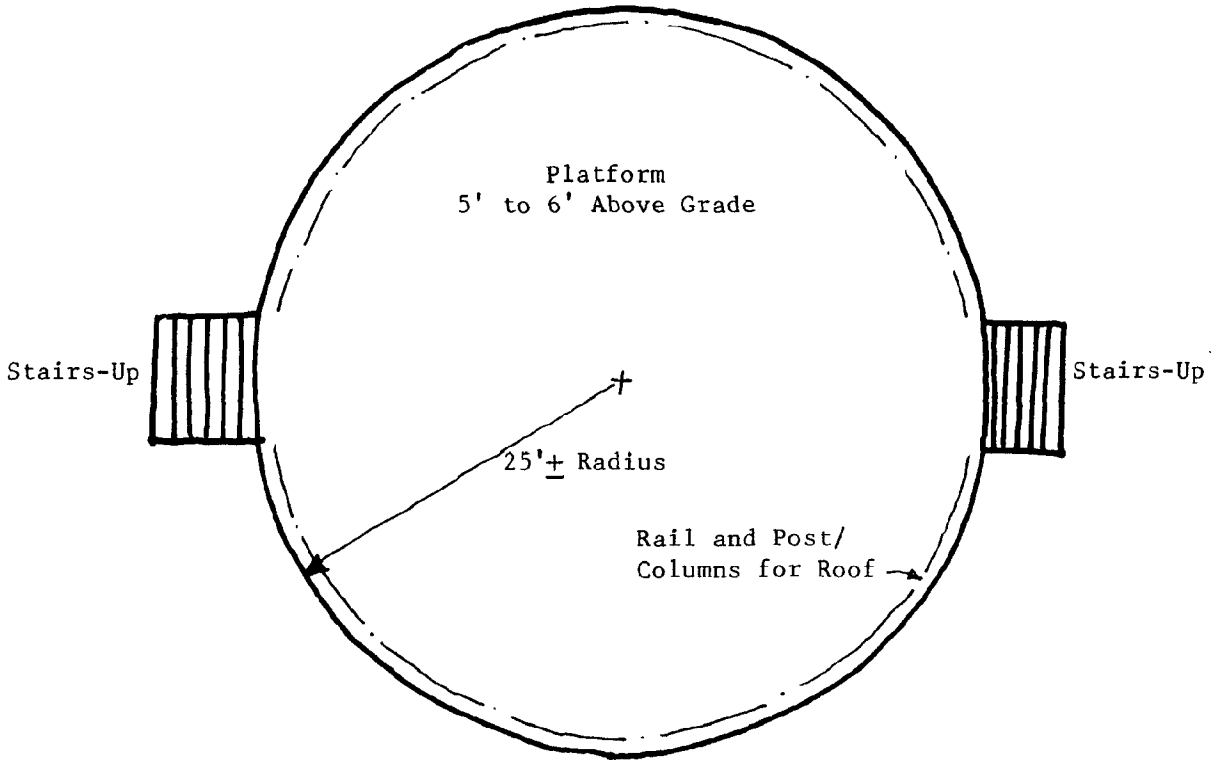
The platform is concrete. The sides are rough sawn cedar wood and the roof is cedar shakes. The foundation is of battered field stone. The facility is serviced with electricity and wired for sound.



floor plan

GAZEBO--FARQUHAR PARK--YORK, PENNSYLVANIA

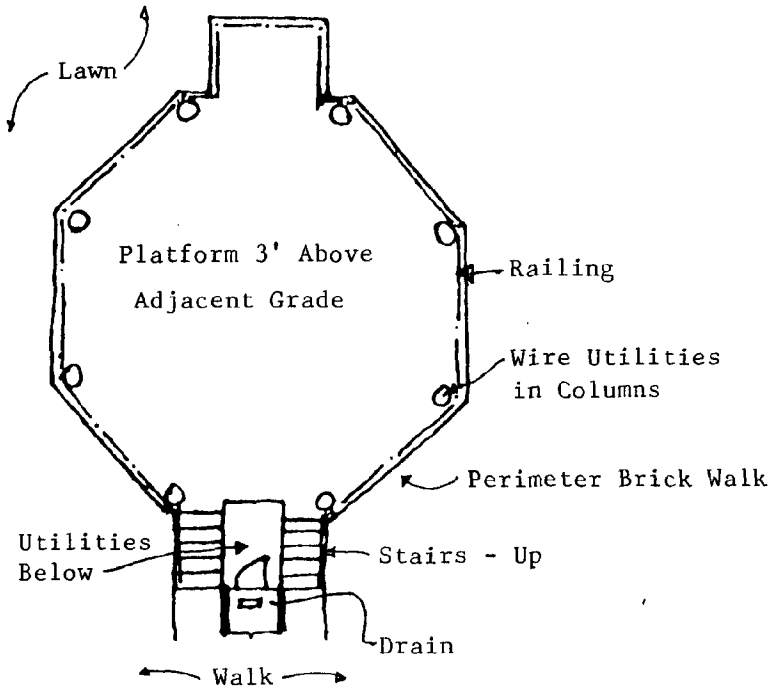
The gazebo is in an urban park. It is located on a high point, overlooking the surrounding ground. The facility is wired for lighting. There is a basement underneath the platform. There are no provisions for seating.



Walk Around Perimeter--Bituminous Paving

floor plan

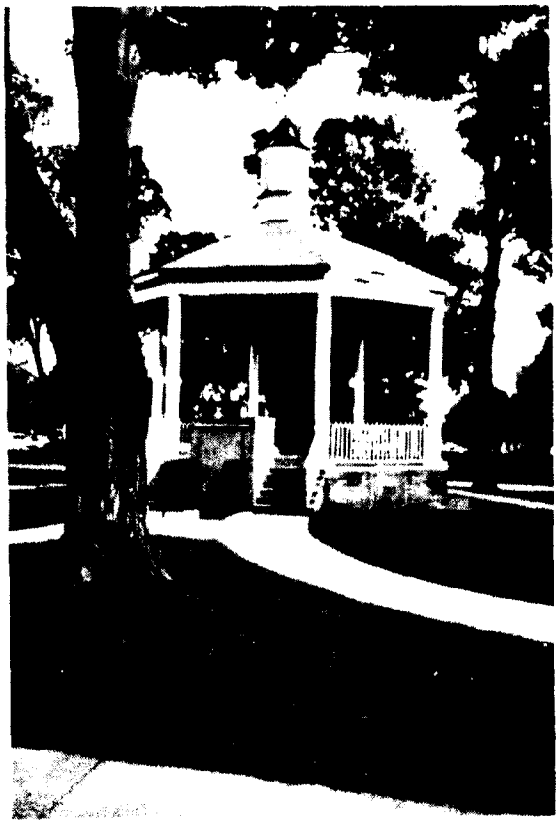
GAZEBO--DIAMOND PARK--MEADVILLE, PENNSYLVANIA



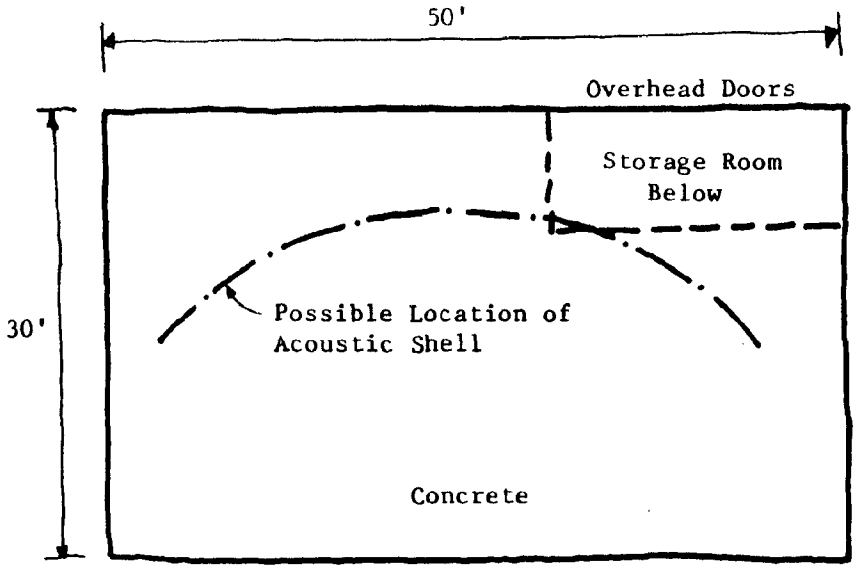
There is no temporary or permanent seating.

floor plan

This facility is located in a central city park. Seating is on the lawn surrounding the structure. The gazebo is utilized for summer concerts. There is a platform on one end, which can be used by speakers. Wire utilities are available in the columns. This gazebo was constructed in 1980.



BAND SHELL--CHESHIRE PARK--CHESHIRE, CONNECTICUT



floor plan

In 1978, plans were prepared for a park band shell for the Town of Cheshire, Connecticut, by Atelier Associates, Architect and Planners.

The concept of this plan was to provide a concrete slab with a small storage room under one corner. The acoustical background and sound board were planned to be the manufactured OmniShell. The storage room was provided for the storage of the portable, acoustical panel, because exposure to strong sunlight could cause discoloration and embrittlement to the shell.

The storage room also serves as a source of electrical power.

PARK SHELTER--FAUROT PARK--LIMA, OHIO

The year 1981 will be the initial year of use.

The structure is a park shelter that can be utilized for various stage activities. The stage is 64 feet by 34 feet, with a ceiling height of 20 feet. The only additional amenity is a storage room of 400 square feet.

Seating is an acre of lawn.

Cost of construction was $66,000.

BAND SHELL--LUBBER RUN PARK--ARLINGTON COUNTY, VIRGINIA

This facility is a band shell in nature. Constructed in 1969 at an approximate cost of $70,000, there is a stage (60 feet by 47 feet), dressing rooms, storage, toilets, office, and public and private toilets. In addition to the two towers (12 feet high), there is stage, security and area lighting. There is a portable sound system.

In addition to the 900 fixed seats, there is lawn seating.

During the last four years, the facility was used approximately 38 times each year, with an average attendance of 500 persons.

Areas which are felt to be inadequate include seating, storage and lighting.

There has been vandalism to the light towers. The facility is used for musical and stage productions, and very much a part of the summer recreation program.

AMPHITHEATER--CEDAR CREEK PARK--WESTMORELAND COUNTY, PENNSYLVANIA

This is an amphitheater which was constructed in 1973. The stage is 34 feet by 28 feet, surrounded by five levels of terraced lawn seating. The seating area is about 6,000 square feet.

The facility is used five times each year with an average of five hundred people in attendance of each use. The primary use is for musical productions.

AMPHITHEATER--UNION TERRACE--ALLENTOWN, PENNSYLVANIA

This facility is an amphitheater and is not very much a part of the summer recreation program. Over the past four years, it has been used only two or three times each year with approximately 150 people in attendance for each use. There is a stage, lawn seating for 2,000 people and public toilets. The only lighting is for security purposes.

This facility was constructed in 1936 and is used for band concerts and drama productions.

BLOSSOM MUSIC CENTER--CLEVELAND, OHIO

Although this facility would be considered beyond the means of a governmental-owned facility, the description will give one the feeling of the ultimate of facilities.

Blossom Music Center is located near Cleveland in Northampton Township, the summer home of Cleveland Orchestra. The facility was built to make the orchestra music more available through summer concerts.

The Center is located on 520 acres of wood terrain with the ability to entertain 15,000 visitors. Parking is available for 2,630 cars and 25 buses, and one additional overflow parking lot is available for 1,000 cars.

The primary structure on the site houses 4,642 plastic stadium seats, visitors under roof and additional room for 12,000 visitors on four acres of lawn. The stage is 72 feet wide by 56 feet deep and 32 feet high at the proscenium. The backstage area is almost the same size as the stage. There is a separate orchestra pit for stage presentations.

Ancillary facilities are both under the pavilion and in a separate building behind the pavilion. These facilities include locker rooms for men and women, rooms for storage, rehearsal, radio, TV, a manager, chorus practice, lounge, library, director and several additional miscellaneous rooms.

2. EXISTING FACILITIES OF WILLIAM L. SCOTT COUNTY PARK

Those items developed to date which are most important to the proposed amphitheater include the entrance road, two parking lots, utility system and the toilet building.

The cleared land which serves as the soccer-softball field may or may not be important. This land is tabletop flat and will provide poor sight lines to the stage. However, it does provide readily available lawn seating. The existing toilet facilities are available for park visitors, and their use could eliminate the need for additional facilities.

The entrance drive is more than adequate. Parallel parking is available on the west side of the road. Since the road ends in a parking lot, circulation could become clogged and require direction of traffic at times of expected large crowds.

The existing parking lots have a bank gravel surfacing and are not lined. Therefore, the actual quantity of cars each lot can hold could vary from the design number. Currently the northern lot is designed to hold 22 cars (9' O.C.) and the southern lot 76 cars (9' O.C.).

To date, the Master Plan of Scott Park has not called for enclosure fencing. There are two reasons. First, it has been a county policy not to use perimeter fencing. Second, the perimeter of Scott Park would be difficult to fence. The perimeter is wooded, contains very steep topography and is not very accessible.

Fencing only the amphitheater facility by itself could be accomplished. However, one must consider that at least an acre or two will be enclosed. The fencing will not be very natural looking in a naturalistic park. Enclosing the facility with fencing is limiting the facility and the surrounding ground for only one use. This means it will become "off limits" or isolated to the park users involved with nature study, jogging, walking, etc.

3. SITE SELECTION

A. The Site

The ideal natural features for a site of an amphitheater will be composed of the following:

1. Acoustical qualities--The facility should be away from the noise of highways and other noise influences. Active recreation and play areas should not be in use during the use of an amphitheater.

2. Topography--An ideal site will be a natural bowl or depression or a slope of a fill with slopes of 10% to 35%. This type of topography will provide good sight lines.

3. Vegetation--Enclosure by an existing stand of trees will help filter noise, screen a low angle of the sun, moderate the wind and provide an aesthetically pleasing outdoor room.

4. Sun orientation--The stage and viewing area should be oriented to avoid the low setting sun which can provide discomfort to the participants or viewers.

B. Possible Locations of an Amphitheater

The addition of an amphitheater/band shell to the Park should present only few problems. The following are the alternative, broad, general locations:

1. The Park Administration and picnic area could be turned into an amphitheater area. The administrative facilities could be combined with the amphitheater facilities. People would have to cross the main park drive to go between parking and the amphitheater. Utilities would be available. The site is fully clothed in woods and has an average ground slope of between one and two percent. Utilities are approximately 400 feet away.

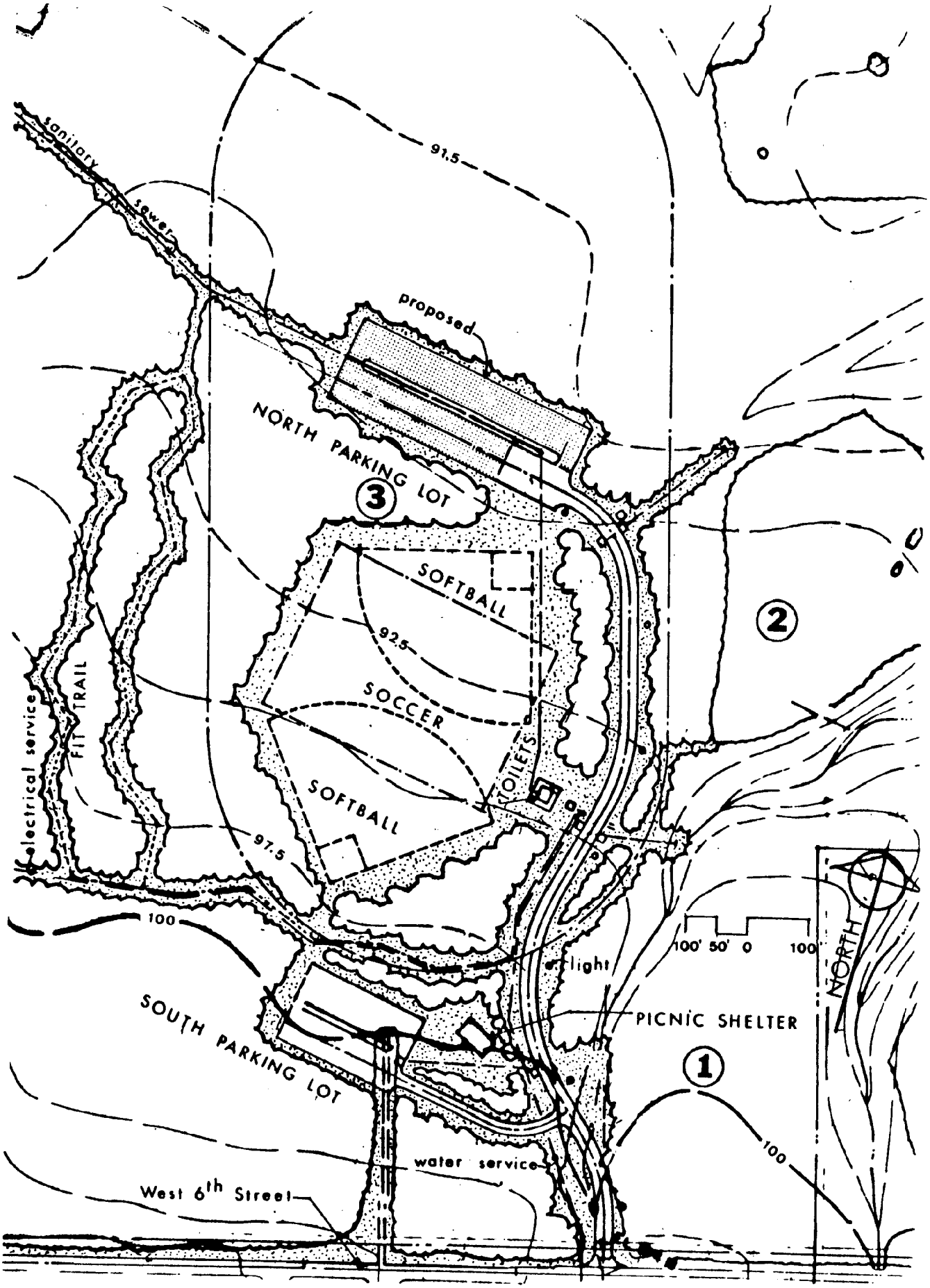
2. In the nature center area which is in between the active and passive recreation areas, there is a cleared area (open field) which could be utilized for both the nature center and amphitheater. In addition, there are two drainage ways adjacent to this area. The ground slopes between one and two percent. Utilities are between 450 and 650 feet away. Parking would be somewhat readily available.

3. Adjacent to the field games area. A facility in this location will be the least expensive because the land is cleared for seating, utilities and toilet facilities service the area, and parking, both existing and proposed, is available. A facility in this area could be in conflict with other active recreational activities.

4. On the Bay bluff, as proposed in the original Master Plan. The original size of this amphitheater was smaller than one tennis court, and the closest parking lot servicing the facility was sized for approximately 50 cars. The closest vehicular access for service was approximately 150 feet away from the facility. The proposed construction budget was $10,000 for the amphitheater. Because of bluff set-back regulations, this becomes a doubtful site and was not considered. Also, in relationship to the current Master Plan and existing recreational facilities, this proposed location has not been programmed to be serviced with utilities or parking.

Area two was selected because the site is somewhat isolated from other Park activities, there are no woods to clear, and the site is still somewhat centrally located.

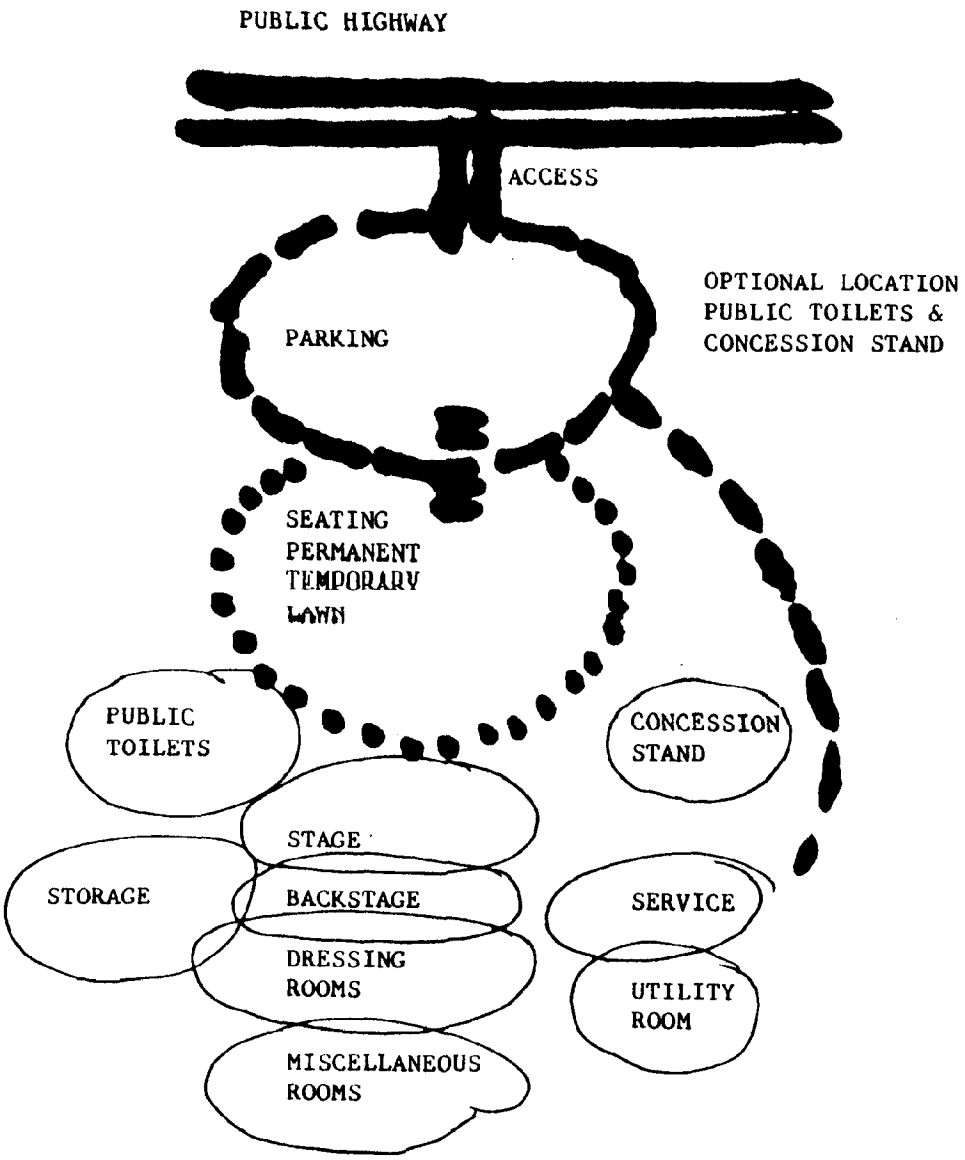
None of the proposed sites had ideal topography for an amphitheater.



possible locations for an amphitheater

4. DESIGN COMPONENTS OF AN AMPHITHEATER

An amphitheater consists of three main components. First, access; second, seating; and third, the amphitheater facility. The following schematic diagram shows one relationship of all the parts and subparts. A summary of each part follows.



SCHEMATIC DIAGRAM OF AN AMPHITHEATER

A. Access

Options of access include:

1. Controlled/Noncontrolled Entry

In order for complete control of entry to an amphitheater, the entire area would have to be enclosed. Fences can be breached, therefore, a fence alone will not solve the problem. Because Scott Park is somewhat isolated, the location could slow down those that will sneak inside. Recognizing this problem from the beginning, one can assume that most of the uses of the facility will be free or have minor charges. Whereas, high gate charges will encourage people to sneak inside. There were no fences found surrounding existing amphitheaters.

2. Passenger Discharge and Pick-Up

The ability for door-to-door service is a nice amenity. The basic design of Scott Park does not provide for circular vehicular circulation, an additional traffic circle would have to be provided. The disadvantages of a traffic circle include: first, it will consume a lot of ground; second, it would create traffic congestion; and third, it will be costly. Besides, most people attending an outdoor concert with lawn seating would be prepared for a short walk.

3. Parking

In the northern parking lot, currently, there is parking for 20 cars. This parking can be expanded to hold an additional 140 cars. In the past, there has not been enough money to pave the lots, therefore, the car spacing of ten feet per car has been utilized. If the parking lot surface were paved or tarred and chipped, lines could be painted. The fully developed parking lot has the potential of holding either 140 cars or 156 cars.

The exact number of people the parking lot can deliver for park use will vary as to the number of occupants in each car. If an average of two people per car is used, there should be around 300 people. If the average occupancy is three persons per car, the total will be at least 425 people. If there is an average of four people per car, the maximum capacity will be 625 people.

The expansion of this parking lot should provide enough parking for most amphitheater uses. If there is a need for additional parking, the existing size of the south parking lot is half the proposed parking lot. Therefore, with the proposed northern parking lot expansion, roadside parking and existing southern parking lot, there should be adequate parking on the site for most occasions.

Expansion of the northern parking lot will be an asset for the construction of the amphitheater. There will be some topsoil and earth removed for the construction of the parking lot. This material can serve as additional soil for construction of the earth viewing mound.

Designated parking spaces for the handicapped should be provided. In addition, if curbed, the parking lot should have curb cuts.

4. Walk to Seating

The pedestrian access to the amphitheater could be of several materials. However, a paved walk would be the best. It would be the easiest for access for the handicapped. The walk should be a minimum of six feet wide with additional side space to handle crowds of people. The walk could also be a multi-use walk and relate to the other walks and trails of the park.

5. Vehicular Access to the Amphitheater

Users of the facility will require parking. Parking adjacent to the structure would be ideal. An amphitheater should also have access for deliveries, pick-ups and for emergency purposes. Good accessibility for fire engines and ambulances could be very important.

Deliveries could be by anything up to a tractor/trailer type truck. Over-sized turning radii are required for these vehicles. If guest stars or very important people appear at an amphitheater, immediate access to a road would be very convenient.

B. Seating

Seating of visitors will in a large way provide the tone for an outdoor area of public gathering. The options are great and the costs are accordingly.

The distance between an audience and a stage is important to the feeling of the amphitheater. Everyone develops a relationship between people they see. The closer one is, the closer the relationship. From six inches to fifteen feet, one can develop a direct relationship, whether it is pleasant or intrusive. One can easily relate to an individual, both visually and verbally.

Between 15 feet and up to 75 feet, one can recognize and relate to an individual. Where people are beyond distances of recognition, one sees motion and actions. Sight distances can be only generalized because of each individual's visual limitations. The closer the seating is to a stage, the more personal the experience.

If an amphitheater space can visually be enclosed, the smaller the space and the more intimate the atmosphere.

Sound or acoustics should not be a problem. It should be assumed that sound equipment will be required for all performances. The use of an acoustic backdrop will also be required to project sound to the audience.

1. Lawn Seating

One must keep in mind most of the grades of Scott Park are table-top flat. Only where there are drainage ways, are there steeper slopes. Too many could arise trying to utilize the natural slope of the drainage ways for the site of an amphitheater. One of the level sites of the Park should be utilized and manipulated as possible. Manipulated earth can be accomplished in several ways.

A. Single Plane

1. Minimum of a 1:10 sloped lawn and/or create a bowl effect with the contour of the earth.

2. For fixed seating the back rows could be steeper the further from the stage. For example, the last three rows could be 1:6, the next three rows 1:7, and next three rows 1:8 and the rest 1:10. If these grades were to be utilized, a separate area for the handicapped would be required (maximum slope is 1:12). See diagrams for sight lines for fixed seating.

B. Series of Terraces

A series of stepped terraces could be constructed. There could be some maintenance problems with steep slopes required to make the terraces. These could be mixed paving and lawn.

C. Existing Ground and Raise the Stage at Least Four Feet Above Grade

This solution will provide poor visibility for the visitor. This solution would allow for multiple use of the lawn area, either visually or physically.

D. Lawn Seating

Lawn seating will not be as efficient as seats. For example on a seat, one individual will occupy about seven square feet. This comes to 6,200 persons per acre. Persons sitting on the ground or in lawn chairs are going to take an average of sixteen square feet, or up to 2,700 people per acre.

Where turf is intended for seating, the earth will have to be graded and shaped and then placed into lawn, either by seeding or sodding. Because of the intensity of use, this turf should be placed under a good maintenance program to include fertilization (at least twice a year) and watering (regularly during the summer).

Preliminary cost per space (using sixteen square feet per person) is:

1.	Strip/place topsoil	0.3 CY	$3.00	$1.00
2.	Earthwork	1.2 CY	$3.00	$3.60
3.	Grading	1.8 SY	$.35	$.65
4.	Lawn			
		16 SF	$.15	$2.40
		16 SF	$.30	$4.80

Total range per seat $3.00 to $10.00

E. Fixed Seating Options

Fixed amphitheater seating will most likely vary from fixed seating of stadiums, auditoriums and theaters. This should be particularly true where entry fees are minimum or not charged.

Seating is expensive to install as well as maintain. In a true amphitheater, concrete or bituminous paving could cover the ground and fixed seating placed on top. Another alternative is the use of bleachers around a stage.

The module for fixed seating will vary with the manufacturer design of the seat. However, for preliminary cost estimating purposes, a module spacing is 24 inches wide and 36 inches deep. Each seat will require six square feet plus aisle space. Using fifteen seats between aisles, and aisles will be five feet wide. Each seat will be assessed four inches times the length (36 inches), or a total of one square foot. Therefore, each seat will require seven square feet.

Preliminary Costs

		Quantity		Range of Price
1.	Earthwork	¼ to ½ of a CF		$.75 to $1.50
2.	Paving, Concrete	7 SF	$2.50	$17.50
	Bituminous	7 SF	$1.00	$7.00
3.	Seat, Permanent Bench	1		$25.00 to $35.00
	Bleacher	1		$50.00 to $75.00

Total range per seat $30.00 to $100.00

F. Additional Seating Options

Secondary options which can be considered and most likely eliminated include portable bleacher and grandstand seating. If there was a need or use for the seating in several places, portable seating could be of great value. The biggest unknown factor in the seating is the time and cost for moving the seating from one location to the next.

1. Portable Benches

These could be placed on paving or lawn. They will most likely be six feet long (three people) and easily moved. They could be stored under roof. However, it requires a lot of manpower to move these benches around, and they can easily be removed from the site by park users.

2. Portable Bleachers

This could be a reasonable alternative for multi-use seating. This type of seating could be used on the athletic fields. Due to state laws, there are two types:

a. When the rear seat is four feet above grade, a railing is required.

b. When the rear seat is less than four feet above grade.

Those bleachers less than four feet high will be more easily moved by employees and a low trailer. One manufacturer has wheels which can be placed on bleachers for moving.

Bleacher sections of fifteen feet in length and five rows high should be able to meet the less than four feet high criteria. Bleacher manufacturers are sketchy in their literature. A section should hold up to 35 people.

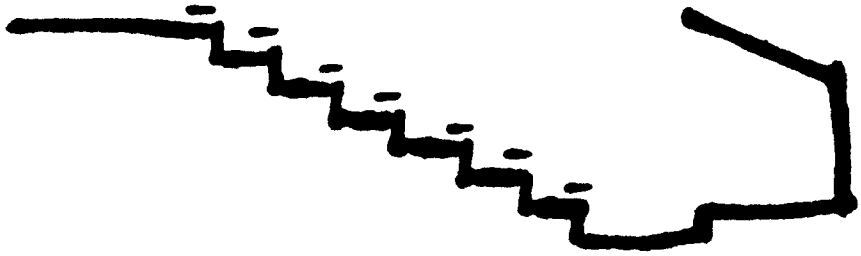
Seating in an amphitheater could only be partially satisfied with this type of seating. Costs for the bleachers alone will be $15.00 to $25.00 per seat, figuring 35 people (crowded) per bleacher.

3. Grandstand Seating

This would be seating similar to athletic seating and could be an alternative. The aesthetics of this type seating for the performing arts might be questionable. The price will range between $50.00 and $75.00 per seat.

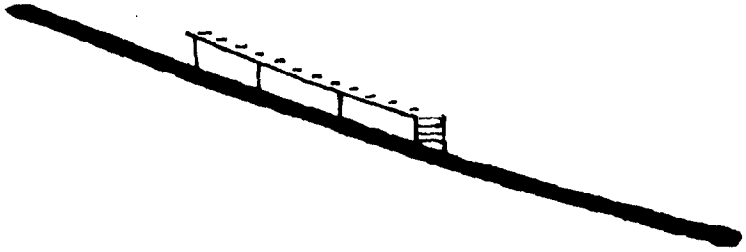
Grandstands can be constructed above grade or along the plane of sloping earth. Looking at the back and underneath of grandstands is very unattractive, although this view can be screened with plant materials.

SEATING OPTIONS



Terraced

Bleachers--Above Existing Grade



Bleachers--In Parallel Plane to Existing Grade

C. Amphitheater Design Options

The amphitheater structure itself, can be achieved in several different ways. First, a mobile facility designed for stage presentations. Second, a permanent structure. A permanent structure can be a one-of-a-kind design or a predesigned package. Third, the use of specially manufactured acoustical packages with a permanent platform.

1. Mobile Facility

The big advantage of this type of facility is that it can be transported all over the County. More programs can be presented to a greater number of residents. A mobile facility could be utilized exclusively in Scott Park; however, it could be stored in a secure area which could reduce exposure of the facility to vandalism.

The following are three known companies which market mobile stages.

A. Wenger Corporation

A manufacturer of portable staging, mobile staging and shells. The prices shown are from 1980 quotations. Because of many and varied options, the prices should be used as an indicator of approximate costs.

Portable staging: The variable height staging system is excellent for outdoor as well as indoor use. Because of the finite adjustment capabilities of the individual legs, this stage is excellent for use on uneven terrain. Depending on the type of leg slide purchased, the staging has a height range of 30" to 56", 48" to 72", 48" to 88" or 64" to 100". Stage units have standard dimensions of 4' x 8'. Accessories include stairway systems, back-side rails, storage trucks and elevation closures.

A special unit-to-unit frame clamp makes it possible to use a system of 4-leg and 2-leg stage units in each stage system. Two unit-to-unit frame clamps are required between the 8' sides of adjoining stage units, and one clamp between 4' sides. Four-leg stage units are $420.00; two-leg units are $330.00; and unit-to-unit clamps are $30.00 each. Approximate per square foot price is between $12 and 16.

Backdrops are available for the portable staging. The outdoor shell panels are designed to fit two per 8' stage side or one per 4' stage side. Outdoor shells are vacuum-formed, lightweight, durable ABS plastic panels. Each 4' wide panel is approximately $750.00.

Mobile staging and shells (Showmobile): The Showmobile is best defined as a mobile combination acoustical shell and stage. This product is in use by many fairs and park/recreation departments throughout the United States and Canada in presenting outdoor musical events.

Two basic sizes of Showmobiles are available. The smaller unit has a usable performance area of 28' wide by 13' deep, and the other larger has a performance area of 36' wide by 13' deep. The size of this area can be expanded by the addition of using portable staging at the stage height, increasing the depth as desired.

Standard equipment provided with the Showmobile includes hydraulically operated canopy and stage, built-in lighting, two oversized access doors and two stairway systems.

Cost for the unit 28 feet long (364 square feet) is $36,000, and the unit 36 feet long (468 square feet) is $40,000. Optional items include portable staging, sound systems and generator.

B. Game Time, Inc. and Mexico Forge/Kilgore Corporation

Both companies market a mobile activity trailer in their catalogs. These mobile trailers are designed for multi-use, one use being as a stage. The overall sizes can vary, but in general they are seven feet high and eight feet wide and range in length from 18 feet to 32 feet. The unit serves as a stage, with one side of the length opening up. A platform can be added to the open side to increase the stage size.

Prices for the trailers are not published and most are quoted based upon options desired.

2. Design Concepts of a Permanent Facility

A. Amphitheater

Construction of this facility in Scott Park could be in two different types of locations. First, near one of the drainage ravines where there are natural slopes in the 10% range. Because of the drainage, there could be more insect problems. In addition, high water would have to be a consideration. There could also be limited circulation throughout the facility due to the drainage or the expense of crossing the drainage. The drainage ways could make construction costs higher.

The second solution is to excavate for an amphitheater and use the excavated ground to form a seating mound. This type of design will have to be able to drain water into an adjacent drainage way. If the drains become plugged, the facility could fill up like a bathtub. This type of design approach could make a very interesting outdoor facility. The stage and backdrop could be either open or partially enclosed. The backdrop could be portable or permanent. The amount of

excavation required for this solution is considerable. Therefore in order to keep costs more reasonable, one of the following solutions should be more practical. In either case, the existing level earth could be modified for improved viewing.

B. Band Shell

Construction of this facility could be accomplished easily on the level terrain of Scott Park. Keeping the performing floor between three and four feet above grade will provide the best visibility for the spectators.

C. Raised Earth Platform or Wooden Platform and the Purchase of an Acoustical Backdrop

This would be an inexpensive solution and a very minimum type facility.

Only one manufacturer of acoustical backdrops was found. The product is marketed by Concept Design, Inc. This company makes a portable, acoustical backdrop called OmniShell. The OmniShell provides an aesthetic background and an acoustic background for orchestras and bands for use indoors or out. The shell can be placed anywhere--parks, shopping malls, outdoor festivals, auditoriums, theaters or arenas.

The OmniShell is sectionalized, one being 4'7" wide and 13'6" high (of which the top 48 inches is removable and adjustable).

The manufacturer claims two persons can set up/strike a ten-section backdrop in 30 minutes. This may be somewhat overstated, but it shows that the product is relatively mobile.

Storage space for ten sections is 56 inches wide, 30 inches deep and 114 inches long.

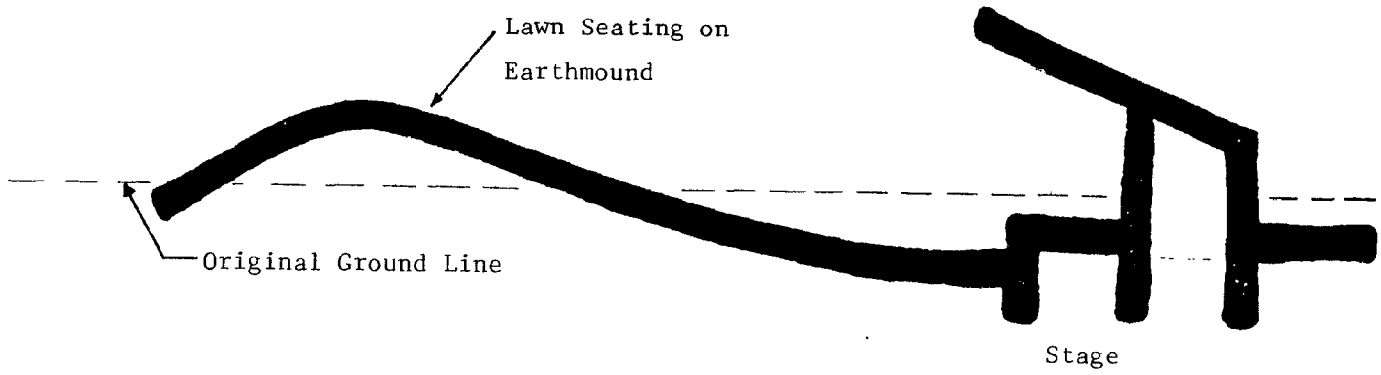
The acoustic surface of the OmniShell is high-strength, abrasion-resistant ABS thermoformed metal (5/32 of an inch thick) with a white matte finish, and supported on an aluminum frame. Each section weighs 95 pounds.

The OmniShell is not designed for permanent outdoor installation. Prolonged exposure of strong sunlight can cause discoloration and embrittlement.

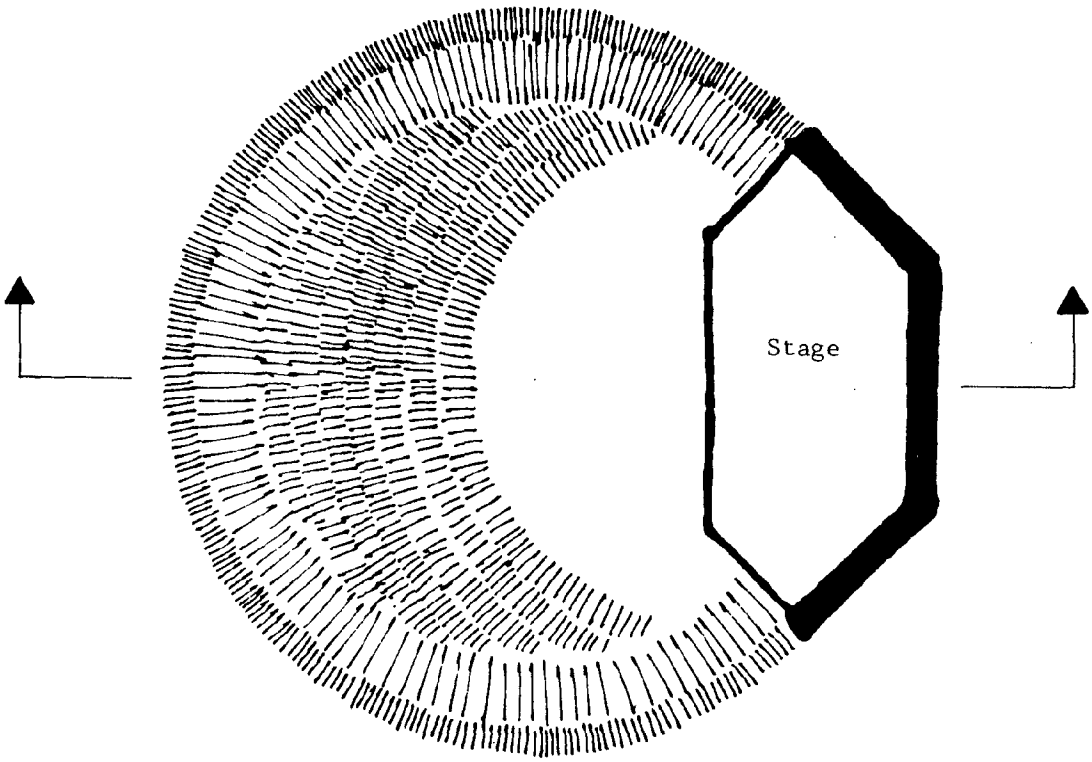
The cost per section is $810, and a ten-section shell is $8950. The shell has been used by symphony orchestras.

D. Predesigned Structures

Manufacturers of predesigned park buildings and structures were contacted by letter. Only one reply was received.



section



plan

This was from Cedar Forest Products. This company manufactures a predesigned wooden band shell. This structure is wooden frame with wooden trusses and is designed to be placed on a concrete foundation with a poured concrete slab floor. The back of the shell is concave. Behind the shell is a storage room. The structure could be placed on a basement-type foundation. This could provide additional room for dressing, toilets, storage, etc.

The company did not have a current cost of materials of this predesigned building.

E. Custom Designed Amphitheater

The ultimate goal of this feasibility study is to provide guidelines for the construction of a permanent amphitheater in Scott Park. The approach to obtaining a facility is broken down into four phases. First, providing adequate parking; second, site preparation and initial platform; third, adequate sanitary facilities; and fourth, the amphitheater structure. The sizing of the first three phases are contingent upon the final design of the amphitheater.

The size of the facility was based upon the number of performers to utilize the stage and the size of the audience to view a production.

The following table shows the three sizes of amphitheaters and the potential audiences. For the purposes of this study, the optimum size amphitheater was selected for design and cost estimating purposes. This size facility will also meet most expected performances.

Because of the initial high capital costs of a total project, it may be possible to phase development. Initially the site could be prepared and the amphitheater construction limited to the construction of a platform and the use of an acoustical backdrop. When construction monies are available, a roof and the additional rooms could be added over the platform. Features which are important in these rooms are as follows.

Dressing rooms and toilet facilities are a big convenience for the users. Providing some shows (plays-dance groups) could be next to impossible without some changing space. Convenient items in a dressing room would include seating, hangers and vanity.

There is always a possibility that during the off season, dressing rooms could be utilized for storage.

The immediate area in back of the stage provides for assembly of performers before entering the stage area, as well as temporary storage during performances. In the off-season, this space can serve as permanent storage.

AMPHITHEATER--ROOM/FACILITY AND GOALS FOR SPACE ALLOCATION

User Accommodations	Minimum WxL	Optimum WxL	Maximum WxL
Stage	800SF 40'x20'	1,375 SF 55'x25'	1,800 SF 60'x30'
Backstage	40'x15'	55'x20'	60'x30'
Performers' Dressing Rooms (Anticipated performers at 18 SF/performer-stage ratio)	44 each	76 each	100 each
Male	220 SF	380 SF	500 SF
Female	220 SF	380 SF	500 SF
Toilet Facilities			
Male	200 SF	250 SF	300 SF
Female	200 SF	250 SF	300 SF
Storage	800 SF	1,400 SF	1,800 SF
Orchestra Pit (12' wide)	480 SF	660 SF	720 SF
Parking Spaces			
1/2 Performers	22 each	38 each	50 each
1/3 Performers	15 each	26 each	34 each
Service; Parking for one truck	500 SF	500 SF	500 SF
Visitor Accommodations			
Seating @ 8 SF/Person	1,000 people 8,000 SF	1,500 people 12,000 SF	2,500 people 20,000 SF
Parking Spaces @ 4 Persons/Car	250	375	625
Public Toilets	760 SF	760 SF	1,000 SF
Concession Stand	120 SF	120 SF	200 SF

Storage rooms are very important to the facility user and are also a source of vandalism. An isolated facility in Scott Park could be subject to much vandalism and abuse. If persons thought valuable objects were stored in a locked amphitheater, there could be many attacks on the doors. There are three possible solutions:

1. Rent valuable equipment per use as required.

2. Use a security service and wire the building with automatic alarms which can be tied into the Township Police Station.

3. Store equipment elsewhere.

Storage space requires adequate ventilation to eliminate mildew. Most likely it is better to be above grade. Management of storage space is important, as such space collects everything quickly. Good policies are required to keep the space clean and free of accumulating debris.

Because of the initial cost of construction, the dual use of backstage space and dressing rooms in the off-season might be the best solution to solving the storage problem.

An orchestra pit for plays and dance groups could best be provided on the lawn in front of a raised platform. This would put the orchestra in an area similar to a theater. Provisions for an orchestra or orchestra pit are not included in the facilities planned for the proposed amphitheater.

The placement of concrete in front of the stage is an alternative solution for providing an all-weather surface.

The floor plan of the proposed amphitheater has 3,168 square feet. The overall dimensions are 56 feet wide by 64 feet long. The interior space allocation is broken down as follows:

1.	Stage/Platform	1,400 SF
2.	Backstage/Storage	700 SF
3.	Dressing Rooms	
	Men	460 SF
	Women	460 SF
4.	Utility Room	148 SF
Total		3,168 SF

The floor plan of the building is symmetrical. The circulation of the building is from the front and the rear. There is a back entrance that enters a vestibule. The vestibule provides access to the utility room and both dressing rooms. Each dressing room has an adjacent bathroom. Each dressing room enters the backstage area. There is access to the stage through four doors, one which prohibits the audience from seeing backstage, one which is a double door for moving large items between the stage and backstage and two which face the audience directly and could be utilized as emergency exits.

Ramps are provided for the handicapped and loading and unloading of heavy items.

It is anticipated that the structure will be serviced by all utilities. The structure will have one floor, with possibly a small basement under a portion of the floor. The floor will be a concrete slab on grade. The foundation walls will use concrete block. The structure of the amphitheater itself will be composed of either wood laminated or steel beams, cantilevered over a wall to form the roof of the stage. This wall supporting the beams may be required to have flying buttresses at the side to help carry the load of the roof. The roof could be composed of 4"x6" wooden decking. Asphalt or cedar shingles could cover the roof. The walls of the amphitheater could be concrete block or wood frame construction. The outside facing could be wood or masonry. The inside walls could also be wood or masonry. Masonry may not be the most aesthetic material for use in a park; however, it can be painted and a glaze finish can be applied over the paint. This glaze finish will clean up readily after acts of vandalism.

Little or no vandalism was noticed on the trip to review amphitheaters. However, there has been several acts of vandalism to the toilet building in Scott Park. The toilet building is in the open adjacent to the park entrance drive. The proposed location for the amphitheater is somewhat isolated. An amphitheater in this location can be more easily vandalized.

GOVERNMENTAL REGULATIONS

1. COMMONWEALTH OF PENNSYLVANIA
   DEPARTMENT OF LABOR AND INDUSTRY

   A. The Commonwealth has passed rules and regulations and require buildings of public occupancy to conform to certain regulations. Regulations are published in "Building Regulations for Protection from Fire and Panic." Prior to construction, plans have to be submitted for review and approval by the Industrial Board.

   Depending upon the facility constructed, items that may fall under these regulations include:

   - Group A Occupancies (assembly)
   - Group F Occupancies (working stages)
   - Detailed Regulations
     - Stairs and Exits
     - Proscenium Curtains
     - Stage Ventilators
     - Fire-Resistive Ratings of Materials, Doors and Windows
     - Design Loads and Materials of Construction
     - Emergency Lighting Systems
     - Fire Extinguishing Apparatus
     - Grandstands and Stadiums
   - Separate Regulations
     - Buildings and Facilities Usable by the Physically Handicapped

   B. <u>Handicapped Access and Overall Design Requirements</u>

   State and federal laws prohibit discrimination with respect to physically handicapped people. Therefore, all facilities constructed in Scott Park have to be made accessible by the physically handicapped.

   Without going into complete detail, the following is a summary of design guidelines for making the amphitheater accessible to the physically handicapped.

   Complete design requirements can be found in published regulations guidelines.

   Maximum slope for ramps: A. Short--1:7 ratio
   B. Long--1:12 ratio

   Ramps shall have handrails 32 inches above ramp surface. Minimum aisle space and doors shall have platforms approximately five feet by five feet.

   Minimum walk widths: four feet, with a maximum slope of five percent.

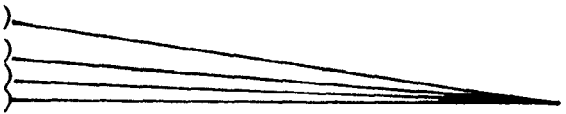
   Provide at least one designated parking space.

ALTERNATIVE VIEWING FOR HANDICAPPED PERSONS

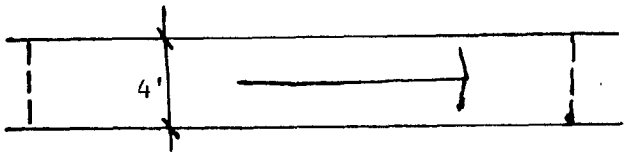
1. Ramp Requirements

   A. Slope

   Maximum Short Distance 14.28% (1:7)
   Recommended Maximum 8.33% (1:12)
   Optimum 5% (1:20)
   Easiest 2% (1:50)

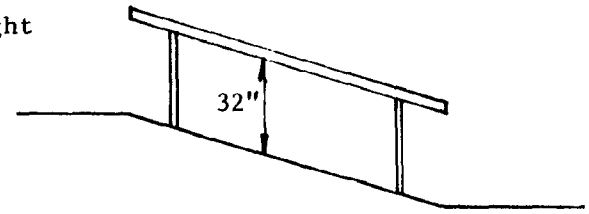


   B. Width - 4' Minimum

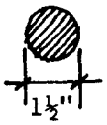


   C. Surface - Slip resistant under wet/dry conditions, suitable materials are wood or brick.

   D. Handrails - Mounted at a 32" height on ramps.

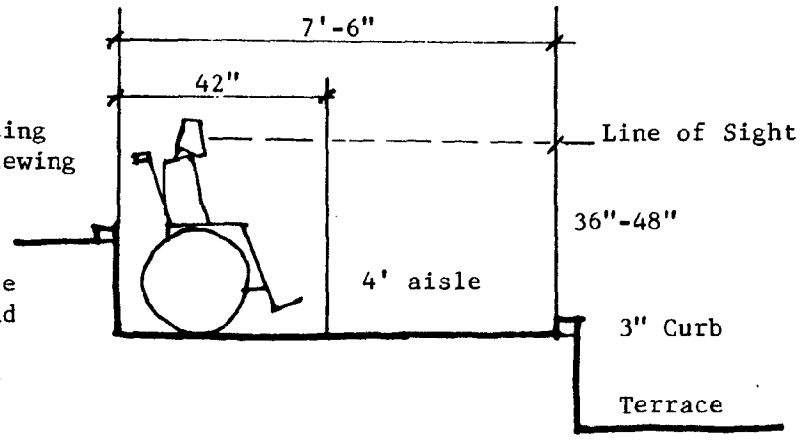


   Width of Handrail - 1½" minimum



2. Handicapped Seating Areas

   A. Space Requirements
   B. Placement
      Provide wheelchair seating in as many different viewing positions as possible
      1. End of rows - additional 42"
      2. Cross aisle - provide clear 4' aisle behind wheelchair
      3. Behind viewing areas



3. Path

   A. Should be firm and wide - 4' minimum
   B. Connect parking, amphitheater and support facilities
   C. Grade site to provide access at several levels of seating without use of steps or ramps

Visibility from a Wheelchair:

Anthropometrics of a male wheelchair user assumes the head height to be 52.5 inches and the eye level to be 48.2 inches; a female is considered to have a height of 49.5 inches and an eye level of 45.5 inches.

Seating areas for the handicapped persons using wheelchairs should be provided. A stationary wheelchair requires a ground area of 25 inches by 42 inches.

Comfortable aisles for use by wheelchairs should be 36 inches wide. To execute a 90° turn, there should be at least five feet of straight travel. To execute a reverse 90° turn, a turning area of five feet in both directions is required.

2. ERIE COUNTY DEPARTMENT OF HEALTH

The following table of Minimum Number of Plumbing Fixtures was obtained from the Erie County Department of Health. This table can serve as a guide for estimating toilet requirements for the amphitheater. An amphitheater does slightly differ from the category of auditoriums, theaters and convention halls; therefore, the total figures possibly could be negotiated at the time of detailed design and construction. Amphitheaters are different from the category because there are no walls or 100% fixed seating. It should be considered in designing the toilet facilities that a portion of the facilities are available to park users at other times.

DEPARTMENT OF HEALTH
REQUIRED MINIMUM NUMBER OF PLUMBING FIXTURES

AUDITORIUMS, THEATERS, AND CONVENTION HALLS							
Waterclosets		Urinals		Lavatories		Drinking fountains	Other fixtures
No. of persons	No of fixtures	No of persons	No of fixtures	No. of persons	No. of fixtures		
1-100	1	1-200	1	1-200	1	- - -	- - -
101-200	2	201-400	2	201-400	2	- - -	- - -
201-400	3	401-600	3	401-750	3	- - -	- - -
Over 400, add 1 fixture for each additional 500 males and 1 for each 300 females		Over 600, add 1 fixture for each 300 males		Over 750, add 1 fixture for each 500 persons		1 for each 300 persons	1 slop sink

Utilizing the Department of Health table, projections were made for the expected number of fixtures which could be required for public toilets of the amphitheater.

No. of People	Waterclosets		Urinals	Lavatories	Drinking Fountains
	Male	Female			
1-100	1	1	1	1	1
101-200	2	2	2	2	1
201-400	3	3	2	2	2
401-500	3	3	3	3	2
501-600	3	3	3	3	2
601-700	3	3	3	3	3
701-800	3	4	3	3	3
801-900	3	4	3	4	3
901-1000	4	4	4	4	4
1001-1100	4	5	4	4	4
1101-1200	4	5	4	4	4
1201-1300	4	5	5	4	5
1301-1400	5	6	5	5	5
1401-1500	5	6	5	5	5
1501-1600	5	6	6	5	6
1601-1700	5	7	6	5	6
1701-1800	5	7	6	5	6
1801-1900	6	7	7	6	7
1901-2000	6	8	7	6	7

3. MILLCREEK TOWNSHIP

Zoning Ordinance

The following notes are the applicable highlights of The Township Zoning Ordinance, enacted in December 1974 and as amended since, as they apply to an amphitheater.

1. An amphitheater is not addressed as such.

2. An amphitheater would be considered a structure.

3. It is doubtful if the yard requirements will be applicable, since a proposed amphitheater will be located in the interior of the Park.

4. The land is zoned "A Residence" of which permits a park.

5. Related parking requirements (stadium, assembly structure) call for one space for every three seats.

6. Height and area regulations
   A. In "A Residence" District 35 feet is maximum height. Scott Park is in the "I" Height District; however "III" is just west of Peninsula Drive.
   B. In all other districts
      1. Conform with Federal Regulations affecting navigable air space.
      2. If a structure exceeds 35 feet in height, the offset distance from a property line shall be increased one foot for each foot in height.

Bluff, Setback Ordinance

In 1980, the Commonwealth of Pennsylvania passed Act No. 48 requiring municipalities such as Millcreek Township to enact a Bluff Setback Ordinance.

The Ordinance requires that any disruption of the bluff along Lake Erie and Presque Isle Bay meets minimum setback requirements. The setback requirements are related to the life of the structure and are as follows:

Land Use	Life of Improvement in Years	Minimum Setback Requirement In Feet From Top Edge of Bluff
Residential	50	50
Commercial	75	75
Industrial	100	100

The current Residential Setback Requirement is 100 feet; however, Millcreek Township is in the process of amending the current ordinance.

It could be expected that an amphitheater would have a required minimum setback of at least 75 feet.

If a land owner desires to change the minimum requirements, then a hearing is required at which approval may or may not be given. If approval is not given, there is an appeal process available to the land owner.

DETAILED DESIGN

The design solution for the amphitheater has four segments:

A. Site location
B. Site design
C. Amphitheater design
D. Ancillary features

An amphitheater, complete, could cost in the half million dollar range. Therefore, the proposed design solution was developed with the ability of executing the project in one step or in several steps.

1. SITE LOCATION

The proposed site location was selected for the following reasons.

A. It is isolated from the active park activities.

B. The site is enclosed by vegetation and should be relatively quiet.

C. The existing vegetation is an old field, reverting back to woods. The vegetation is mostly composed of low shrubs, grasses, poison ivy, blackberries and other herbaceous plants.

D. The site is relatively close to existing park facilities, including the entrance road, parking, utilities, and toilet building.

E. In the proposed Master Plan, this site was planned for picnic shelters and a nature center. These activities would be compatible with an amphitheater and the joint use of access, limited parking, and utilities would make for better use of limited construction money.

F. The site is big enough to provide for optimum orientation with the sun.

2. SITE DESIGN

The site is flat, containing about a half of a percent slope. The flatness of the site creates two problems. First, trying to provide adequate positive drainage. Second, generating enough earth for slope seating. The closest sanitary sewer is by the northern parking lot. The invert elevation in the manhole is 86.0 feet. The new sanitary sewer will be approximately 400 feet long. If the sanitary sewer is going to be gravity flow, the depth of the sanitary sewer will determine the elevation of the amphitheater.

Storm water can best be routed to the drainage swale north of the proposed amphitheater. Drains will be required in front of the amphitheater and along the service drive and parking lot. The invert of the storm sewer outfall pipe may also determine some of the ground elevations around the amphitheater.

Water and electricity are available on the east side of the entrance drive, opposite the existing toilet building. There are no expected problems extending these services to the amphitheater.

The proposed site organization provided for optimum sun orientation. The stage will face approximately 20 degrees west of south. This will keep the late, low evening sun out of the performers' eyes. With the stage cocked slightly west of south, natural light will be available on the stage as late in the day as possible. For most performances, the sun will be to their backs and the left flank of the audience.

Access and parking for the amphitheater can be extended from the park entrance drive. Extending vehicular traffic along the southern side of the amphitheater opens a view of the facility from the park entrance drive.

It is expected that most of the audience would park in the north lot. This means the users would not have to cross the service drive from this parking lot or the park entrance drive. On days with overflow crowds, users would use the southern parking lot and would have to cross the park entrance drive and the service drive to the amphitheater. It is anticipated that most of the vehicular traffic utilizing the amphitheater parking lot will be both before and after the audience will be walking to the amphitheater. The parking lot adjacent to the amphitheater is planned for the use of the people performing at the event. In addition, space is planned for truck loading and unloading of materials required by the performers.

During times when the amphitheater is not in use, this parking lot could be utilized by people utilizing adjacent proposed picnic shelters.

When the amphitheater is constructed, there may not be enough money available for the expansion of the northern parking lot. It is anticipated that the topsoil and any excess earth from this parking lot would be utilized in construction. If the parking lot is expanded first, the earth could be stockpiled as the beginning of the earth, seating mound of the amphitheater.

The amphitheater itself can be constructed in two steps. The initial step could be to construct a platform similar to the one constructed at either Presque Isle State Park or Cheshire, Connecticut. Then when additional money becomes available, a roof and ancillary features can be added.

The backdrop for the initial platform could be panels similar to those manufactured by OmniShell. These panels could either be stored in a cellar/crawl space or off site.

Ancillary features of an amphitheater include dressing rooms, with toilets for men and women and backstage space. Both spaces could be utilized for storage, particularly during the off season.

Public restrooms and a concession stand could be added as a separate structure or attached to the amphitheater. If there is a need for public toilets initially, the need and provision of public restrooms will depend

upon the County Health Department and the users of the facility. The restrooms can be solved several ways. First, use the existing toilet building; second, add portable toilets; third, construct a separate toilet building in which a concession stand could be added at one end; or fourth, attach the toilets to the amphitheater. The construction budget will dictate the final solution.

COST ESTIMATES

The cost estimates follow the plans of each phase of development. Costs are based upon the following:

1. Prevailing wages as established by the Pennsylvania Department of Labor and Industry will be paid to all workmen.

2. As required by State law, there will be a minimum of three separate contracts:

   A. General Construction
   B. Electrical Construction
   C. Plumbing Construction

The cost estimated will be prepared in the possible phases of construction.

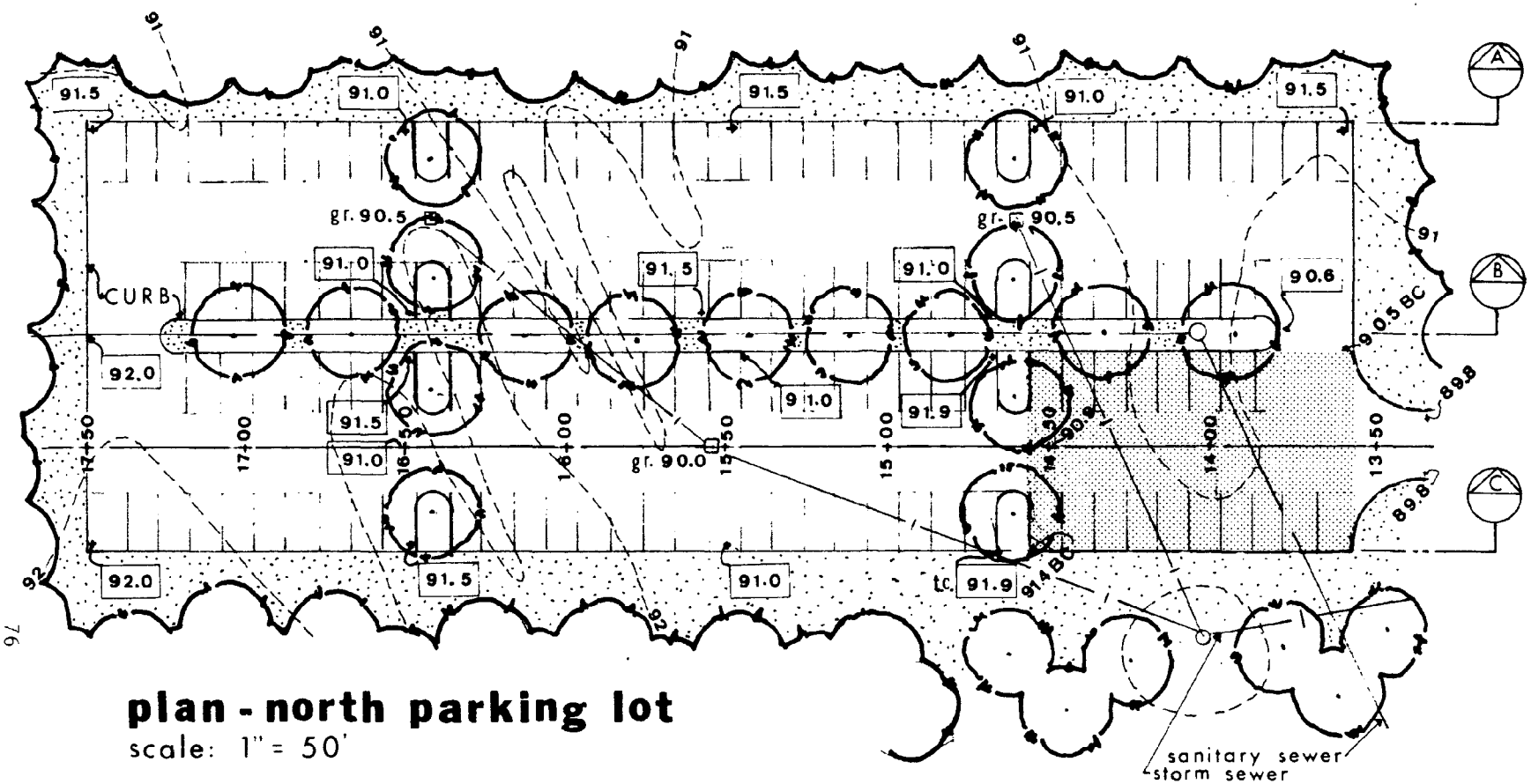
1. North parking lot

2. Toilet facilities

   A. Separate toilet/concession building
   B. Portable toilets

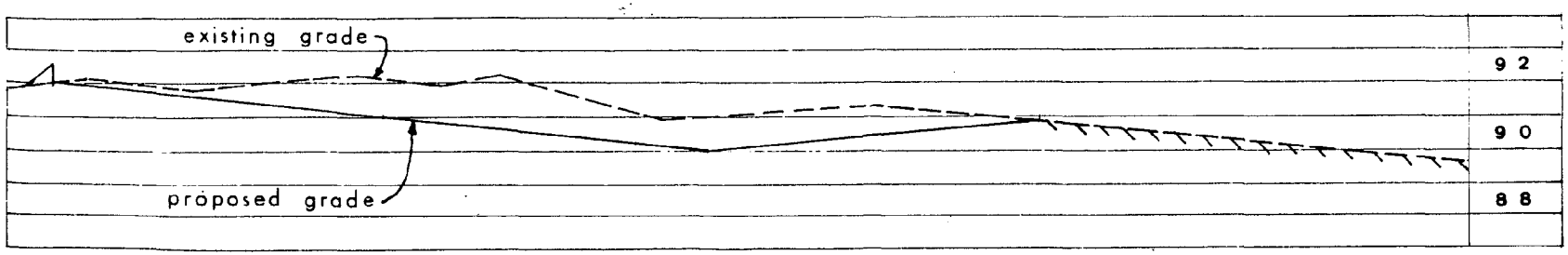
3. Amphitheater initial construction to include utilities, site preparation, service drive and parking lot, seating, platform and landscape development work.

4. Amphitheater structure



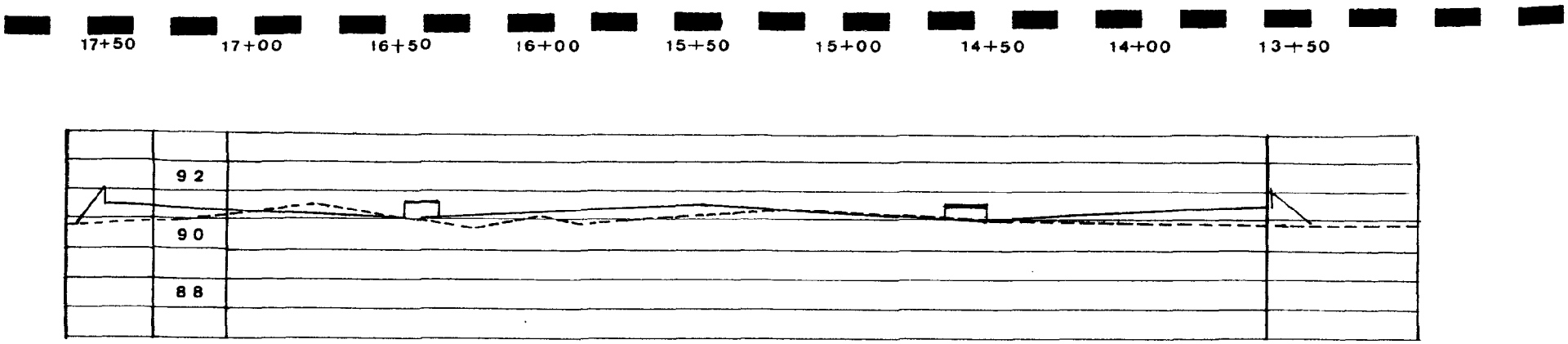
plan - north parking lot

scale: 1" = 50'

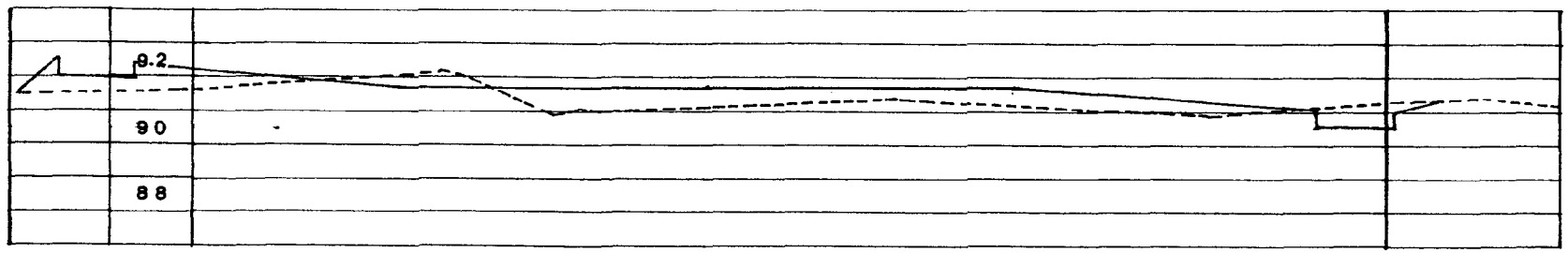


section - centerline profile

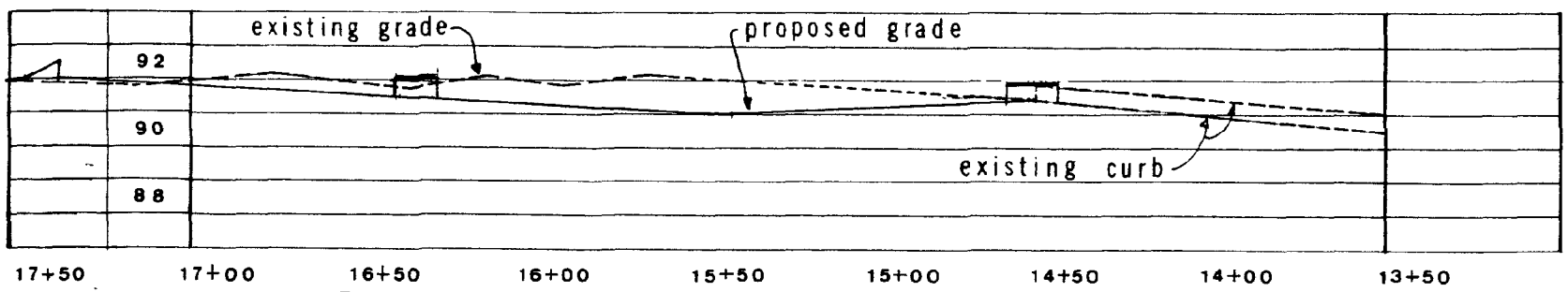
scale: vertical: 1" = 5'



SECTION A



SECTION B



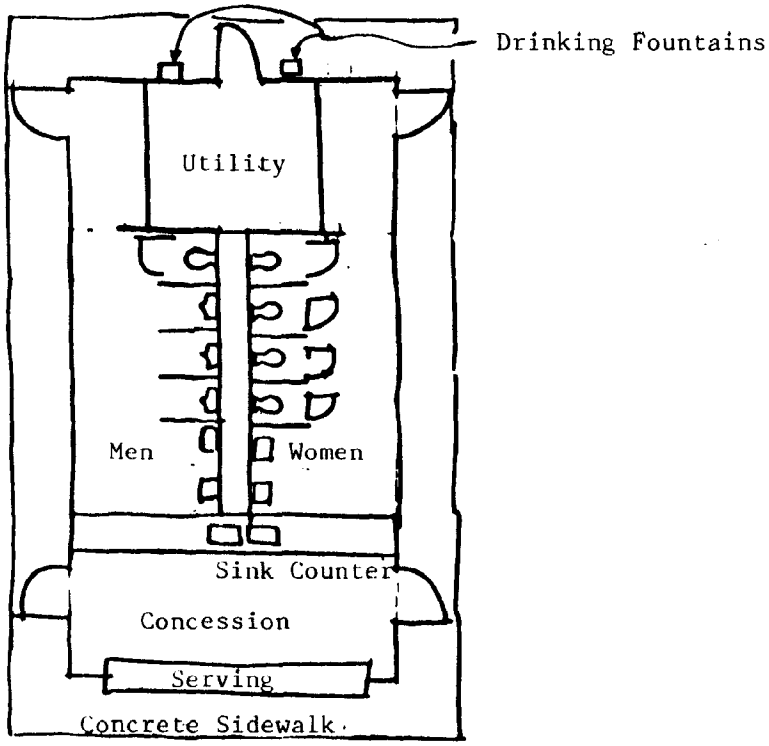
SECTION C

scale: horiz. 1" = 50'
vert. 1" = 5'

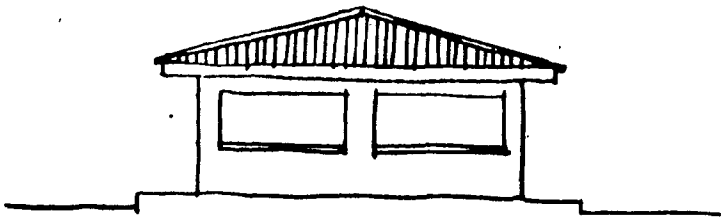
sections - north parking lot

COST ESTIMATE--PROPOSED NORTH PARKING LOT EXPANSION (160 cars)

	No. of Units	Unit Cost	Total Cost
Clearing and Grubbing	2 AC	$2,000.00	$4,000.00
Strip/Stockpile/Place Topsoil	1,000 CY	5.00	5,000.00
Earthwork--Cut and Fill	1,470 CY	4.00	5,880.00
Fine Grading	8,800 SY	.30	2,640.00
Site Drainage			
Inlets	3 EA	750.00	2,250.00
15" R/C Pipe	175 LF	20.00	3,500.00
12" R/C Pipe	290 LF	18.00	5,220.00
Subdrainage System	500 LF	10.00	5,000.00
Concrete Curb	1,620 LF	16.00	25,920.00
Base Course, 8" bank gravel	4,667 SY	2.00	9,334.00
Bituminous Paving 2½"	5,333 SY	5.70	30,398.00
Fine Grading and Seeding	2,600 SY	1.25	3,250.00
Trees	30 EA	150.00	4,500.00
TOTAL			$106,892.00



floor plan



elevation

3. PUBLIC TOILET FACILITIES

In preparing the cost estimates of proposed facilities, the existing toilets have been excluded from the fixture count. At the time of preparation of a construction contract, the quantity of fixtures will be determined. There will be several alternatives; first, use only the existing toilet facilities; second, build a toilet facility utilizing the existing fixtures as part of the fixture count; and third, build a toilet facility with the fixture count meeting the Health Department requirements.

For the purposes of this estimate, the last choice was utilized.

A cost estimate was also prepared for the use of temporary toilet facilities.

Some municipalities find a concession stand a nice amenity. Such a stand could be located at the end of a toilet building as the sketch shows or attached to an amphitheater.

Keeping public toilets and a concession stand away from an amphitheater would minimize congestion around the amphitheater as well as be more readily available for other park users.

A. Permanent Facilities

The following is a summary of three toilet buildings on which competitive bids were received in recent years in the Erie area. All three are of similar design, constructed of similar materials and have the same number of fixtures. Because of the method of bidding, the prices are only approximate. Buildings in Scott and Baldwin Parks were part of a general contract; the building in Zuck Park was the only item constructed. The fixtures include the following:

Men: one lavatory, one urinal, one water closet
Women: one lavatory, two water closets
Utility area: one slop sink
Outside wall: one drinking fountain

Building construction and materials include the following:

Ventilation: natural
Heat: none
Roof: asphalt shingles
Walls: concrete block, spectra glaze or painted
Floor: concrete
Doors: hollow metal
Windows: none--Scott and Baldwin
metal--Zuck

1. William L. Scott County Park, Summer of 1978 (400 SF)

General Construction	$17,000
Plumbing Construction	3,500
Electrical Construction	1,000
Total	$21,500 = $54/SF

2. Gregory Stuart Baldwin Park, Summer of 1975 (520 SF)

General Construction	$13,900
Plumbing Construction	4,800
Electrical Construction	750
Total	$19,450 = $37.50/SF

3. Zuck Park, Summer of 1973 (400 SF)

General Construction	$23,320
Plumbing Construction	4,625
Electrical Construction	1,000
Total	$28,945 = $72.50/SF

In 1982, a range in the construction of a toilet building as part of a general contract can be expected to be between $60 and $75. If the toilet building is the only item on the contract, a range of $75 to $100 could be expected. Cost of utility runs would be added to the above costs.

Placing a construction cost per fixture, the following summary could be assumed. All buildings had eight fixtures:

Scott	$2,690
Baldwin	$2,440
Zuck	$3,620

A project range to 1982 costs per fixture could range from $3,500 to $4,500.

B. Temporary Facilities

Portable toilets or Job Johnnies are a possible alternative to the construction of permanent toilets, particularly if capital money is a problem.

Approximate costs for portable toilets are as follows:

1. Per Event, plus pick-up and delivery charge $80

2. Per Season

A.	Delivery Charge	$10
B.	Rental/Month and Weekly Cleaning	$80
C.	Pick-Up Charge	$10
D.	Additional Cleaning Cost Per Trip	$20

An expected season charge for one portable toilet could run as follows:

1.	Delivery	$10
2.	Rental @ 4 months @ $80	$320
3.	Cleaning @ 3 times per week @ 13 weeks	$780
4.	Pick-Up	$10
	Total Cost Per Season	$1,120

There are several companies in Erie which are in the portable toilet business. Therefore, there is the opportunity to secure competitive prices. If more than one toilet is rented, it could be expected that the clean-up charge could be lower than $20 per unit.

Locating the portable toilets in a relatively secure area would be of benefit to both the County and the rental company.

One option for the use of portable facilities would be to have minimum permanent facilities and supplement the permanent facilities with temporary facilities.

Portable lavatories are available on a rental basis, however, plumbing is required to make the lavatories work. Therefore, permanent lavatories would be best.

COST ESTIMATE--PROPOSED PUBLIC TOILETS/CONCESSION BUILDING

	No. of Units	Unit Cost	Total Cost
Building	880 SF	$75	$66,000
Sanitary Sewer			$5,000
Manhole	1 EA	1000	1,000
8"-VCT	200 LF	20	4,000
Water Service	50 LF	20	1,000
Electrical Service	50 LF	9	450
Concrete Paving	220 SF	3	660
TOTAL			$78,110

COST ESTIMATE--AMPHITHEATER - PHASE A, site utilities, site preparation, service drive and parking lot, stage and landscape development work.

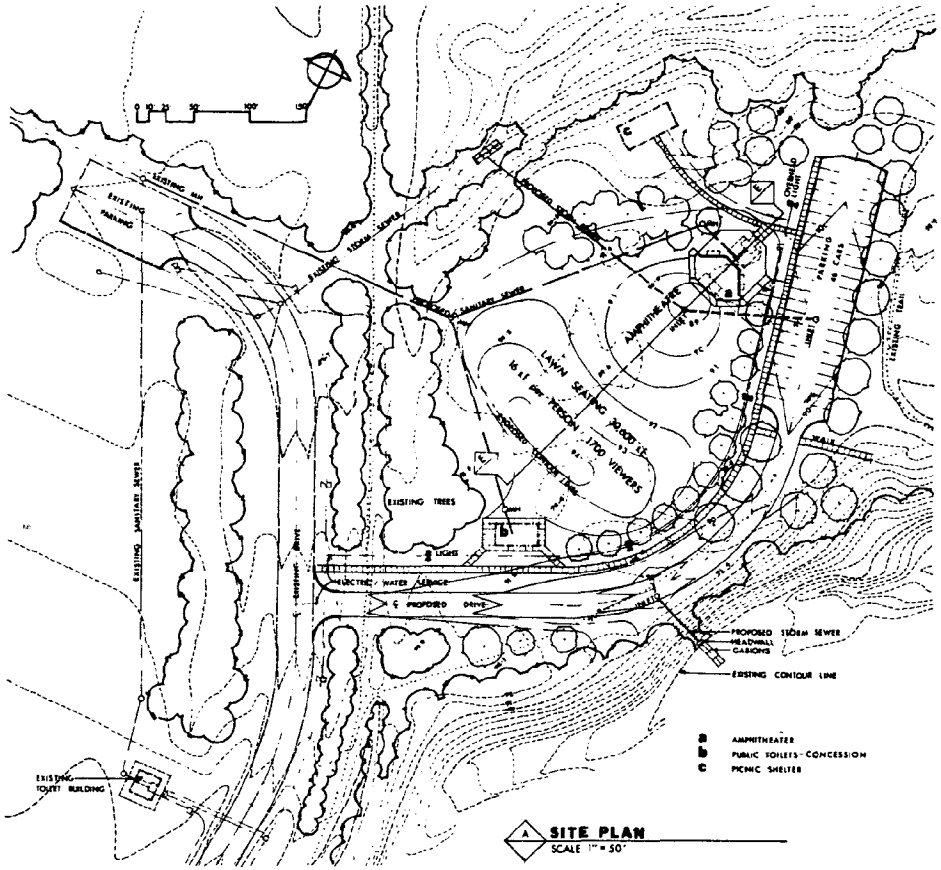
	No. of Units	Unit Cost	Total Cost
Clearing and Grubbing	4 AC	$2000.00	$4,000.00
Earthwork			$19,500.00
Strip/Stockpile/Place Topsoil	1500 CY	5.00	7,500.00
Cut and Fill	3000 CY	4.00	12,000.00
Storm Drainage			$13,275.00
18" R/C Pipe	75 LF	22.00	1,650.00
24" R/C Pipe	205 LF	25.00	5,125.00
Inlets	4 EA	750.00	3,000.00
Headwalls	2 EA	1000.00	2,000.00
Gabion Mat	200 SF	7.50	1,500.00
Circulation			$43.715.00
Fine Grade, 8"-Bank Gravel, 2½"-Bituminous Paving	2790 SY	8.50	23,715.00
Concrete Curb	650 LF	16.00	10,400.00
Concrete Walk	3200 SF	3.00	9,600.00
Amphitheater			$24,000.00
Stage	1400 SF	10.00	14,000.00
Portable Backdrop	10 Sections	1000.00	10,000.00
Electrical Construction			$21,730.00
Service	1400 SF	2.00	2,800.00
Trenching/Wire	770 LF	9.00	6,930.00
Light Poles	4 EA	3000.00	12,000.00
Landscape Development			$15,500.00
Lawn	2 AC	4000.00	8,000.00
Trees	50 EA	150.00	7,500.00
TOTAL			$141,720.00

AMPHITHEATER - PHASE B, structure, sanitary sewer and water line extensions.

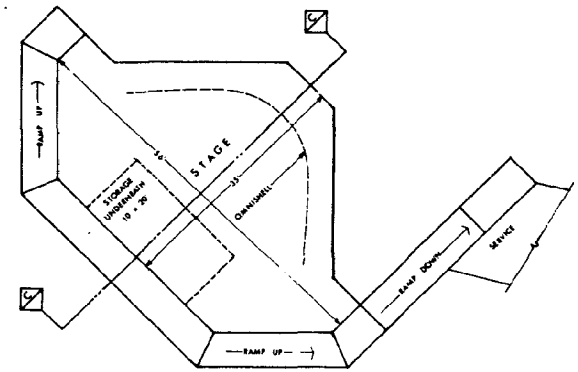
Structure	3148 SF	75.00	$236,100.00
Plumbing Construction			$32,550.00
Manhole	2 EA	1000.00	2,000.00
6"-VCT	590 LF	20.00	11,800.00
Water Line	850 LF	15.00	12,750.00
Drinking Fountain	3 EA	1500.00	4,500.00
Drain & Waste	3 EA	500.00	1,500.00
TOTAL			$268,650.00

COST ESTIMATE--SUMMARY

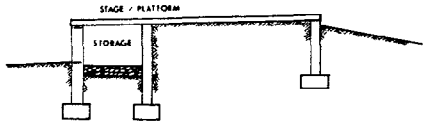
North Parking Lot	$106,892.00
Public Toilets/Concession Building	78,110.00
Phase A: Amphitheater	141,720.00
Phase B: Amphitheater	268,650.00
Subtotal	$595,372.00
Other Costs	
Survey: Topographical, Field Layout	2,000.00
Test Borings	2,000.00
Design Fee @10%	59,537.00
Subtotal	$63,537.00
TOTAL	$658,909.00



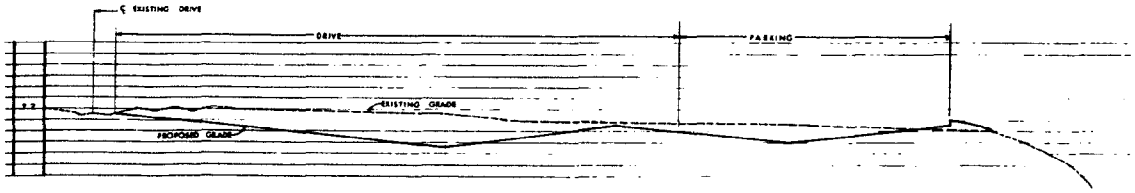
A SITE PLAN
SCALE 1" = 50'



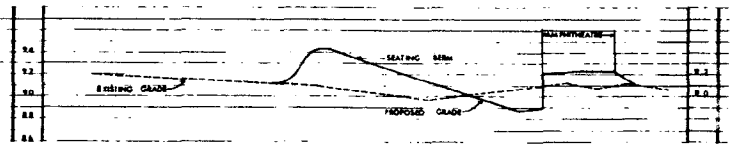
B PLAN - STAGE
SCALE 1/8" = 1'-0"



C SECTION - STAGE
SCALE Horizontal 1/8"=1'-0 Vertical 1/4"=1'-0"



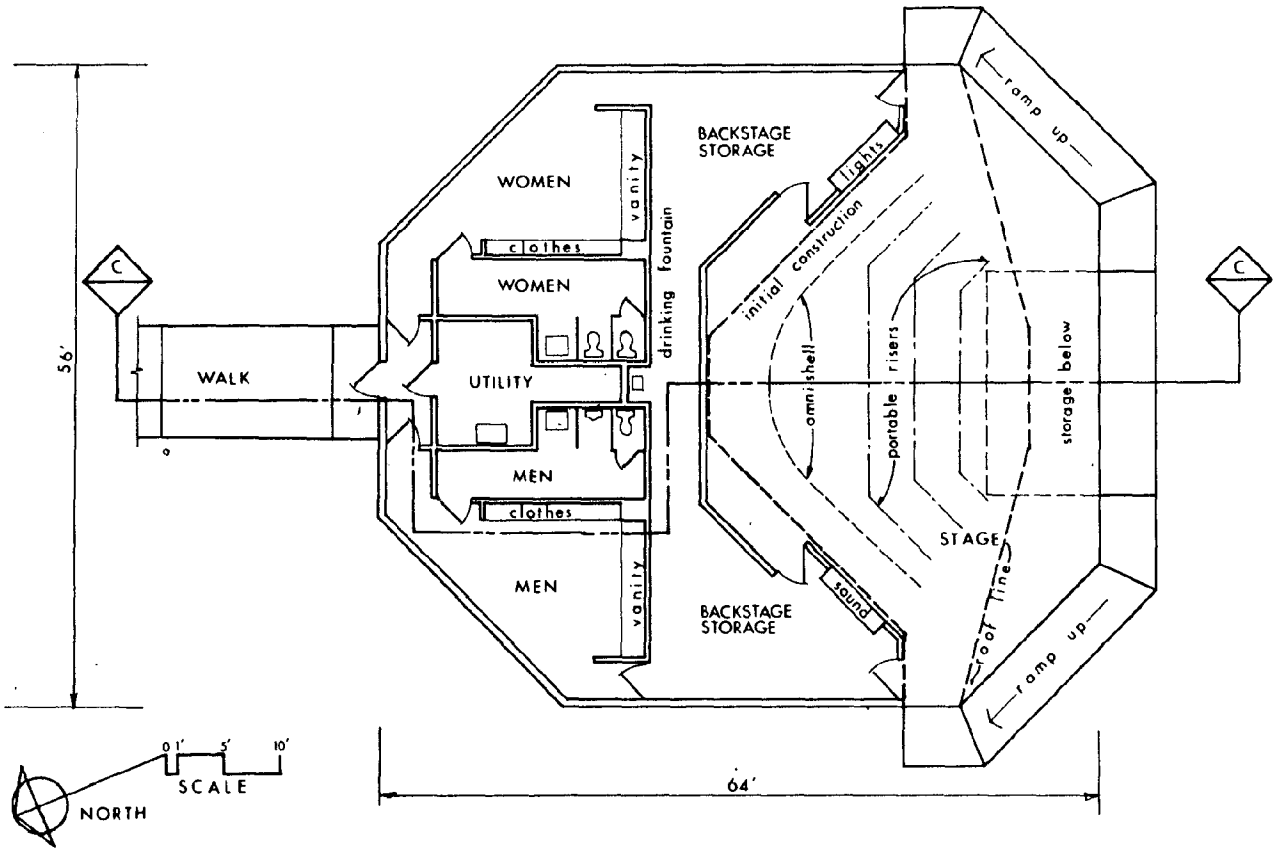
D CENTERLINE PROFILE - DRIVE



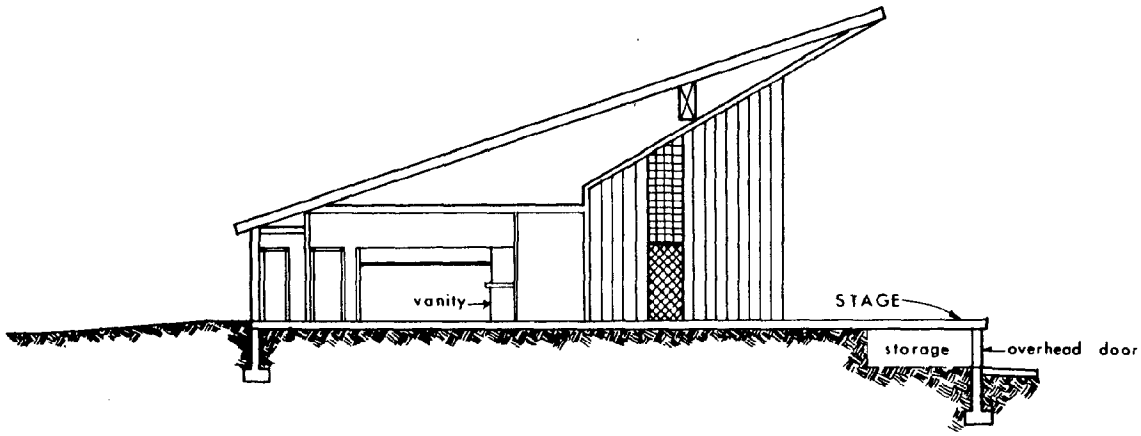
E SECTION - VIEWING MOUND
SCALE Horizontal 1"=50' Vertical 1"= 5'

ALBERT L. MASSEY
LANDSCAPE ARCHITECT
1002 WEST 26th STREET
ERIE, PENNSYLVANIA 16508

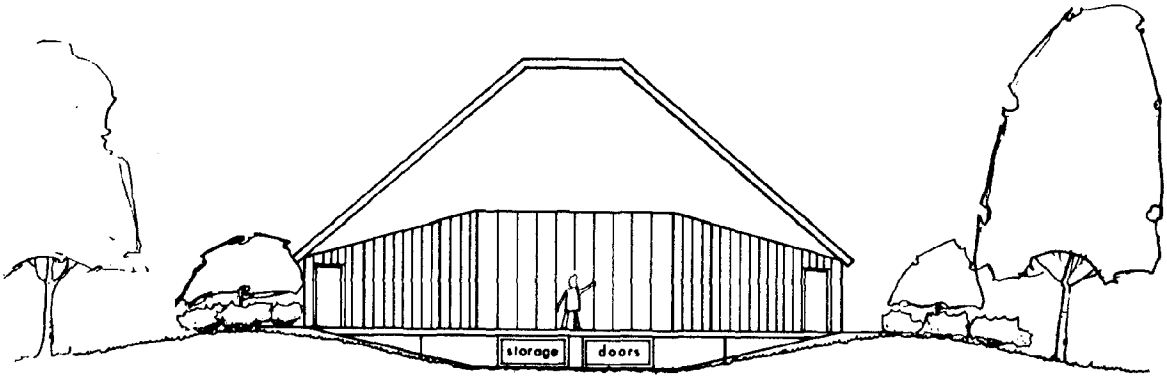
north



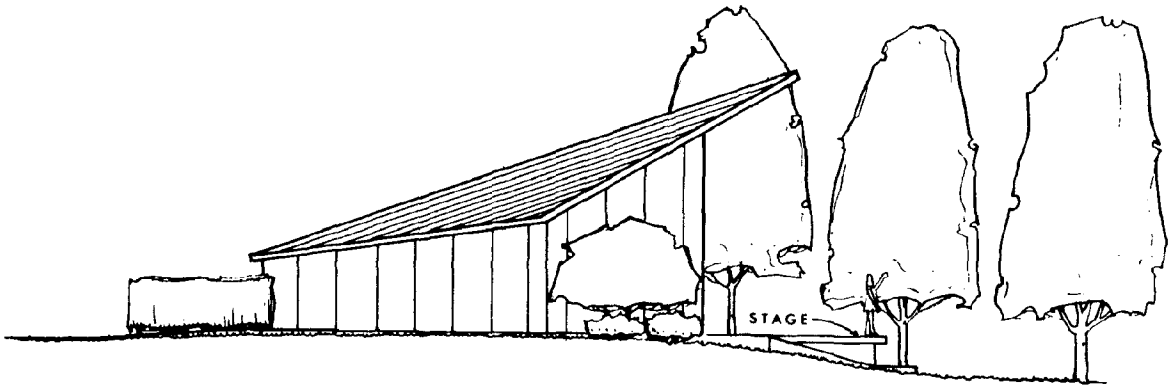
A **FLOOR PLAN**
SCALE 1/8"= 1'-0"



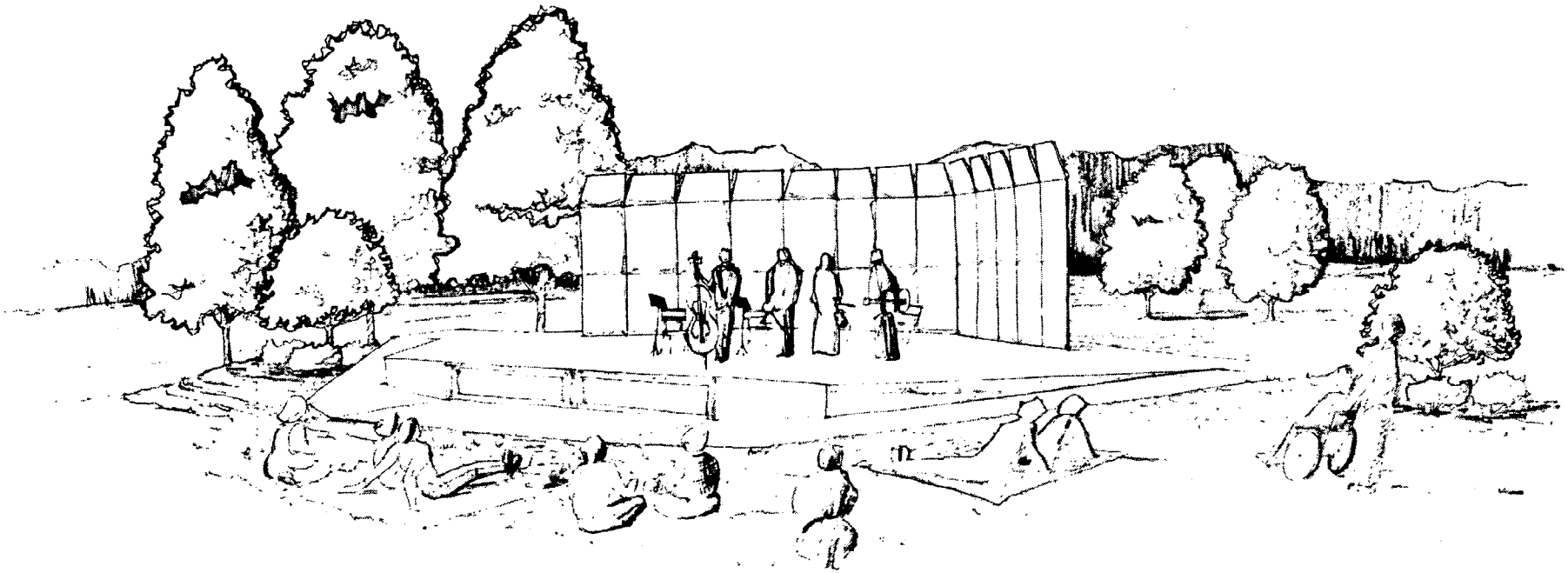
C **SECTION**
SCALE 1/8"= 1'-0"



B **SOUTH ELEVATION**
SCALE 1/8" = 1'-0"



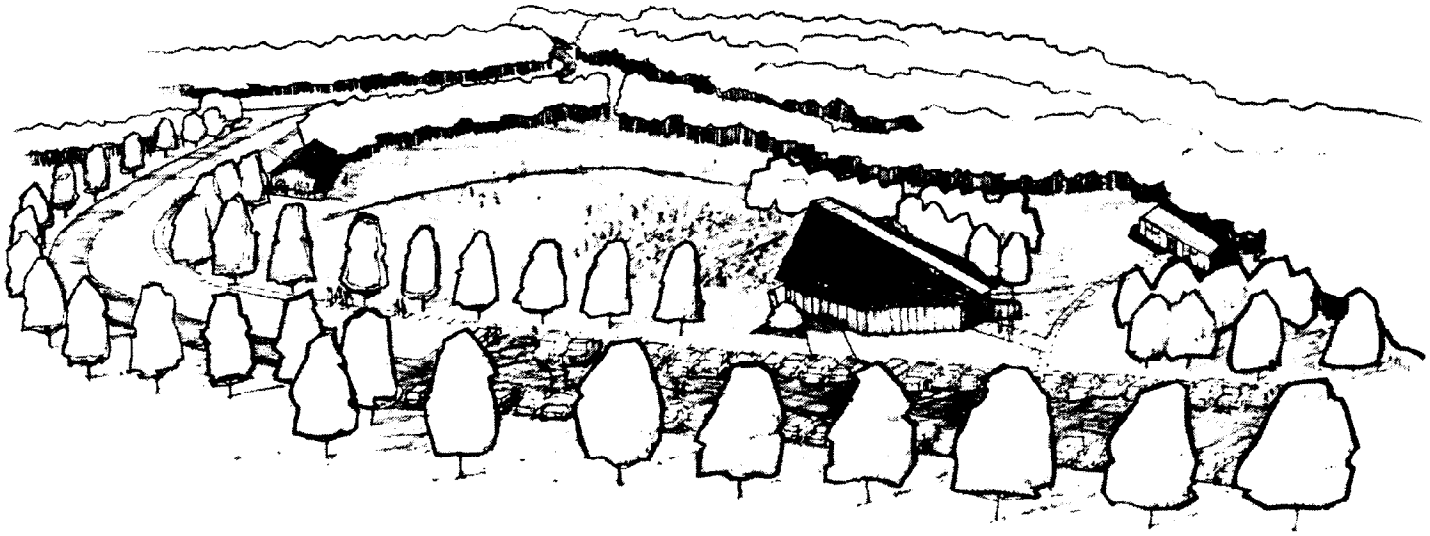
D **EAST ELEVATION**
SCALE 1/8" = 1'-0"



AMPHITHEATER · VIEW OF STAGE

ALBERT L. MASSEY
LANDSCAPE ARCHITECT
1062 WEST 26th STREET
ERIE, PENNSYLVANIA 16508

north



AMPHITHEATER · PERSPECTIVE LOOKING WEST

ALBERT L. MASSEY
LANDSCAPE ARCHITECT
1062 WEST 26th STREET
ERIE, PENNSYLVANIA 16508

north

APPENDIX

REFERENCES

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Climate of Pennsylvania, U. S. Department of Commerce, NOAA (March 1971).

Climate of the United States, Reprint of 1941 Yearbook of Agriculture.

Fogg, George E., Park Planning Guidelines, National Recreation and Park Association, Arlington, Virginia (1975).

A Guide to Designing Accessible Outdoor Recreational Facilities, HCRS, U. S. Department of the Interior, Lake Central Region, Ann Arbor, Michigan (January 1980).

Jorgensen, Jay Lewis, Techniques and Methods of Landscape Design for the Permanently Physically Handicapped, (unpublished thesis), University of Wisconsin, Madison, Wisconsin (1969).

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Ries, Michael L., Design Standards to Accommodate People with Physical Disabilities in Park and Open Space Planning, Recreation Resources Center, University of Wisconsin-Extension, Madison, Wisconsin (1973).

THE FOLLOWING QUESTIONNAIRE WAS MAILED TO POTENTIAL USER ORGANIZATIONS.

FEASIBILITY STUDY: AMPHITHEATER
WILLIAM L. SCOTT COUNTY PARK

The purpose of this questionnaire is to determine the needs and possible users of an amphitheater/band shell type structure. In addition, to try and determine the requirements of the users of the physical space required.

Name of Performing Group: _____

Address: _____

Individual Completing Form: _____

Phone Number: _____

	Yes	No
1. At this time, my organization would be interested in presenting outdoor performances in an amphitheater		
A. Once a season		
B. Twice a season	___	___
C. Once a month (May, June, July, August, September)	___	___
	___	___
If your answer is no, answering the rest of the questionnaire is not necessary.		
2. In addition to performing, my organization usually		
A. Organizes the event		
B. Manages the facility during the performance	___	___
C. Sells tickets	___	___
D. Performs only	___	___
E. Depends on another organization for facility management	___	___
	___	___
3. Admission charges are necessary for my organization to perform.	___	___
4. My organization usually performs		
A. Free of charge	___	___
B. Entry charge		
1. average fee per adult _____		
2. average fee per child _____		
C. Performance charge, total charge per performance _____		
5. My organization requires the following special equipment for a performance: _____		
6. My organization usually has (number) _____ of performers and require a minimum size area of width: _____ feet by depth: _____ feet.		

	Yes	No
7. My organization performs at the following times: 8:00 AM to 1:00 PM; 1:00 PM to 6:00 PM; 6:00 PM to 11:00 PM. _____		
8. My organization usually performs before (number) _____ of persons.		
9. The performances of my organization usually are for:		
A. Benefits	___	___
B. Internally generated programs	___	___
C. Other	___	___
10. If you have any other comments, ideas, proposals, please feel free to comment. _____		

COPY OF QUESTIONNAIRE SENT TO OFFICIALS RESPONSIBLE FOR SIMILAR FACILITIES

AMPHITHEATER QUESTIONNAIRE (for ampitheaters located in the frost belt and a climate similar to Eric, PA). This questionnaire (may) (may not) be duplicated.

Participant:_____ Date:_____

GENERAL INFORMATION

Location_____
Park or Street Park Name City

Year Constructed_____ Approximate Construction Cost_____

ARCHITECTURAL DATA AND MATERIALS

Foundations_____
Outside Face Walls_____
Inside Walls_____
Roof_____
Flooring_____
Use of Space:
Stage:_____ Width:_____ Depth:_____
Approximate height above outside grade:_____
Ceiling height:_____
Mechanical Equipment Room:_____
Heat, type:_____
Electric: Security Lighting:_____
Stage Lighting:_____
Night Area Lighting:_____
Public Phone:_____ Private/Office Phone:_____
Sound System: portable:_____ Permanent:_____
Dressing Rooms:_____
Toilets: Public:_____ Private:_____
Storage Space:_____ Size:_____
Office Space:_____
Other Space:_____
Public Seating: Lawn:_____ Fixed:_____
Approximate Size:_____ Number of Seats:_____
Approximate Annual Maintenance Costs of Amphitheater:_____
Is the lawn seating area used for other activities:_____
Are the existing facilities adequate:_____
Major Problems:_____
_____

PROGRAMMING DATA

Number of uses per year: 1980:_____,1979:_____,1978:_____,1977:_____
Approximate attendence per use:_____ Total per year:_____
Users: Municipal Programs:_____
Other Public Bodies:_____
Private Enterprise:_____
Boy Scouts:_____
Other:_____ User Fees:_____ Amount:_____
Uses: Concerts: Choral:_____,Band:_____,Orchestra:_____,Other:_____
_____

OTHER DATA

Is area enclosed with fencing:_____,Type:_____,Height,_____,Barbed wire:___
Is vandalism a problem:_____
Would you like to eliminate this facility from your program:_____
Would you want a new facility, if you did not have one:_____
Can you name the locations of other public amphitheater:_____

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