

Master Plan
for
BOGAN PARK
Gwinnett County, Georgia



Prepared for:

**Gwinnett County
Department of Community Services**

Prepared by

Cerulea Incorporated

October, 1995



The Bogan Park Master Plan was prepared with the participation and guidance of the Citizen's Steering Committee members. For their efforts we are most appreciative:

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1.0 Project Goals and Objectives

Gwinnett County is striving to create a park system that addresses the diverse needs of a rapidly growing population. Situated in the relatively undeveloped northern reaches of the County, this site is well adapted to the attainment of system-wide and local goals for park and recreation facilities. The rolling, 83.1 acre parcel is half in pasture, and will be developed in a manner which recognizes and incorporates the unique landscape features of this property.

Bogan Park will function within a network of community parks. Each community park in the system reflects a common functional prototype modified in a unique response to the landscape attributes of the particular site. The functional aspects of this plan build on the prototype most recently "fitted to the ground" at Lenora Park in the south-east portion of the County. Key elements of the park concept at this site would include:

- Substantial core acreage of open space, where unstructured recreational activities such as walking, picnicking, kite flying, and frisbee playing would be encouraged and supported;
- A multi-use trail network circulating through open greensward, woodland, wetland and transitional savanna landscapes, providing abundant opportunity for recreation and relaxation in a natural setting;
- Family Aquatics, Gymnasium and Community Center facilities clustered in a beautiful parkland setting to encourage efficient and attractive year-round indoor programming; and
- Organized sports facilities such as Softball/Baseball Fields, Tennis, Basketball, and Volleyball Courts clustered in discrete sub-sections of the park to reinforce the separation of conflicting activities;

To determine the optimal approach to the development of the park facility at the given location, the following tasks were performed:

- Inventory and Analysis of the proposed site and adjacent contributing features to include topography, vegetation, circulation, structures, water resources, natural systems, geology, views, and spatial organization.
- Programmatic Analysis to determine the desires of the local community. This public input was obtained through surveys distributed at public meetings. Priorities were refined in concert with a local Advisory Committee. Final programmatic determination was adopted by the Recreation Authority and Board of Commissioners.
- Alternative Development Concepts were developed to determine the

optimal approach to site plan configuration.

- A final Master Plan concept was developed to reflect a broad spectrum of public citizen and professional staff input.
- Cost Estimates for the total project were developed and from these, a Phase One project description developed for purposes of the solicitation of proposals for final design of the first phase.

Surrounding Land Use and Access

 Single Family Housing

 Existing Subdivision


 Undisturbed Woodland

 Existing Dirt Road

 Buford City Line

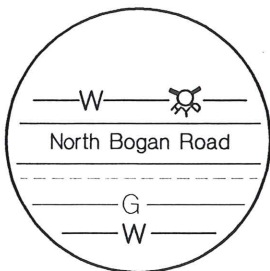
 Existing Water

 Existing Power

 Existing Gas

 Primary Entrance

 Pedestrian Entrance



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2.0 *Site Context*

A rapidly urbanizing county, the suburban population of Gwinnett County has recently surpassed the 430,000 mark and is expected to exceed 700,000 persons by the year 2010¹. The County is in the Atlanta metropolitan area and is located 14 miles north-east of the center of Atlanta.

The formation of a countywide recreation department, known today as the Department of Community Services, Parks and Recreation Division (hereinafter DCS), was authorized by voters in November, 1986. Since the founding of the DCS, numerous community parks have been developed to meet the needs identified in the County's July, 1986 Countywide Comprehensive Recreation Plan. The sequential development of 11 community parks, guided by a prototype contained within the above plan, would call for the development of Bogan Park in this burgeoning portion of the County. The specific area served by this park is referred to as "District K" in current service area maps developed by the DCS staff.

Site selection of this 83.1 acre site was conducted by the staff of the DCS several years prior to the development of this master plan. Over half of the property is an open, rolling pasture. The entire parcel is fenced and is located principally within the 6th District, Land Lot 225. Situated on North Bogan Road at a point within two miles of the Hall County line, the site is readily accessible from local collector roads including North Bogan, Hamilton Mill, and Thompson Mill Roads. The local collector road network near the site may be accessed from Interstate 985 at a point 2.5 miles from the park site.

The surrounding land uses will influence the development to a large degree. With only 900 feet of road frontage, the bulk of the site perimeter (7500 feet) abuts land developed with existing single family housing (or likely to be so developed in the near future). The site is entirely within unincorporated Gwinnett County, although it abuts the corporate city limits of Buford to the north. Consequently, the planning for this park anticipates that the local setting will be fully developed within a few years, resulting in a significant volume of local traffic, to include pedestrian, bicycle, and automobile. Care must be exercised in the grading and landscaping of facilities placed near to the single-family properties to minimize disturbance associated with park activities. A provision for a continuous multi-use perimeter trail loop would address some security concerns by allowing patrol by park security vehicles.

While detailed historical and archeological investigation of the site was not performed, some understanding of the local historical context has been determined (see Appendix B). The park is to be named Bogan Park for one Shadrack Bogan, an early Gwinnett County settler and trader. He is responsible for a mill constructed on nearby Ivy Creek. He was ordered to lay out the road from the Gwinnett County courthouse in Lawrenceville to the Hall County line via Bogan's Mill. This route has been named Bogan Road.

3.0 Methodology

Using a traditional approach to the park planning process, the project progressed through a series of interim tasks to arrive at a consensus master plan. The sequence of tasks performed to develop the Master Plan included:

- Project Start-up to include Base Plan Development, Initial Public Meeting, and formation of the Citizen's Steering Committee;
- Physical Site Inventory and Analysis including walkover of the site and of similarly positioned park facilities in the region (together with the Citizen's Steering Committee). A detailed geotechnical investigation of the site was performed at this time;

and.....

Programmatic Development to include public preferences survey and prioritization by the Citizen's Steering Committee. Various cost estimates were prepared to correspond with the program categories;

- Alternative Conceptual Plan Development where 3 different site plans were developed and presented to the Citizen's Steering Committee;
- Preliminary Master Plan Development where the selected hybrid concept was developed and presented to the Citizen's Steering Committee; and
- Final Master Plan Development where additional comments of the DCS and the Citizen's Steering Committee were incorporated to include refined cost estimates, phase one development prioritization and summary report. The final plan as approved by the Citizen's Steering Committee was subsequently presented to both the Recreation Authority and the Board of Commissioners for review and approval;

A detailed description and duration of each task performed follows:

1. Project Start-up
(February 15 - March 17, 1995)

The Project Start-up task commenced with an informational public meeting on March 9, 1995, held at North Gwinnett High School. This meeting began the project with a public presentation by DCS staff of the project schedule, methodology, and objectives of the Master Plan process. Invitation to the public for those interested in volunteering to participate on the Citizen's Steering Committee was announced at this forum. Also distributed, a Community

Interest Form solicited input as to priorities and preferences for recreational development. Over 100 persons attended, with 43 applying for participation on the Citizen's Steering Committee. Extensive discussions with staff and neighbors resulted in the submittal of 54 Community Interest Forms.

Prior to the start-up meeting, DCS staff transmitted the following to CERULEA for informational purposes and for the development by CERULEA of a reproducible digital base plan of the site:

1. Prints of a recent boundary survey;
2. Print of an aerial photograph; and
3. Prints of the site topography at a four foot contour interval.

CERULEA subsequently obtained a digital file version of the boundary survey from Precision Planning, Inc. CERULEA prepared a composite digital base plan in AutoCad file format to include the topography, mass vegetation cover, water features, circulation, structures, and property information. By the close of this task, DCS staff had appointed the members of the Citizen's Steering Committee to reflect a diversity of interest and residency.

2. Site Inventory and Analysis (March 18 - April 3, 1995)

DCS and CERULEA representatives conducted a morning walkover of the site with the Citizen Steering Committee members. That afternoon, the group toured similar community parks in Gwinnett County (Bethesda, Lenora and Best Friend Parks) as well as some similarly situated community center facilities in the nearby City of Roswell. During this time, the DCS and CERULEA representatives related the successes and shortcomings of other parks, while responding to the observations and questions of the Citizen's Steering Committee.

A. Physical Investigation

The Physical Investigation began with an inventory and ended with analysis of the collected information. The inventory focused on the character defining existing landscape features including topography, vegetation, natural systems (wetlands, woodlands), circulation, non-habitable structures (barn), site furnishings and objects (fences, gates, etc.), visible utilities and water features (springs/streams/ponds). Views and spatial relationships were also identified. The physical inventory process included potential sanitary, water and stormwater systems.

The feasibility of site development and the condition of natural site features was determined. A detailed site walkover was performed Tuesday, March 28, 1995. A general record of information was recorded on several analysis graphics and included in this report:

1. Geology and Hydrology (refer to figure page 4-2): Steep slopes, flat terraces, springs, streams, and wetlands, as well as potential stormwater detention areas were located and graphically represented. Numerous rock outcrops were charted as a result of a visual reconnaissance. Rock outcrop areas were indicated for further geotechnical investigation by Sailors Engineering Associates;
2. Circulation and Built Elements (Refer to figure page 2-1): Adjacent roads, paths, desire lines, former gate and drive locations, adjacent utilities; and
3. Vegetative Analysis (Refer to figure page 4-4) : Mass vegetation was recorded by general type. Principal thematic landscape zones were identified.

B. Programmatic Development

Working diligently to ensure the inclusion of a broad base of community input and participation, DCS advertised and facilitated a second Public Input Meeting on March 21, 1995. This meeting built upon the results from the project start-up task where 54 Community Interest Forms were collected. At this meeting, attended by approximately 60 persons, an additional 30 Community Interest Forms were collected. The DCS tabulated the results of the Community Interest Survey and shared them with the Citizen's Steering Committee at meetings during the Conceptual Development task.

While the DCS staff articulated certain plan elements that may be required, the Citizen's Steering Committee (and general public) were informed that their guidance was needed to shorten the long list of proposed features to allow a "good fit" on the park property. The shortening of the long list would require the citizen's evaluation of the Community Interest Forms. Once the total long-range program for the ultimate site development was determined, the Citizen's Steering Committee was asked to identify priorities for Phase I development based on the stated available budget of \$3.85 million. To assist in this process, CERULEA prepared conceptual cost allowances and land area requirements for the various program elements. The final prioritization list was developed at a meeting with the Citizen's Steering Committee held on March 27, 1995.

3. *Conceptual Development* (April 4 - April 14, 1995)

Three alternative concept plans were quickly developed to consider and integrate proposed program elements. The plans indicated the spatial allocations of the program elements and the circulation scheme (pedestrian and vehicular).

These plans were presented to the Citizen's Steering Committee during a meeting held April 13, 1995.

4. *Preliminary Master Plan Development* *(April 15 - May 18, 1995)*

In response to the expressed aggregate preference of the alternative concepts, CERULEA prepared a fourth concept, "Concept D". This planimetric study was prepared in AutoCad digital format and included a five foot contour grading study. Detailed representations of footprints for parking areas, buildings and sports facilities were included. The detail on the plan was sufficient to demonstrate the technical feasibility of the plan. The plan was presented to the Citizen's Steering Committee for review and comment on May 3, 1995. Comments were obtained and discussion resulted in the identification of further plan refinements. The refined preliminary master plan was presented to the Citizen's Steering Committee on May 18, 1995. Again, the Citizen's Steering Committee prepared a recommendation for Phase I development priorities.

The preliminary findings of the geotechnical consultant were received by DCS and reviewed by CERULEA at this time. Fortunately, the data indicated that while there was mass rock at certain depths below finished grade, the plan as prepared by CERULEA appeared to avoid conflicts with these features. Care would be required in the grading of the parking lots above the tennis complex to avoid shallow bedrock conflicts. An important component of the Master Plan, a cost estimate based on the plan graphic indicated the construction cost anticipated for each element of the overall and phase one development program.

5. *Final Master Plan* *(May 19 - September 5, 1995)*

The DCS, and Citizen's Steering Committee's comments and concerns were incorporated into the development of a final Master Plan with color rendered graphics and text. A specially focussed architectural programming study was required to determine the Phase I spatial allocation for the community center. The community center space would adjoin the Phase I family aquatics facility, and later phase gymnasium. The final meeting of the Citizen's Steering Committee, held June 27, 1995 resulted in the adoption of the final master plan and preparation of a refined prioritization ranking. The plan was presented to and adopted by the Recreation Authority at a public meeting on July 13, 1995. The Recreation Authority adopted the phasing recommendations of the Citizen's Steering Committee.

At a regular meeting of the Gwinnett County Board of Commissioners held September 5, 1995, the Master Plan was presented. The Board of Commissioners accepted the plan and requested the plan be placed on the agenda for adoption in October. The Commissioners accepted the prioritization recommended by the Citizen's Steering Committee and the Recreation Authority with the further request that the roof enclosure for the aquatics center, and baseball fields completion be designed and bid as alternatives during Phase I. The Phase I budget would then be increased at the discretion of the Commissioners to provide for the costs associated with the expanded Phase I program elements.

4.0 Site Inventory and Analysis

The property offers a variety of exciting landscape opportunities and is well suited to park development. These attributes are categorically described in the following narrative. Figures on pages: 2-1, Surrounding Land Use and Access; 4.2, Geology and Hydrology Analysis; and 4.4, Vegetative Analysis offer an overview of the key findings of the inventory and analysis tasks.

Topography

A long ridge runs parallel to the eastern site boundary, dividing the site nearly in half. The ridge landform is the principal character defining landscape element about which all other land features are subordinate. The elevation differential from ridge top to lower elevation at the site perimeter ranges from twenty to seventy feet. The ridge is paralleled to the east and west by minor stream corridors which drain rapidly off of the property.









Approximately 30% of the site, on the western flanks of the ridge has a prevailing slope in excess of 15 percent. This limitation in development potential has been carefully considered in the site planning process. The program calls for the placement of core passive acreage. As the utility of this core acreage would be greatest if it partially occupies some flatter land with good views to the lowland fringe, at least a portion of this open space would occupy the ridge top, the only relatively flat land on the site.

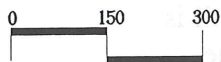
Consideration has been given to the identification of subsurface rock formations. Field reconnaissance identified dozens of surface outcrops of highly weathered granite (see photos, page 4-6). The prevalence of stone is borne out in analysis of soil texture. The typical soil is much higher in sand content and lower in clay content than prevailing piedmont soils. The outcrops are not large enough to offer much value as landscape features as presently exposed. Potentially, the outcrops could be further excavated to reveal more of the rock if the position of the stone is optimal for a desired landscape effect. Based on geotechnical investigation, dozens of auger holes have confirmed the relative depth to competent bedrock at these locations. Project program objectives can be achieved without conflicts with known bedrock locations if care in site planning is observed.

Vegetation

Aerial photographs and field reconnaissance were used to determine the character of vegetation. Vegetative characterizations are represented in the figure on page 4-4. Approximately half of the acreage is wooded. The contrast between the maintained grass pasture on the upland ridge and the wooded slopes forms the initial and lasting impression of the existing landscape composition. The woodland vegetation included oak dominant hardwood forests alternating with successional loblolly pine stands.

Geology & Hydrology Analysis

-  Subsurface Rock
-  Probable Subsurface Rock
-  Slopes > 15%
-  Probable Wetland Area
-  Stream
-  Drainage Swale
-  Water Feature
-  Storm Water Detention Area





(Top) Rolling terrain of the open pasture in the south-east corner of the property. The loblolly pine woodland fringe is evident at the edge of the pasture. (CERULEA, 1995)

(Bottom) View taken from the ridge line at the property frontage on North Bogan Road. The low ground to the right of the image is a groundwater seepage wetland system. (CERULEA, 1995)

Very little of the woodlands are over 50 years in age, however, extensive acreage is maturing in an attractive manner. As a consequence of this summer's drought stresses, pine beetle infestation would necessitate the removal of the limited acreage which is presently in loblolly pine. Fortunately, these same areas are the prime candidates for large scale site modification associated with facilities development.

The steep west facing slope adjacent to the ridge is almost completely covered in a maturing hardwood woodland. The western ravine woodland is the most attractive natural area on the property. Herbaceous flora are most diverse on the moist lower flanks of the western drainage. Various ferns, including cinnamon and christmas fern were well represented in the herbaceous layer at this location. Very little rehabilitation will be required to manage the vegetation at the proposed park.





While disturbed areas associated with park development will require attention, the balance of the property, if left to natural processes will continue to develop in a manner which is compatible with the visual landscape expectations of county park visitors. One issue to consider is the agricultural landscape associated with the pastoral acreage to remain at the fringes of developed areas. In such areas, if unmaintained, natural growth of woody vegetation would result in a very dense understory for many years. While maintenance of a completely open pasture by mowing may be cost prohibitive, an intermediate open landscape, patterned after a natural savanna, would be an attractive maintenance objective in such peripheral areas. Such a savanna landscape would be at least 60 percent open and would be dotted with occasional canopy trees and shrub mass clusters (see photo, page 5-5). This type of landscape treatment would be required to screen views of the park or out of the park on the eastern periphery. Much would be lost in terms of the striking character of the relatively open and broad ridge landscape if a full tree canopy were allowed to develop. Park visitors would be unable to view the lowland ponds and stream course from the central meadow.

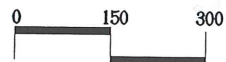
Natural Systems

In addition to the diversity of the upland vegetation, the surface water system, which originates in a series of groundwater seeps at the base of the ridge are critical resources worthy of protection. These seeps are indicated on the figure on page 4-2. A modest wetland system has developed associated with the western seepage and a man-made water feature. This area should be carefully protected during construction. If disturbance is required, the area should be studied to determine the extent of the wetlands. A submittal of a "Request for Routine Determination" should then be sent to the Army Corps of Engineers for concurrence prior to any disturbance.

There is anticipated to be an increased diversity of plant and animal species on the property given the protection of the perimeter woodlands from past grazing disturbance. The development of a trail in the western creek corridor to provide interpretive access to the moist woodland corridor is encouraged to enhance the potential visitor experience at the park.

Vegetative Analysis

-  Pasture (tall grass, etc.)
-  Sucessional Hardwood Woodland with Understory
-  Sucessional Woodland, Pine Stage
-  Probable Wetland Area





(Top) A small pond abuts the eastern boundary of the property. Care is required to direct park visitors from trespassing on the banks of this private pond while not blocking the view (CERULEA, 1995)

(Bottom) A small pond in the northwest corner of the property is almost completely silted. This pond is a man-made element at the south end of a natural wetland system. (CERULEA, 1995)

Circulation

The property enjoys excellent access from North Bogan Road, a local collector which links with Interstate I-985 a distance of 2.5 miles to the south. The site has only 900 feet of road frontage. This short stretch can be carefully planted to announce the community park. Signage development is anticipated at the entrance and would be highly visible from travel in either direction. A review of traffic levels on the road indicates that signalization should not be necessary for many years.

The potential for vehicular access via Hamilton Mill Road has been dismissed given the steep park terrain above the frontage, unsafe intersection sight and stopping distances on Hamilton Mill Road and the impact of the traffic on the adjacent single-family residential property. Other than discontinuous dirt driveways, there are no vestiges of a circulation system on the property. The property terrain would be conducive to general circulation development with a few exceptions. The wetland and steep banked creek corridor to the west may impose severe limitations on park road development.

Water Features

The eastern and western peripheries of the property are graced with two water courses. The eastern water course originates at a groundwater seep several hundred feet south of North Bogan Road. The run-off from the seepage quickly flows off of the property, joining the outflow from an adjacent pond. The resulting creek flows south in a braided manner through a moist hardwood woodland, resulting in a dense vegetative buffer to the east of the property. The adjacent pond is entirely off-site, however, it is an attractive feature which will be enjoyed by park visitors. The enjoyment must be limited to visual access only as any physical access would constitute trespassing. (Refer to photos on pages 4-4 and 4-7.)

On the western side of the property, several hundred feet south of the North Bogan Road frontage, a more robust groundwater seepage flow gives rise to a small wetland system. Based upon cursory investigation, the soils, vegetation, and hydrology in this narrow corridor would appear to satisfy the nationally recognized criteria for designation as a jurisdictional wetland. As the groundwater gathers into an observable surface flow pattern, it flows south a couple of hundred feet into a small artificial impoundment. Through many years of contributing erosion, the pond is now in a condition approaching total sedimentation. The soil embankment dam is deteriorated as a result of vegetative growth. Water flows have undermined portions of the dam, and consequently, little water volume is maintained by the structure.

The potential for restoration of this pond is obvious, although care would be required to preserve the fine trees which have developed adjacent to the embankment and to avoid disturbance of the wetlands upstream. In addition, this point on the site offers a dynamic feature; a cascade of water flows over a granite outcrop exposed at the embankment.



(Top) A typical rock outcrop in the south-east corner of the property. This particular remnant outcrop does not appear to be underlain by competent bedrock and could easily be removed. (CERULEA, 1995)

(Bottom) A typical rock outcrop on the woodland terrace on the south-western side of the ridge. Again, this rock appears to be an isolated remnant and would not appear to limit site development. (CERULEA, 1995)

From the embankment south, the creek flows through a narrow channel (typically under 6 feet wide). The creek flow is incised approximately two feet in the banks of the channel and water depth flows typically under six inches. Along the way, the flow spills over a 3 foot granite outcrop. In some places, the meandering creek flows briefly off and then back onto the property. Therefore, it is important to note that this attractive corridor will require care to encourage respect for property rights without ruining the visual quality of the creek corridor with artificial barriers.



(Above) The clear flowing, meandering creek on the western perimeter must be carefully protected during construction and through the operation of the park after development. (CERULEA, 1995)

A portion of the creek corridor below the impoundment may be well suited to the development of a small pond (under one full acre). If impervious soil materials (soil w/ clay content approx. 40%) are found on the property or artificial pond liners are employed, this element may be developed at this location. Further geotechnical investigation may be required to identify sources of appropriate high-clay soil materials.

Structures, Furnishings, and Objects

With the exception of the small barn in the north-west corner of the property, there are no existing structures. The small barn is believed to be less than 50 years old, has numerous structural flaws and is recommended for removal. Likewise, remnant pasture fencing throughout the site is in poor condition and removal is suggested.

Spatial Relationships

With the longitudinal ridge forming the dominant landform, spatial organization of the property revolves around this feature. The ridge is flanked by an open hillside to the east and a wooded hillside/creek valley to the west. The western creek valley comprises a completely separate spatial definition from the ridge form. Park users could experience a completely unique visual landscape in this valley.

A spatial subset of the ridge landform would include the series of small "pockets" of lower land that punctuate the ridge pasture. There are five such pockets on the east side of the ridge pasture and two pockets on the west side. These pockets are low enough that structures or facilities, parking or other elements could be placed within them and effectively concealed from the initial view of the property upon entering at North Bogan Road. Likewise, the view across the property from either the western or eastern perimeter is abruptly terminated in the ridge pasture. Consequently, activities on one side of the ridge can be readily shielded from those on the other by the intervening landform. In the case of conflicting uses, the master plan concept will be able to capitalize on the natural partitioning of these spaces.

5.0 *Programmatic Analysis*

As the public process moved forward, a Citizen Steering Committee was developed to include individuals selected from the District "K" service area. A broad spectrum of interest in the park was represented on the Committee. The ultimate objective was to obtain the consensus of the Committee as to the priorities for the park program, selection of development concepts from a variety of alternatives and approval of the final Master Plan. The Committee was then asked to submit a list of prioritized plan elements for inclusion in the first development phase to the Recreation Authority. The Recreation Authority adopted the Master Plan and phase one prioritization list as submitted. The Board of Commissioners subsequently reviewed the plan, adopting the Master Plan and phase one prioritization with the addition of some plan elements together with provisions for additional funding.

An initial long list of potential facilities was submitted to CERULEA with an initial prioritization based upon the returned Community Interest Forms (see tabulation in Appendix A). The long list of elements evaluated for inclusion, in order of preference, were:

- Trail System and Open Meadow w/ lake, picnic and play areas, also to include basic infrastructure for the park;
- Family Aquatics Center;
- Community Center (w/ classrooms) together with Gymnasium;
- Baseball and Softball Fields (7 field complex);
- Tennis Courts and Racquetball (10 courts plus racquetball wall);
- Soccer Fields (2 field area 600' x 680');
- Volleyball Courts; and
- Football Fields (2 field area).

In the above list, actual quantities of facilities were suggested by DCS staff. Based upon developable land area within the park, it was quickly determined that adequate space was not available for soccer or football. The other elements were then arranged in alternative configurations together with provisions for support facilities such as utilities, maintenance area, parking and driveways. The final program list as adopted by the Citizen's Steering Committee reflected much the same list as above, but with some additions and refined priorities for phase one development.

After a presentation on the phasing recommendations of the Citizen's Steering Committee and DCS staff, the Recreation Authority voted to follow staff's recommendation with one alteration. They voted to exchange items five and six on the submitted list, as indicated below. The Recreation Authority proposed that the first five items on the list be constructed in Phase I, if possible:

- Trail System and Open Meadow w/ lake, picnic and play areas, to include the basic infrastructure for the park;
- Family Aquatics Center (Phase I pool without a roof enclosure) ;
- Community Center and Gymnasium (Phase I without a gym but with temporary accommodation for outdoor volleyball/basketball courts);
- Baseball/Softball Complex (Phase I partial development);
- Outdoor Volleyball/Basketball Center;
- Baseball/Softball Complex (Complete Development);
- Tennis Complex;
- Family Aquatics Center (Phase II enclosure of pool area for year round use);
- Community Center (Phase II gym construction and center expansion); and
- Passive Area completion.

A more thorough explanation of the program elements follows:

Basic Infrastructure and Passive Features

The park will be supported by a variety of improvements which facilitate access, visitor comfort and use of the property. These elements include:

A. Utilities:

- Storm-Water System: The plan was designed to avoid the traditional approach to storm-water where an extensive pipe network directs run-off to one or two large, steep-walled storm-water detention areas at the edge of the site. Rather, the plan allows for maximal recapture of water through infiltration. This would include:
 1. Large, depressed, planted swales between parking bays and different use areas

within the park. Weirs in the swales, together with infiltration trenches would hold back water for infiltration and plant irrigation. Most of the road system run-off should be routed to these swales.

2. Numerous (at least 12) areas are indicated on the master plan where depressions or water bodies can store volumes of run-off water until infiltrated or until storm flows have subsided in the local watershed.

3. Planting islands in the common area in the baseball complex would be developed with subsurface storage volume (crushed stone, infiltration piping, etc.) To accommodate the run-off from the fields. The outfield arcs, near the fences, would be outfitted with infiltration trenches and inlets to catch fertilizer laden run-off. This enriched run-off would be fed back into the local plantings to the greatest possible extent.

Examples of the above techniques have been employed at Fairland Regional Park in Maryland and in Louisville's Shawnee and Iroquois Parks.

- Potable Water Distribution: Connect to existing water service at North Bogan Road. Potable and fire protection water distribution, to the extent required, would be developed throughout the park.
- Sanitary System: Extend off-site approximately 1000 feet to connect to the Ivy Creek interceptor. Develop the system to serve all site structures, as appropriate.
- Telephone/Communications: Arrange for the extensions of these services to the appropriate building locations on-site.
- Gas and Electricity: Arrange for the extensions of these services to the appropriate building locations on-site.

B. Circulation:

- Park Driveway: Include de-acceleration lane at North Bogan Road and a 24' asphalt driveway (26 feet back-of-curb width). Extend to appropriate length to serve parking lots at each facility developed in each phase.
- Multi-purpose Trails: An asphalt paved, 12 foot wide, Class I multi-use trail loop (over 1.5 mile total loop circuit) is the backbone of the system. A handicapped accessible loop would circulate around the meadow periphery. There is one required at-grade crossing of the main loop and park drive. In later phases, secondary trail loops, would allow access to the natural area along the south-west stream corridor, and to connect to Hamilton Mill Road.

- Parking: Approximately 82 spaces for core passive area and trails.

C. Park Maintenance Area

- A centrally located, fenced, secure 5000 foot open area for equipment, vehicle and bulk storage. A support building of 1000 feet in Phase I, including office and shower, expandable to 1600 feet in later phases.

D. Open Meadow:

- Develop a 6-7 acre meadow on the north-west central portion of the park. Some portions of the meadow would straddle the ridge and the balance would adjoin the proposed pond. The meadow will be used for picnics, frisbee, pick-up ball games, kite flying and other non-structured activities.

E. Water Features:

- Repair the embankment at the existing small pond, taking care not to disturb the upper wetlands. Without disturbing the existing beech trees, develop a more pronounced water cascade effect at the stone outcrop. Extend a secondary trail loop across the embankment.
- A second, 1 acre pond below the existing small pond would be developed. Provisions for use of native impervious soil, imported clay or synthetic liners will be evaluated to address this core program requirement.

F. Landscape Development:

- Tree Canopy Development: A parkwide tree planting effort will accompany the first phase. The meadow area will be fringed by trees, singly and in groups to provide a transitional savanna landscape. Likewise, an open savanna treatment would be developed at North Bogan Road to facilitate open views to the meadow. Continuous canopy development is anticipated in only limited areas to shade parking areas and provide screening of parking areas.

The landscape would be developed to facilitate management based on natural ecosystem models. The following landscape categories are present and would be developed and articulated over time : meadow (greensward/prairie), open tree groves over grassland (savanna), pond fringes and wet woods (freshwater wetland), woodland (oak/hickory forest).

Effects to be avoided are hard edges at the ponds, development of a continuous even-aged tree canopy over much of the park with mowed lawns maintained

everywhere on the ground. Wherever possible, maintain natural forest floor, including shrub layers and organic debris. If maintained properly, the entire park perimeter and large islands within the park proper will return to a native understory of dogwood, redbud, blueberry, azalea, viburnum and other attractive herbaceous materials. The tendency to remove organic materials and plant continuous lawn must be checked.



(Above) An example of a transitional savanna landscape in the south-east corner of the property. Here remnant tree clusters associated with a rock outcrop dot an open pasture landscape. (CERULEA, 1995)

G. Picnic and Play Facilities:

- **Pavilions:** A total of four pavilions are indicated in the final master plan. Two would be developed in the first phase. Of the two initial pavilions, one would be designed for large group assembly (family reunions, etc.) at 2,800 feet while the other would be a prototype for the balance of the pavilions at 1,250 feet. The pavilions would be designed to complement the material palette of the other park structures. The pavilions would be internally illuminated and the larger pavilion would include an adjacent masonry grill area.
- **Picnic Tables:** An allowance for forty picnic tables, together with associated grills, waste receptacles, and pads is anticipated. Some of the tables would be installed at the pavilions. The balance would be placed near the lake and around the meadow in discrete areas to facilitate small group picnic activity.
- **Volleyball:** Sand volleyball courts for informal play would be situated in the core area. Two courts are planned, one near the large pavilion and one on the edge of the open meadow.
- **Play Area:** Two play areas are indicated, to include one in a shaded setting and one in a full sun location. The play areas would include high quality manufactured equipment and play opportunities for a wide range of age classes.
- **Restroom:** Provisions for the development of two identical restroom structures at 625 feet each would include one in the first phase and a second one in a later phase. These buildings would be of masonry construction and the design would complement the other park architecture. The restrooms would be located at opposite ends of the long meadow.

Family Aquatics Center

- A. **Support Building:** Constructed adjacent to and integral with the Phase I community center, a tentative allocation of 3,000 feet for this initial structure would include: two locker/shower rooms; lifeguard office; and mechanical/storage rooms.
- B. **Pool Features:** The aquatics amenities would include two separate pools. These pools include a 25 meter, multi-lane competition pool with a diving area and a zero depth play structure pool of similar size. The play pool would include a 100 foot water slide and an interactive aquatic play structure. A sunbathing deck area would be located between the two pools.
- C. **Pool Enclosure:** In a future phase (and also as an alternative bid item in the first phase), the pool would be enclosed in a permanent structure. This structure would be

permanently erect, with perimeter walls that could be opened to admit natural air and light. The design of the roof structure would be such that the operation of the pool would not be suspended for a long period during roof construction and that the in-place Phase I pool would not be disturbed. A heating and ventilation system would be installed at this time to heat the air in winter and to ventilate the covered space during the warmer months.

- D. Circulation: Allowance is made for parking 200 cars, together with concrete walkways to access the support building.

Community Center

- A. Phase I Development: The initial phase would include grand room, office area, kitchen, foyer, game room, class/meeting area, restrooms, storage, mechanical/electrical area, and circulation spaces.

During Phase I, the space to be occupied by the Phase II expansion will be the temporary location of a basketball court and two sand volleyball courts. The area will be lighted, and would be fenced with a 10 foot tall, black, vinyl-clad chain link fence.

- B. Phase II Development: To include: second grand room, art room, pottery room, art storage, exercise room, exercise storage, general storage, gymnasium, lockers, showers, restrooms, gym storage, mechanical/electrical area, and circulation spaces.
- C. Circulation: Allowance is made for parking 200 cars, together with concrete walkways to access the community center.

Note: Refer to Appendix C for a detailed Community Center program.

Baseball/Softball Complex

- A. Phase I Development: Located in the south end of the site and straddling the ridge, this complex occupies more space than any other facility in the master plan. The size of the seven fields (in feet from home plate to foul pole) are: (2) 120; 180; (2) 200; 225; and 310 feet. In the Phase I scheme, all fields would be fine graded and grassed to allow unstructured play on a first-come, first-served basis. Infrastructure to include irrigation mains (w/ large-radius agricultural spray heads), electrical, water and sanitary service to future building sites is anticipated at this time.
- B. Phase II Development: The completion of the facility at a later phase (or during Phase I contingent upon additional funding) would include sports turf development (sod/sprig), sports irrigation, fencing and arched backstops, sports lighting, scoreboards, scorekeeping stations and PA system, spectator seating, play equipment,

landscape planting, and a 2500 foot concession/restroom building with office and athletic storage.

- C. Circulation: During Phase I, gravel parking for approximately 100 cars will be provided. During Phase II development, allowance is made for driveway extension and parking 420 cars (60 per field) together with concrete walkways to access the field area. An allowance is also made for gravel pavement in general overflow traffic areas.

Outdoor Volleyball and Basketball Complex

- A. Phase I Development: Located at the future site of the Phase II gymnasium, this will be the temporary location for this youth oriented complex. Provisions are for a basketball court and two sand volleyball courts. The area will be fenced with a 10 foot tall, black, vinyl-clad chain link fence.
- B. Phase II Development: Located east of the main park drive, this distinct area of the property would be developed as a secured complex to include a 10 foot tall, black, vinyl-clad chain link fence. Facility elements include a 1600 foot pavilion with office rental equipment storage, and restrooms. The master plan provides for two basketball and 5 sand volleyball courts.
- C. Circulation: During Phase II development, allowance is made for parking 85 cars, together with concrete walkways to access the control pavilion.

Tennis Complex

- A. Phase II Development: Located on the edge of the ridge on the south-west corner of the site, this facility would include up to ten courts arranged in pairs, and a pair of racquetball courts. All courts would be fenced and lighted. An 1800 foot support pavilion would include a pro-shop, vending area, restrooms, and staff offices.
- B. Circulation: During Phase II development, allowance is made for parking 90 cars, together with concrete walkways to access the support pavilion.

6.0 *Development Concepts*

A total of four alternative development concepts have been prepared and presented to the Citizen's Steering Committee during the progress of the work. The fourth plan or "Plan D" is actually a refined preliminary master plan. Plan D was a consensus plan and represents a hybrid approach as recommended by the citizens and staff after considerable discussion. Plans A-C represent the major facility types as conceptual bubbles. CERULEA prepared the shape and arrangement of the bubbles and the alignment of circulation elements in response to the terrain and the desired spatial organization. Plan D was the first plan which represented the facility elements in detail, allowing a complete understanding of the relative size of elements and the spaces between them.

Each plan will be represented on the right, while the text on the left summarizes the comments of the Citizen's Steering Committee and DCS staff, both pro and con, as they pertain to the plan.

All plans show baseball generally in the south end of the site, straddling the ridge. This was done to capitalize on the breadth of open, relatively flat ridge-to terrain and the distance from this area to any adjacent homes which may object to the sports lighting. All concepts show a proposed pond in the western location below the existing pond. Although located in different positions, all concepts include tennis, volleyball, basketball, meadow, perimeter trail, gymnasium, community center, and family aquatics center.

Conceptual Development Plan A

Buildings

- (A) Community Center/Gymnasium
- (B) Family Aquatics Center
- (C) Restroom/Concession Building
- (D) Maintenance/Restroom Building
- (E) Tennis Center Building
- (F) Large Group Shelter

Circulation

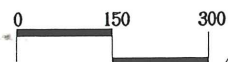
- (G) Park Entrance
- (H) Park Driveway
- (I) Parking
- (J) Walk/Jog/Bike Loop
- (K) Path System Underpass

Active Recreation

- (L) Baseball Complex
- (M) Tennis Complex
- (N) Airnasium/Basketball Courts
- (O) Volleyball

Passive Recreation

- (P) Playground
- (Q) Meadow/Picnic Area
- (R) Lake
- (*) Pavilion



Concept Plan A

Circulation:

The park drive enters at the center of the site and straddles the western edge of the ridge. Most of the parking is consolidated in two very large lots. A small loop at the end of the driveway would allow visitors to drive through a natural woodland setting. The multi-purpose trail loop circulates through a generous peripheral landscape. The multi-use trail would cross the park drive at an underpass.

Pro: The shortest of the three concepts in terms of drive length. Excellent trail loop.

Con: Frequent number of required intersections of the park drive for access to parking and drop areas. Congestion of the drive in front of the aquatics/community center/gym would be hazardous, particularly given through traffic to the baseball area. Disturbance of the southwest woodlands for the park drive. Force a long walk from the north end of the north parking lot to the community center/gym.

Spatial Relationships:

The meadow, ponds, play and picnic activities are all located on the west side of the road. The active use areas such as baseball, gym/aquatics/community center, tennis, and basketball/volleyball are located east of the drive.

Pro: Passive functions arranged as a group on the west side of the park.

Con: Lighted tennis may be too close to the east property line and adjacent homes. Pool may not have a good view to the meadow or pond.

Conceptual Development
Plan B

Buildings

- (A) Community Center/Gymnasium
- (B) Family Aquatics Center
- (C) Restroom/Concession Building
- (D) Maintenance/Restroom Building
- (E) Tennis Center Building
- (F) Large Group Shelter

Circulation

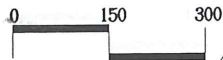
- (G) Park Entrance
- (H) Park Driveway
- (I) Parking
- (J) Walk/Jog/Bike Loop
- (K) Path System Underpass

Active Recreation

- (L) Baseball Complex
- (M) Tennis Complex
- (N) Airnasium/Basketball Courts

Passive Recreation

- (O) Playground
- (P) Meadow/Picnic Area
- (Q) Lake
- (*) Pavilion



Concept Plan B

Circulation:

The park drive enters near the center of the road frontage and curves west of the ponds through a wooded embankment, back over the pond dam and then into a large loop around the southern plan features. The parking is consolidated in a very large northern lot to serve the meadow, aquatics, community center and gym. The multi-purpose trail loop circulates through a generous peripheral landscape. The multi-use trail would cross the park drive at two underpasses.

Pro: Excellent trail loop. Longer drive allows dispersal of intersections and parking lots, less congestion. The driveway would be a pleasant driving experience, particularly in the section above the pond.

Con: The longest (and most expensive) of the three concepts in terms of drive length. The woodlands and embankment west of the pond would be disturbed by driveway construction.

Spatial Relationships:

The meadow, ponds, play and picnic activities straddle the ridge and run from east to west, offering views of the ponds at either end.

Pro: Pool has a good view to the meadow and pond.

Con: There may not be adequate separation between the tennis complex and the baseball complex. Possible wetlands impact north of the existing pond.

Conceptual Development Plan C

Buildings

- (A) Community Center/Gymnasium
- (B) Family Aquatics Center
- (C) Restroom/Concession Building
- (D) Maintenance/Restroom Building
- (E) Tennis Center Building
- (F) Large Group Shelter

Circulation

- (G) Park Entrance
- (H) Park Driveway
- (I) Parking
- (J) Walk/Jog/Bike Loop
- (K) Path System Underpass

Active Recreation

- (L) Baseball Complex
- (M) Tennis Complex
- (N) Airnasium/Basketball Courts

Passive Recreation

- (O) Playground
- (P) Meadow/Picnic Area
- (Q) Lake
- (*) Pavilion

The map illustrates a park layout with various features and zones. Buildings are marked with letters A through F. Circulation is indicated by letters G through K. Active recreation areas are labeled L, M, and N. Passive recreation areas are labeled O and P. The map also shows a lake (Q), a pavilion (*), and a scale bar (0, 150, 300). A north arrow is located in the bottom left corner. The layout includes a large central area with a curved path (J) and a large building (A). Other buildings include B, C, D, E, and F. Circulation features include G, H, I, K, and J. Active recreation areas include L, M, and N. Passive recreation areas include O and P. The map also shows a lake (Q) and a pavilion (*). The scale bar indicates distances of 0, 150, and 300 units. The north arrow points towards the top of the map.

- (A) Community Center/Gymnasium**
- (B) Family Aquatics Center**
- (C) Restroom/Concession Building**
- (D) Maintenance/Restroom Building**
- (E) Tennis Center Building**
- (F) Large Group Shelter**

- (G)** Park Entrance
- (H)** Park Driveway
- (I)** Parking
- (J)** Walk/Jog/Bike Loop
- (K)** Path System Underpass

- Ⓛ **Baseball Complex**
- Ⓜ **Tennis Complex**
- Ⓝ **Airnasium/Basketball Courts**

(O) Playground
 (P) Meadow/Picnic Area
 (Q) Lake
 (X) Pavilion



Concept Plan C

Circulation:

The park drive enters near the center of the road frontage and curves west of the ponds through a wooded embankment, back over the pond dam and returns to the entrance with a return loop. A second loop would circulate through parking lots surrounding the baseball complex and serving the western tennis complex. The meadow and gym/aquatics/community center parking is consolidated in a central lot to serve the meadow, aquatics, community center and gym. The multi-purpose trail loop circulates through a generous peripheral landscape. The multi-use trail would cross the park drive at two underpasses.

Pro: Excellent trail loop. Longer drive allows dispersal of intersections and parking lots, less congestion. The driveway would be a pleasant driving experience, particularly in the section above the pond.

Con: Another long drive compared to Concept A, this approach reduces drive expense compared to Concept B by running the southern drive loop through the southern parking lots. The woodlands and embankment west of the pond would be disturbed by driveway construction.

Spatial Relationships:

The meadow, ponds, play and picnic activities are linked in a north central to north-west cluster. The gym/aquatics/community center is located to the north-east while the tennis facilities are separated from other activities in the woodlands to the southwest. Basketball/Volleyball is located to the south-east, outside of the loop.

Pro: Pool has a good view to the pond to the east. The meadow and western ponds form an excellent spatial unit.

Con: The potential linkage of activities in the meadow to the pool/community center through the parking lot is hazardous. The basketball/volleyball area may be too remote for security purposes.

Conceptual Development Plan D

Buildings

- (A) Community Center/Gymnasium
- (B) Family Aquatics Center
- (C) Restroom/Concession Building
- (D) Storage Yard/Maintenance Building
- (E) Tennis Center Building
- (F) Large Group Shelter

Circulation

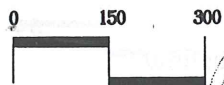
- (G) Park Entrance
- (H) Park Driveway
- (I) Parking
- (J) Walk/Jog/Bike Loop
- (K) Path System Underpass

Active Recreation

- (L) Baseball/Softball Complex
- (M) Tennis Complex
- (N) Airnasium/Basketball Courts
- (O) Volleyball

Passive Recreation

- (P) Playground
- (Q) Meadow/Picnic Area
- (R) Lake
- (*) Pavilion



Concept Plan D

Circulation:

The park drive enters at the eastern end of the road frontage and curves through the eastern portion of the property. The drive would be extended through future phases to serve the parking lots surrounding the baseball complex and western tennis complex. The gym/aquatics/community center parking is consolidated in an eastern lot while meadow parking is located in small lots north and south of the meadow. The multi-purpose trail loop circulates through a generous peripheral landscape. A handicapped accessible trial loop would circulate around the meadow periphery. The multi-use trail would cross the park drive at one underpass.

Pro: Excellent trail loop. The well defined and separated parking lots reinforce the sense of spatial definition by activity. Safety and congestion concerns on the driveway are addressed.

Con: The drive is somewhat less enjoyable in alignment than Concepts B and C. The safety of an overpass was discussed at length, with the Citizen's Steering Committee in support of the grade separation. DCS staff wishes to obtain the concurrence of public safety officials before approving this element.

Spatial Relationships:

The meadow, ponds, play and picnic activities are linked in a north central to north-west cluster. The gym/aquatics/community center is located adjacent to the meadow. Basketball/Volleyball is located to the east-central perimeter, outside of the loop.

Pro: The aquatics/gym/community center cluster has an excellent position on the edge of the meadow and within view of the pond. The volleyball/basketball facility is positioned separate from other facilities in a less remote position. Group picnic activities have been refined to include better placement of pavilions, restrooms, volleyball, and support parking. The natural areas north, west and south of the western ponds are preserved better than in any of the previous Concepts.

Con: Neighbors to the east desire landscape development to screen views of buildings, parking, and athletic facilities.

7.0 Master Plan

Building on the input from the Citizen's Steering Committee, and DCS staff, CERULEA refined the hybrid Concept D. The refined plan was subjected to a number of rigorous analyses to determine the extent of grading and utility development associated with the final locations. The results of geotechnical exploration for sub-surface rock were also carefully compared to the proposed grading plan.

The grading plan was developed based upon the existing four foot contour interval data furnished from the County GIS database. Proposed contours, also at a four foot contour interval were developed and compared to the existing using a digital terrain model. The resulting volumetric approximation for the earthwork was then factored into the overall project budget. At this time, the confirmation of a volumetric balance of cuts and fills assured the feasibility of the plan.

Among the refinements included in the final master plan are :

- Deletion of the trail system underpass at the driveway entrance. Public safety officials did not support this element, fearing for the personal safety of trail users who would pass through the arch-culvert structure. In place of the underpass, an at-grade intersection of trail and driveway is located approximately 700 feet inside the property. To slow bicyclists and roller-bladers, the trail abruptly terminates into a landscaped intersection pavement. Motorists would be warned of the intersection in advance;
- The frontage sidewalk at North Bogan Road has been simplified;
- The configuration of the large group pavilion at the meadow has been refined to provide a more direct link to an adjacent sand volleyball court. Additional parking has been added to the south meadow parking lot. As located, this parking lot could be reserved for groups renting the large pavilion;
- The representation of the architectural space associated with the aquatics facility has been increased to reflect the square footage required for this support facility;
- The volleyball/basketball area is refined to show fewer basketball courts and an additional volleyball court; and
- The baseball/softball complex has been refined to reflect path alignments internal to the complex. The grading, play and path locations are refined to allow for the reconstruction of the three southern fields into two larger fields in the future, should county demographics call for larger fields.

BOGAN PARK

Master Plan

Buildings

- (A) Community Center/Gymnasium
- (B) Family Aquatics Center
- (C) Restroom/Concession Building
- (D) Storage Yard/Support Building
- (E) Tennis Center Building
- (F) Large Group Shelter

Circulation

- (G) Park Entrance
- (H) Park Driveway
- (I) Parking
- (J) Walk/Jog/Bike Loop

Active Recreation

- (K) Baseball/Softball Complex
- (L) Tennis Complex
- (M) Airnasium/Basketball Courts
- (N) Volleyball

Passive Recreation

- (O) Playground
- (P) Meadow/Picnic Area
- (Q) Lake
- (*) Pavilion



8.0 Phasing and Cost Projections

The following table is a categorical representation of the facility costs anticipated for the total project development, per current phasing proposals. A more detailed programmatic description is included in Chapter 5. These costs are derived from the costs breakdown as represented in Appendix E, where each category includes design/testing fees. Phase I construction in early 1996 is anticipated.

Description	Development Cost
Phase I Basic Elements	
Basic Infrastructure and Passive Features	\$1,590,925
Family Aquatics Center (base w/out Pool Enclosure)	\$1,732,915
Community Center (Phase I w/ temporary Court Enclosure)	\$1,157,647
Baseball/Softball Complex - Basic Development	\$578,600
Phase I Subtotal w/ 10% Contingency	\$5,566,096
Phase I Alternates	
Family Aquatics Roof Enclosure	\$1,100,000
Baseball/Softball Complex - Completion	\$1,540,002
Basketball/Volleyball Court - Completion	\$261,177
Phase I Subtotal and Alternates w/ 10% Contingency	\$8,757,393
Phase II Elements	
Tennis Complex	\$615,422
Community Center (Phase II Gymnasium and Expansion)	\$2,415,015
Passive Area Completion	\$192,625
Phase II Sub-total w/ 15% Contingency	\$3,706,520
Total for Concept	\$12,463,914

Note: If the baseball fields complete development is postponed beyond Phase I, add approximately \$97,000 to cover the costs of replacing temporary turf and initial pavements.

Appendix A *Community Interest Form Tabulation*

The table on the opposite page is a tabulation of the submitted Community Interest Forms.

PARKS AND RECREATION DIVISION

North Bogan Road Park Site Master Plan Community Interest Form Tabulation

Public input meetings were held on March 9 and March 21, 1995, to solicit information from the citizens to be served by the new community park being planned for the N. Bogan Rd. site. A total of 91 Community Interest Forms were turned in, with 54 received March 9, 30 received March 21 and 7 received March 24. The results have been tabulated as follows; with "totals" showing the number of times a category was mentioned, and with the succeeding columns showing the priorities given for each category by respondents who listed their priorities.

	Totals	1st	2nd	3rd	4th	5th	Percentages
Nature path walk, hike, jog, bike trails, Roller blading	68	31	15	12	7	3	75%
Swimming pools/kiddie pools indoor/outdoor	64	46	7	4	4	3	70%
Playgrounds sunny & shady	49	25	5	7	8	4	54%
Ball fields softball, baseball youth/adult	49	15	12	13	8	1	54%
Community center facilities	36	20	8	5	2	1	40%
Basketball courts/gym	36	12	6	7	5	6	40%
Tennis courts	32	11	2	4	11	4	35%
Soccer fields	27	8	3	5	5	6	30%
Security patrols, lighting, phones, restrooms	26	21	1	2	2	0	29%
Picnic areas w/BBQ grills	26	6	9	2	6	3	29%
Lake/pond stocked w/fish	17	8	4	2	1	2	19%
Sidewalks paved to park	4	4	0	0	0	0	5%
Volleyball area	4	1	1	1	1	0	5%
After school programs	2	1	0	0	1	0	2%
Summer school programs	2	1	0	0	1	0	2%
Golf	2	2	0	0	0	0	2%
Football fields	2	0	0	1	0	1	2%
Raquetball (3 walls)	2	1	0	0	1	0	2%
Daytime only park	1	1	0	0	0	0	1%
Field for flying kites	1	1	0	0	0	0	1%
Putting green	1	1	0	0	0	0	1%
Kiddie pool area	1	1	0	0	0	0	1%
Street hockey court	1	1	0	0	0	0	1%
Concession area	1	1	0	0	0	0	1%
Horseshoe pits	1	0	0	0	0	1	1%
Frisbie golf course	1	0	0	1	0	0	1%

Appendix B *Historical Investigation*

The following memorandum records the findings of DCS staff regarding the history of one Shadrack Bogan, in whose name the local collector road is named.



GWINNETT COUNTY
Department of Community Services
Parks & Recreation Division
(404) 822-8840

MEMORANDUM

TO: Rex Schuder
Senior C. S. Planner

FROM: Angela Trigg *AT*
Historical Programmer

DATE: May 15, 1995

RE: Shadrack Bogan

I got your May third message regarding information on Shadrack Bogan, which I am finally able to give to you. Following is a biography that I wrote/compiled based on sources at hand in my office. Let me know if you want me to do some more in depth research at other research sites.

SHADRACK BOGAN

William Shadrack Bogan was born in Anson Co., N.C. in 1787, son of William Patrick Bogan and Elizabeth Denson. Shadrack Bogan married Ann Foster Fee in St. Paul's Episcopal Church in Augusta, Georgia on 3 March 1815. Right after they were married, they left for the area that would later be Gwinnett County to begin their new life together. His wife Ann was a native of Augusta and was born 21 December 1798, daughter of George Fee and Elizabeth Foster, emigrants from England.

Upon arriving in soon-to-be Gwinnett County, they settled for a short while in Hog Mountain. At the conjunction of many Native American trails, Mr. Bogan set up a trading post and was soon doing very well. He also erected a hotel, called the "Hog Mountain House", supposedly the first erected in the county. Mr. James C. Flanigan in The History of Gwinnett County, Volume II says that the hotel "was known far and wide for its hospitality, comfortable beds and good food." (page 147). The following are the rates of charges that a proprietor was allowed to collect in the early days of the county, as ruled by the Inferior Court:

Single meal, each	\$.37
Persons traveling in public conveyances, each meal	.50
Man or woman, per day	1.25

Man and horse, per night	1.50
Horse, per day	.75
Board, man, per week	5.00
Board, horse, per week	3.00
Board, man, per month	15.00
Board, horse, per month	10.00
Board, man, per year	150.00

Mr. Bogan's associate at the trading post, Mr. Gilmore, helped with the buying, and the tribes began calling Mr. Gilmore "Open Hand" and Mr. Bogan "Santalanks" which apparently meant "Trader" in either Cherokee or Creek. [REX--I can try and verify this meaning and which language it belongs to, if you want.]

His chief competitor in the trading business was the store operated by William Maltbie, another founder of Gwinnett County. In their stores, one could find such items as "corded bedsteads, feather beds, walnut sideboards, windsor chairs, candlesticks, spinning wheels, looms, reels, looking glasses, pewter basins, sitting chairs, copper stills, Dutch ovens, iron spiders, tea kettles, cedar piggins, jugs, decanters, London window glass, wine glasses, dueling pistols, shot, powder horns, gunpowder, hand-made saw-gins, Swede iron, saddles, gigs, harness, corsets for men, tin trunks, bombazetts, osnaburgs, saddlebags . . . muscovado sugar, Jamaica and Antigua rum, Spanish brandy, Philadelphia rye whiskey, Teneriffe wine, claret, Holland gin, Malaga wine, London porter, Spanish 'segars.'" (History of Gwinnett County, Volume 1, page 30) Also, these stores likely carried such goods as perfumes, oils, soaps, brushes, razors, oranges, almonds, raisins, and preserves.

A humorous anecdote has been passed down, but it is not known how valid it is. It is said that one day, Mr. Bogan was doing very good business trading whiskey for fur with members of the local tribes - they kept coming back with more and more furs. Finally, Mr. Bogan checked his supply of furs and discovered that he only had three in stock and that there was a handy hole in the wall which the tribesmen used to pull out the furs and trade them back in for more whiskey.

After the county was formed, Mr. Bogan did his part in helping the county get established. In 1821, along with Patrick L. Dunlap and John Winn, Mr. Bogan was ordered to lay out and mark the best route between the new Gwinnett County courthouse in Lawrenceville to the courthouse in Hall County, as far as the county line. The route decided upon conveniently passed by Mr. Bogan's hotel and tavern, "Hog Mountain House." Later, in 1824, this original order was changed so as to run the road from Lawrenceville to the Hall County line via Bogan's Mill. This road is now known as Bogan Road.

Mr. Bogan built his mill on Ivy Creek sometime in the early 1820s, near the present intersection of I-85 and S.R. 20. Later, the Woodward family came into possession of this mill and so was known as Woodward's Mill. This mill was unfortunately destroyed by fire in 1976.

When the first mail route was established through this part of Georgia in 1821, Bogan's trading post was one of the stops. The route was between Monticello, Georgia, and Gainesville, Georgia by way of Monroe, Lawrenceville and Hog Mountain. The route was traveled once every 2 weeks!

As was typical with many enterprising pioneers, Mr. Bogan and his family moved further west as opportunities expanded. He drew a gold lot (40 acres) in the Cherokee Land and Gold Lotteries of 1832 in what became Cass County (later Bartow County) and moved his family there around 1835. He then moved to Cherokee County, Al. He is belived to have died on 15 April 1857.

Sources: James C. Flanigan, The History of Gwinnett County, Georgia, Volumes 1 and II; Alice S. McCabe, Gwinnett County Families; Marvin Nash Worthy, The History of Gwinnett County, Georgia, Volume III; Mary Ogletree Pharr, Woodward's Mill

Appendix C

Community Center Programming Study

The table on the opposite page records the results of an architectural programming study of the proposed multi-phased community center and gymnasium. These aggregate figures are included in the total project cost estimate (Appendix E).

Gwinnett County Department of Community Services

Community Center Conceptual Program

Bogan Park Program Phasing

Room Priority	Room Name	Phase I	Phase I Cumulative	Phase II	Phase II Cumulative	Total Sq. Footage
1	Grand Room					6600
	Phase I	3300	3300			
	Phase II			3300	3300	
2	Office Area	500	3800			500
3	Kitchen	300	4100			300
4	Foyer					1450
	Check-In	200	4300			
	Snack Area	100	4400			
	ADA Bathrooms	450	4850			
	Seating	250	5100			
	Game Area	400	5500			
	Big Screen T.V.	50	5550			
5	Game Room					1000
	Pool Table	300	5850			
	Ping Pong Tables	300	6150			
	Video Games	100	6250			
	3 Game Tables	300	6550			
6	Class/Meeting					570
	30 Seated People	400	6950			
	Audio/Visual	120	7070			
	Equipment Storage	50	7120			
		Phase I	Phase I Cumulative	Phase II	Phase II Cumulative	Total Sq. Footage
7	Arts					2850
	Art Room			750	4050	
	Pottery			1600	5650	
	Storage			500	6150	
	Exercise Room					1500
	Exercise Area			1250	7400	
	Storage			250	7650	
9	General Storage	950	8070	1200	8850	2150
10	Gymnasium					12355
	Gymnasium			10795	19645	
	Lockers/showers/Restrooms			1200	20845	
	Storage			360	21205	
	TOTAL ASSIGNED SQ. FOOTAGE	8070	8070	21205	21205	29275
	Mechanical Area					
	Electrical Area					
	Circulation Space	968	968	2545	2545	3513
	TOTAL SQUARE FOOTAGE	9038	9038	23750	23750	32788

The 3000 sq.ft. Aquatic Support Building (estimated value of \$285,000) is not included in this program as it will be funded as part of the Family Aquatics Center

Appendix D

Maintenance and Operations Expense Summary

The DCS staff have prepared the statement of annualized operating and maintenance expenses on the opposite page.

BOGAN ROAD
OPERATING EXPENSE/REVENUE ANNUALIZATION

EXPENSES		REVENUES	
AQUATICS			
STAFF	\$43,380	ADMISSIONS (\$4)	\$126,000
UTILITIES	\$15,000	PASSES	\$8,000
CHEMICALS	\$3,000	RENTALS	\$2,000
PROGRAM SUPPLIES	\$2,150	LESSONS	<u>\$21,000</u>
PROFESSIONAL SVC	<u>\$10,200</u>		
	\$73,730		\$157,000
RECREATION (COMM CTR)			
STAFF	\$65,000		
UTILITIES	\$24,200		
PROGRAM SUPPLIES	\$4,350		
DUES & SUBSCRIPTIONS	\$220		
PRINTING	\$7,000		
POSTAGE	\$385		
MILEAGE	\$100		
PROFESSIONAL SVC	<u>\$25,300</u>		
	\$126,555		\$61,990
PARK MAINTENANCE			
STAFF	\$73,000		
INDUSTRIAL SUPPLIES	\$11,300		
GEN'L OPERATING	\$6,615		
MACH & EQ	\$700		
INDUSTRIAL R & M	\$4,500		
RENTALS	\$1,500		
DUMPSTERS	\$1,200		
HAULING	\$200		
UTILITIES (STREET LIGHTS)	<u>\$3,500</u>		
	\$102,515		
	\$302,800		\$218,990

Appendix E
Construction Cost Estimate

The following pages include a total project construction cost estimate.

BOGAN PARK PROGRAM : 83.1 Acres Site Area
Gwinnett County Department of Community Services - Parks Division
Opinion of Probable Construction Cost: Total Master Plan
Prepared by: CERULEA Incorporated
September 13, 1995

Code	Description	Quantity	Unit Price	Buffers Driveway Utilities	Trails Picnic Meadow Pond	Family Aquatics Center	Tennis Center	Baseball Complex	Community Center w/ Gymnasium	Basketball Volleyball Courts	Subtotal
02000	Sitework										
02010	Tree Protection Fencing	1.00	\$18,000.00 LS	\$300.00	\$6,000.00		\$3,000.00	\$2,500.00			\$11,800.00
02010	Erosion Control	1.00	\$40,000.00 LS	\$12,000.00	\$12,000.00	\$5,000.00	\$3,000.00	\$21,000.00	\$500.00	\$500.00	\$54,000.00
02050	Misc. Demolition - Fences, Barn	1.00	\$10,000.00 LS	\$10,000.00							\$10,000.00
02100	Clearing & Chipping	20.00	\$3,700.00 AC	\$10,000.00	\$7,000.00		\$14,500.00	\$20,000.00		\$3,000.00	\$54,500.00
02200	Earthwork - Site Balance	260000.00	\$2.10 CY	\$60,000.00	\$40,000.00	\$46,000.00	\$40,000.00	\$285,000.00	\$40,000.00	\$35,000.00	\$546,000.00
02444	Chain-link Fences - 6' Galv. @ Baseball	6430.00	\$10.00 LF					\$64,300.00			\$64,300.00
	Backstops - Arch (Small)	2.00	\$9,500.00 LF					\$19,000.00			\$19,000.00
	Backstops - Arch (Large)	5.00	\$12,000.00 LF					\$60,000.00			\$60,000.00
	Temporary Basketball/Volleyball vinyl - 10'	600.00	\$30.00 LF						\$18,000.00		\$18,000.00
	Court Perimeter - 10'	1200.00	\$16.00 LF							\$19,200.00	\$19,200.00
02462	10 Tennis Courts (Set of 2 Courts, Lighted)	5.00	\$60,000.00 LS				\$300,000.00				\$300,000.00
	Volleyball Courts - Sand	7.00	\$5,000.00 LS		\$10,000.00		\$25,000.00		\$18,000.00	\$25,000.00	\$53,000.00
	Racquetball Wall Court	1.00	\$25,000.00 LS						\$25,000.00		\$25,000.00
	Basketball Courts (Per Set, No Lights)	1.00	\$25,000.00 LS						\$25,000.00		\$50,000.00
02470	Children's Play Area	3.00	\$40,000.00 LS		\$80,000.00			\$40,000.00			\$120,000.00
02480	Planting (Trees, Shrubs, Groundcovers)	1.00	\$3,000.00 AC	\$32,000.00	\$25,000.00	\$10,000.00	\$8,000.00	\$12,000.00	\$10,000.00	\$3,000.00	\$100,000.00
	Seeding Disturbed Areas (Guaranteed Stand)			\$15,000.00	\$18,000.00	\$2,000.00	\$6,000.00	\$19,500.00	\$1,000.00	\$3,000.00	\$64,500.00
	Sod Infield/Outfields	260500.00	\$0.37 SF					\$96,385.00			\$96,385.00
02495	Picnic Tables/Pads/Grills/Waste Recept.	1.00	\$18,000.00 LS		\$18,000.00			\$8,000.00			\$26,000.00
	Signage	1.00	\$30,500.00 LS	\$15,000.00	\$3,000.00	\$2,000.00	\$2,000.00	\$3,000.00	\$2,000.00	\$500.00	\$27,500.00
02510	Asphalt Paving - Phase I Drive, Maint. Area	7600.00	\$9.25 SY	\$70,300.00	\$27,750.00						\$70,300.00
	Asphalt Paving - Core Parking - 82 Cars	3000.00	\$9.25 SY								\$27,750.00
	Asphalt Paving - Baseball Park/Drive - 420 Cars	21100.00	\$9.25 LS			\$72,150.00		\$195,175.00			\$195,175.00
	Asphalt Paving - Aquatics Parking - 200 Cars	7800.00	\$9.25 LS						\$72,150.00		\$72,150.00
	Asphalt Paving - Comm. Center/Gym Park. - 200	7800.00	\$9.25 LS						\$72,150.00	\$30,987.50	\$30,987.50
	Asphalt Paving - Court Area - 85 Cars	3350.00	\$9.25 SY								\$40,237.50
	Asphalt Paving - Tennis Parking - 90 cars	4350.00	\$9.25 LS				\$40,237.50				\$109,150.00
	Asphalt Trail Loop - 8800lf @ 12'	11800.00	\$9.25 SY		\$109,150.00						\$52,000.00
	Asphalt Trail Loop - 5850lf @ 8'	5200.00	\$10.00 SY		\$52,000.00						\$242,350.00
02514	Concrete Walks/Paths/Steps		\$2.25 SF	\$13,000.00	\$7,500.00	\$12,750.00	\$28,000.00	\$150,000.00	\$25,000.00	\$6,100.00	\$40,000.00
	Gravel Pavement - Baseball Core	40000.00	\$1.00 SF					\$40,000.00			\$40,000.00
	Concrete Curb & Gutter - Park Drive	5800.00	\$8.00 LF	\$46,400.00							\$46,400.00
	Curb/Gutter - Core Parking	1460.00	\$8.00 LF		\$11,680.00						\$11,680.00
	Curb/Gutter - Aquatics Parking	2835.00	\$8.00 LF						\$22,680.00		\$22,680.00
	Curb/Gutter - Comm. Center/Gym Park	2835.00	\$8.00 LF								\$22,680.00
	Curb/Gutter - Tennis Parking	1750.00	\$8.00 LF			\$22,680.00	\$14,000.00				\$14,000.00
	Curb/Gutter - Court Parking	1220.00	\$8.00 LF							\$9,760.00	\$9,760.00

BOGAN PARK PROGRAM: September 13, 1995

Page 2

Code	Description	Quantity	Unit Price	Buffers Driveway Utilities	Trails Picnic Meadow Pond	Family Aquatics Center	Tennis Center	Baseball Complex	Community Center w/ Gymnasium	Basketball Volleyball Courts	Subtotal
02000	Sitework										
	Curb/Gutter - Baseball Parking	9900.00	\$8.00	\$30,000.00	\$6,000.00	\$10,000.00	\$6,000.00	\$79,200.00	\$12,000.00	\$3,000.00	\$79,200.00
02660	Exterior Water Distribution- Total System		LS					\$12,000.00			\$79,000.00
	Drinking Fountains		LS		\$7,000.00						\$7,000.00
02680	Sanitary Sewer Lines - Total System		LS	\$105,000.00							\$105,000.00
	Sanitary Sewer - Force Main Allowance		LS								\$8,000.00
02720	Storm Drainage System	1.00	\$180,000.00	\$16,200.00	\$10,000.00	\$17,000.00	\$30,000.00	\$100,000.00	\$17,000.00	\$3,600.00	\$193,800.00
	Bridge Crossings @ Path	2.00	\$9,000.00		\$18,000.00						\$18,000.00
	Pond Overflow/Weirs	2.00			\$26,000.00						\$26,000.00
	Irrigation System @ Baseball Sports Turf	260500.00	\$0.30					\$78,150.00			\$78,150.00
06000	Maint. Station (1000sf)	1.00	\$80,000.00	\$80,000.00							\$80,000.00
	Restroom (625sf)	2.00	\$60,000.00		\$120,000.00						\$120,000.00
	Comm. Center Initial Development (9038sf)	1.00							\$858,610.00		\$858,610.00
	Comm. Ctr./Gym Expansion (23750sf)	1.00							\$2,256,250.00		\$2,256,250.00
	Aquatics Center Support Building (3000sf)	1.00			\$285,000.00						\$285,000.00
	Family Aquatic Center - Outdoor Facilities	1.00			\$1,115,000.00						\$1,115,000.00
	Family Aquatic Center - Later Phase Enclosure	1.00			\$1,000,000.00		\$153,000.00				\$1,000,000.00
	Tennis Center/Pro-Shop/Maint. - 1800 sf	1.00	\$153,000.00								\$153,000.00
	Road/Path Crossing Hardscape Allowance	1.00	\$18,000.00								\$18,000.00
	Court Area Support Pavilion	1.00	\$119,000.00		\$18,000.00					\$119,000.00	\$119,000.00
	Baseball Support Building - 2500sf	1.00	\$212,500.00					\$212,500.00			\$212,500.00
	Scorekeepers Booth	7.00	\$5,000.00					\$35,000.00			\$35,000.00
	Team Bench w/ Roof	14.00	\$3,000.00					\$42,000.00			\$42,000.00
	Picnic Pavilion (3 @ 1250sf ea)	3750.00	\$35.00		\$131,250.00						\$131,250.00
	Picnic Pavilion (Custom Design)	2800.00	\$35.00		\$98,000.00						\$98,000.00
16000	Ga. Power/Phone Cable - Park/Road Lights	1.00		\$10,000.00	\$18,000.00	\$8,000.00	\$6,000.00	\$18,000.00	\$8,000.00	\$6,000.00	\$74,000.00
	Baseball Sports Lighting/PA/Scoreboards		LS								
	Tennis Lighting (Included w/ Tennis Court price above)	1.00	\$363,000.00					\$363,000.00			\$363,000.00
	SUB-TOTAL			\$525,200.00	\$879,330.00	\$2,607,580.00	\$686,737.50	\$1,975,710.00	\$3,386,190.00	\$292,647.50	\$10,353,395.00
	Other: Geotechnical Allowance			\$3,000.00	\$6,000.00	\$15,000.00	\$3,000.00	\$8,000.00	\$15,000.00	\$2,000.00	\$52,000.00
	Design Fee			\$35,917.60	\$60,202.44	\$178,335.44	\$46,902.15	\$134,892.28	\$231,280.92	\$20,036.03	\$707,566.86
	TOTAL PROJECT COST			\$564,117.60	\$945,532.44	\$2,800,915.44	\$736,639.65	\$2,118,602.28	\$3,632,470.92	\$314,683.53	\$11,112,961.86

BOGAN PARK PROGRAM : 83.1 Acres Site Area
Gwinnett County Department of Community Services - Parks Division
Opinion of Probable Construction Cost: Phase I
Prepared by: CERULEA Incorporated
September 8, 1995

Page 1

Code Description	Quantity	Unit Price	Buffers Driveway Utilities	Trails Picnic Meadow Pond	Family Aquatics Center	Tennis Center	Baseball Complex	Community Center w/ Gymnasium	Basketball Volleyball Courts	Subtotal
02000 Sitework										
02010 Tree Protection Fencing	1.00	\$18,000.00 LS	\$300.00	\$6,000.00		\$3,000.00	\$2,500.00			\$11,800.00
02010 Erosion Control	1.00	\$40,000.00 LS	\$12,000.00	\$12,000.00	\$5,000.00	\$3,000.00	\$21,000.00	\$500.00	\$500.00	\$54,000.00
02050 Misc. Demolition - Fences, Barn	1.00	\$10,000.00 LS	\$10,000.00							\$10,000.00
02100 Clearing & Chipping	20.00	\$3,700.00 AC	\$10,000.00	\$7,000.00		\$14,500.00	\$20,000.00		\$3,000.00	\$54,500.00
02200 Earthwork - Site Balance	26000.00	\$2.10 CY	\$60,000.00	\$40,000.00	\$46,000.00	\$40,000.00	\$285,000.00	\$40,000.00	\$35,000.00	\$546,000.00
02444 Chain-link Fences - 6' Galv. @ Baseball	6430.00	\$10.00 LF					\$64,300.00			\$64,300.00
Backstops - Arch (Small)	2.00	\$9,500.00 LF					\$19,000.00			\$19,000.00
Backstops - Arch (Large)	5.00	\$12,000.00 LF					\$60,000.00			\$60,000.00
Temporary Basketball/Volleyball vinyl - 10'	600.00	\$30.00 LF								\$0.00
Court Perimeter - 10'	1200.00	\$16.00 LF							\$19,200.00	\$19,200.00
02462 10 Tennis Courts (Set of 2 Courts, Lighted)	5.00	\$60,000.00 LS								\$0.00
Volleyball Courts - Sand	7.00	\$5,000.00 LS		\$10,000.00					\$25,000.00	\$35,000.00
Racquetball Wall Court	1.00	\$25,000.00 LS								\$0.00
Basketball Courts (Per Set, No Lights)	1.00	\$25,000.00 LS					\$40,000.00		\$25,000.00	\$25,000.00
02470 Children's Play Area	3.00	\$40,000.00 LS					\$12,000.00			\$120,000.00
02480 Planting (Trees, Shrubs, Groundcovers)	1.00	\$3,000.00 AC	\$32,000.00	\$25,000.00	\$10,000.00	\$6,000.00	\$19,500.00	\$10,000.00	\$3,000.00	\$92,000.00
Seeding Disturbed Areas (Guaranteed Stand)	260500.00	\$0.37 SF	\$15,000.00	\$18,000.00	\$2,000.00		\$96,385.00	\$1,000.00	\$3,000.00	\$64,500.00
02495 Picnic Tables/Pads/Grills/Waste Recept.	1.00	\$18,000.00 LS		\$18,000.00			\$8,000.00			\$96,385.00
Signage	1.00	\$30,500.00 LS	\$15,000.00	\$3,000.00	\$2,000.00		\$3,000.00	\$2,000.00	\$500.00	\$26,000.00
02510 Asphalt Paving - Phase I Drive, Maint. Area	7600.00	\$9.25 SY	\$70,300.00							\$25,500.00
Asphalt Paving - Core Parking - 82 Cars	3000.00	\$9.25 SY								\$70,300.00
Asphalt Paving - Baseball Park/Drive - 420 Cars	21100.00	\$9.25 LS								\$27,750.00
Asphalt Paving - Aquatics Parking - 200 Cars	7800.00	\$9.25 LS								\$195,175.00
Asphalt Paving - Comm. Center/Gym Park. - 20	7800.00	\$9.25 LS			\$72,150.00			\$72,150.00		\$72,150.00
Asphalt Paving - Court Area - 85 Cars	3350.00	\$9.25 SY							\$30,987.50	\$30,987.50
Asphalt Paving - Tennis Parking - 90 cars	4350.00	\$9.25 LS								\$0.00
Asphalt Trail Loop - 8800lf @ 12'	11800.00	\$9.25 SY		\$109,150.00						\$109,150.00
Asphalt Trail Loop - 5850lf @ 8'	5200.00	\$10.00 SY		\$52,000.00						\$52,000.00
Concrete Walks/Paths/Steps			\$13,000.00	\$7,500.00	\$12,750.00		\$150,000.00	\$25,000.00	\$6,100.00	\$214,350.00
Gravel Pavement - Baseball Core	40000.00	\$2.25 SF					\$40,000.00			\$40,000.00
Concrete Curb & Gutter - Park Drive	5800.00	\$1.00 SF	\$46,400.00							\$46,400.00
Curb/Gutter - Core Parking	1460.00	\$8.00 LF		\$11,680.00						\$11,680.00
Curb/Gutter - Aquatics Parking	2835.00	\$8.00 LF								\$22,680.00
Curb/Gutter - Comm. Center/Gym Park	2835.00	\$8.00 LF								\$22,680.00
Curb/Gutter - Tennis Parking	1750.00	\$8.00 LF			\$22,680.00					\$0.00
Curb/Gutter - Court Parking	1220.00	\$8.00 LF							\$9,760.00	\$9,760.00

BOGAN PARK PROGRAM: Phase I, September 8, 1995

Code Description		Quantity	Unit Price	Buffers Driveway Utilities	Trails Picnic Meadow Pond	Family Aquatics Center	Tennis Center	Baseball Complex	Community Center w/ Gymnasium	Basketball Volleyball Courts	Subtotal
Page 2											
02000	Sitework										
	Curb/Gutter - Baseball Parking	9900.00	\$8.00								\$79,200.00
	Road/Path Crossing Hardscape Allowance	1.00	\$18,000.00								\$18,000.00
02660	Exterior Water Distribution- Total System			\$30,000.00	\$18,000.00	\$10,000.00	\$6,000.00	\$12,000.00	\$12,000.00	\$3,000.00	\$79,000.00
	Drinking Fountains				\$7,000.00						\$7,000.00
02680	Sanitary Sewer Lines - Total System			\$105,000.00							\$105,000.00
	Sanitary Sewer - Force Main Allowance										\$8,000.00
02720	Storm Drainage System	1.00	\$180,000.00				\$8,000.00				\$180,000.00
	Bridge Crossings @ Path	2.00	\$9,000.00				\$30,000.00				\$18,000.00
	Pond Overflow/Weirs	2.00			\$26,000.00						\$52,000.00
	Irrigation System @ Baseball Sports Turf	260500.00	\$0.30								\$78,150.00
06000	Maint. Station (1000sf)	1.00	\$80,000.00	\$80,000.00							\$80,000.00
	Restroom (625sf)	2.00	\$60,000.00		\$120,000.00						\$120,000.00
	Comm. Center Initial Development (9038sf)	1.00									\$858,610.00
	Comm. Ctr./Gym Expansion (24988sf)	1.00									\$0.00
	Aquatics Center Support Building (3000sf)	1.00									\$285,000.00
	Family Aquatic Center - Outdoor Facilities	1.00				\$285,000.00					\$1,115,000.00
	Family Aquatic Center - Enclosure Option	1.00				\$1,115,000.00					\$1,000,000.00
	Tennis Center/Pro-Shop/Maint. - 1800 sf	1.00									\$0.00
	Court Area Support Pavilion	1.00	\$153,000.00								\$119,000.00
	Baseball Support Building - 2500sf	1.00	\$119,000.00					\$212,500.00		\$119,000.00	\$212,500.00
	Scorekeepers Booth	1.00	\$212,500.00					\$35,000.00			\$35,000.00
	Team Bench w/ Roof	7.00	\$5,000.00					\$42,000.00			\$42,000.00
	Picnic Pavilion (1 Phase I, 2 future @ 1250sf ea)	14.00	\$3,000.00								\$43,750.00
	Picnic Pavilion (Custom Design)	1250.00	\$35.00								\$98,000.00
16000	Ga. Power/Phone Cable -Park/Road Lights	2800.00	\$35.00								\$98,000.00
	Baseball Sports Lighting/PA/Scoreboards	1.00		\$10,000.00				\$18,000.00	\$8,000.00	\$6,000.00	\$68,000.00
	Tennis Lighting (Included w/ Tennis Court price above)	1.00	\$363,000.00					\$363,000.00			\$363,000.00
SUB-TOTAL											
	Other: Geotechnical Allowance			\$525,200.00	\$791,830.00	\$2,607,580.00	\$110,500.00	\$1,975,710.00	\$1,068,940.00	\$292,647.50	\$7,372,407.50
	Design Fee			\$3,000.00	\$6,000.00	\$15,000.00	\$3,000.00	\$8,000.00	\$15,000.00	\$2,000.00	\$52,000.00
				\$35,917.60	\$54,252.44	\$178,335.44	\$7,718.00	\$134,892.28	\$73,707.92	\$20,036.03	\$504,859.71
TOTAL PROJECT COST											
				\$564,117.60	\$852,082.44	\$2,800,915.44	\$121,218.00	\$2,118,602.28	\$1,157,647.92	\$314,683.53	\$7,929,267.21

BOGAN PARK

Master Plan

Buildings

- (A) Community Center/Gymnasium
- (B) Family Aquatics Center
- (C) Restroom/Concession Building
- (D) Storage Yard/Support Building
- (E) Tennis Center Building
- (F) Large Group Shelter

Circulation

- (G) Park Entrance @ Bogan Road
- (H) Park Driveway
- (I) Parking
- (J) Walk/Jog/Bike Loop

Active Recreation

- (K) Baseball/Softball Complex
- (L) Tennis Complex
- (M) Airnasium/Basketball Courts
- (N) Volleyball

Passive Recreation

- (O) Playground
- (P) Meadow/Picnic Area
- (Q) Lake
- (*) Pavilion

