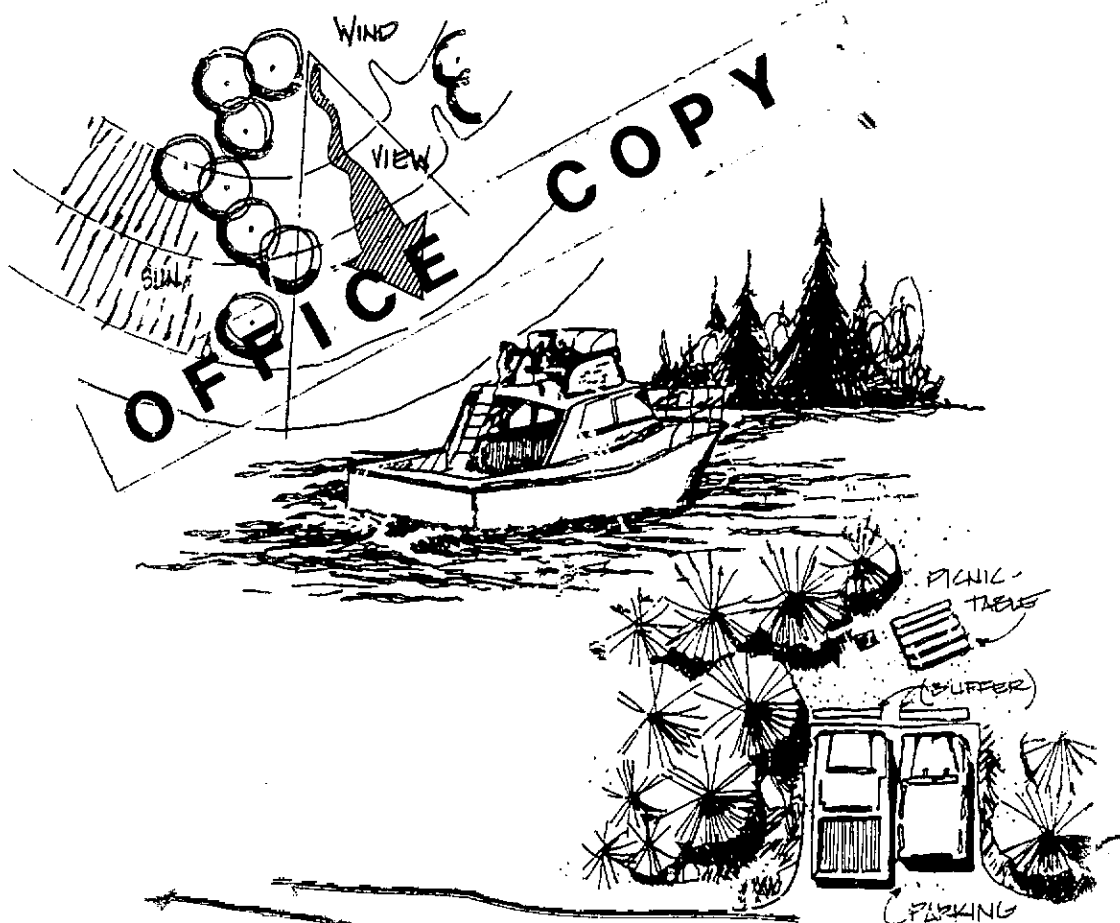


BUREAU OF RECLAMATION  
AND  
UTAH DIVISION OF STATE PARKS AND RECREATION

JORDANELLE STATE PARK  
MASTER PLAN  
FINAL REPORT  
AND TECHNICAL DATA

November 30, 1989



Prepared By: BINGHAM ENGINEERING Salt Lake City, Utah

Black

**BUREAU OF RECLAMATION  
AND  
UTAH DIVISION OF STATE PARKS AND RECREATION**

**JORDANELLE STATE PARK MASTER PLAN  
FINAL REPORT AND TECHNICAL DATA**

November 30, 1989

**B PRELIMINARY B  
SUBJECT TO REVISION**

Prepared By  
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## **JORDANELLE STATE PARK MASTER PLAN DRAFT REPORT DISTRIBUTION**

The following list includes all Federal, State, local agencies and private entities that participated in the planning process and received copies of the Jordanelle State Park Master Plan draft report for review and comments. Their input, time and participation was greatly appreciated in the development of the Jordanelle State Park Master Plan.

Fred Liljegren - United States Bureau of Reclamation  
Bob Christensen - United States Bureau of Reclamation  
Jerry Miller - Director, Utah Division of Parks and Recreation  
Terry Green - Utah Division of Parks and Recreation  
Dal Allred - Utah State Division of Facilities and Construction Management  
Larry Scanlan - Central Utah Water Conservancy District  
Jennifer Harrington - Park City Planner  
Bob Mathis - Wasatch County Planner  
Jeff Winston - Winston Associates  
Ken Nickels - Warzyn Engineering  
Greg Cory - ERA  
Craig Smith - Wheatley and Ranquist  
Craig Johnson - Utah State University Wildlife Specialist

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# JORDANELLE STATE PARK MASTER PLAN

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U.S. BUREAU OF RECLAMATION

UTAH DEPT. OF NATURAL RESOURCES/DIV. OF PARKS AND RECREATION

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## Part 1

## EXECUTIVE SUMMARY

### *The Recommended State Park Master Plan*

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## HISTORY OF WATER PROJECT

Jordanelle Reservoir has been in the planning stages for nearly 25 years and is part of the much larger Central Utah Project (CUP). An Environmental Impact Statement has been prepared for this project and the CUP was developed to provide water storage for agricultural and municipal water needs.

The U.S. Bureau of Reclamation has recommended that the Utah Division of Parks and Recreation (State Parks) manage the recreation area around the reservoir and that Jordanelle be part of the State Park system. Development funding for the park would be provided by the Bureau of Reclamation. This master plan is the first of a series of planning steps to bring that objective into fruition.

This report is to provide information about the master plan and land use decisions as they have developed and addresses the type, quality and general location of facilities within Jordanelle State Park.

## PLANNING OBJECTIVES

From the extensive input that has been received, the master planning process has tried to meet several objectives:

- o provide high quality recreation facilities that are of interest to the public and minimizing maintenance costs, maximizing revenues and making the park self sufficient
- o preserve wildlife habitat values and showcase wildlife in the area
- o be responsive to water quality and hydrologic conditions of the reservoir

## PUBLIC PARTICIPATION AND SPECIAL COMMITTEES

A sample telephone survey was conducted by Dan Jones and Associates and the University of Utah

Department of Recreation and Leisure of 400 occupants within Wasatch, Summit, Utah, Salt Lake, Davis and Weber Counties.

The planning process has been guided by a Steering Committee composed of representatives from the Bureau of Reclamation, State Parks, Park City, Wasatch County, Summit County and the Central Utah Project Team.

Technical input relating to water quality issues was provided by the Jordanelle Technical Advisory Committee (JTAC). This is an existing standing committee of State and local agencies.

Over 40 potentially affected interest groups (PAI's) representing recreationists, adjacent land owners, local residents and state and local agencies were consulted individually at the beginning of the project and collectively through their representation on the Jordanelle Recreation Advisory Committee (JRAC). JRAC meetings were held throughout the planning process to advise the groups of decisions and resolve conflicts.

## THE JORDANELLE RESERVOIR SURFACE FLUCTUATION

The lake surface of Jordanelle will fluctuate significantly in as much as the primary purpose of the Jordanelle Reservoir is water supply. It will store water during wet years and wet seasons for release during dry ones. How much will the Jordanelle fluctuate? Since it is difficult to predict very long-range climatic conditions, to answer this question the Bureau of Reclamation engineers have projected backward 44 years, calculating reservoir water usage had the Jordanelle been in existence.

The water chart(pg.2) shows the reservoir water levels that would have existed over that period of time.

The average annual fluctuation is approximately 35

feet, being more than for most other reservoirs in the area. The maximum water level change expected is approximately 260 feet. The chart indicates that the lake will be relatively stable at or above its average level for periods of 15 to 20 years.

## TOWARD A FINAL RECOMMENDED MASTER PLAN

Three alternative plans were developed for Jordanelle State Park. Alternative 1 is a basic recreation plan that is consistent with the early planning and EIS for the Jordanelle dam and reservoir. Alternative 2 includes all of the facilities in Alternative 1, but adds several additional landbase elements. From the feedback received to the Interim Report, from PAI's and particularly state agencies, Alternative 3 was developed.

Generally, this was the plan most preferred by the public and local agencies. Alternative 3 with the deletion of shoreline camping and identified emergency accesses was recommended as the Master Plan for acceptance by the State Parks Board. Because it exceeds the scope of the original Jordanelle EIS, the additional trails and hike-in camp areas will require at a minimum that an

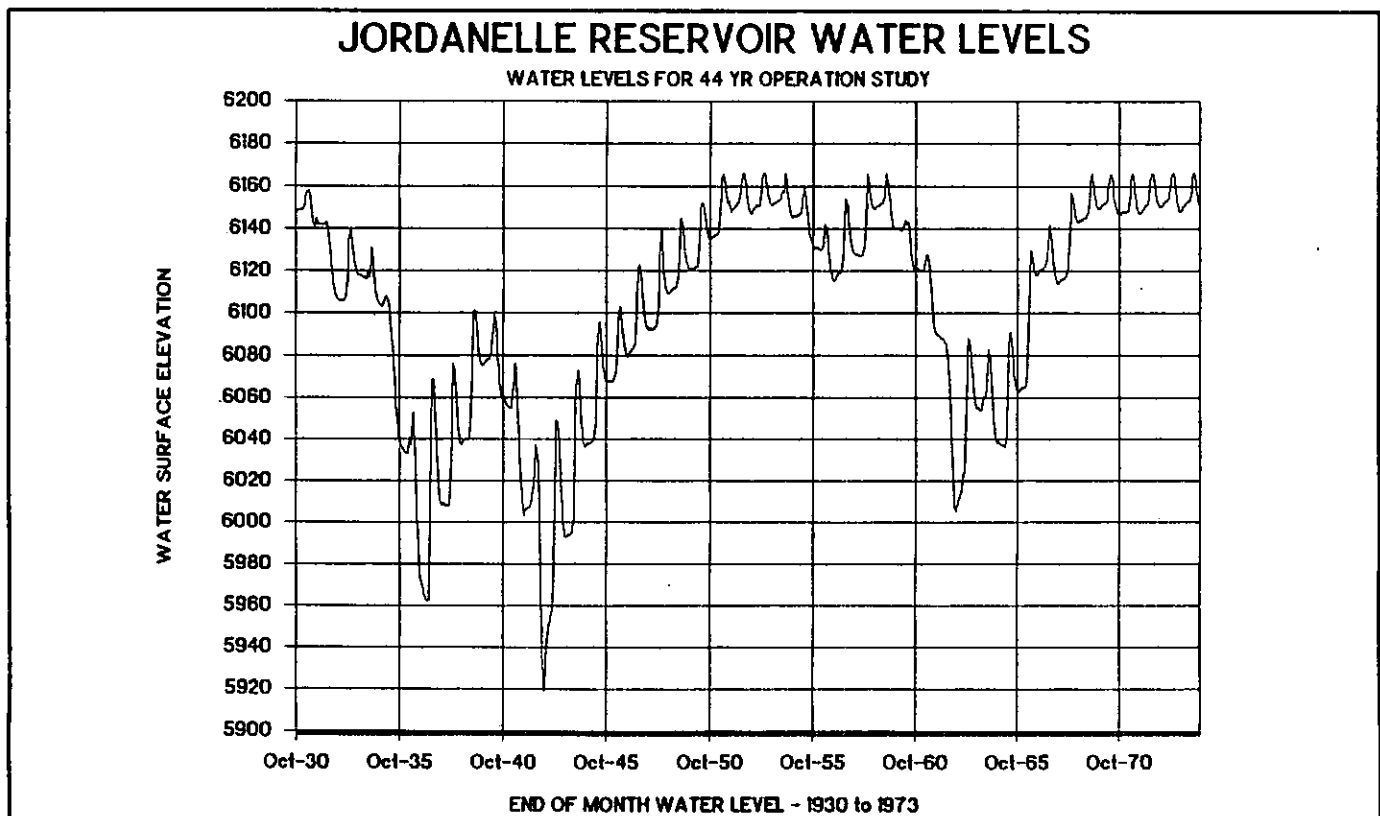
Environmental Analysis be conducted to assess the impacts on wildlife and wetlands within the Jordanelle project area with additional trails and camp area development. If there is a finding of significant impact, an EIS would be required.

## THE RECOMMENDED JORDANELLE STATE PARK MASTER PLAN

### Proposed Activities/Facilities at Hailstone

The recommended Master Plan includes the Hailstone recreation site which is centrally located on the west shore of the North Arm. Due to its relatively flat terrain and proximity to the major highway interchange on U.S. 40, this site lends itself to easy vehicular access and the highest concentration of use.

As the primary recreation area of the park, the Hailstone area is envisioned to have a wide variety of recreation opportunities to appeal to both Utahns and out-of-state visitors to spend multiple-day vacations in the area. Both water and non-water related activities are proposed. All facilities are to be of a high level of quality and well sited for visual, circulation and functional purposes.



*Jordanelle Water Level Fluctuations (Projected)*

The facilities would be clustered into a village (with consistent architectural character) that orients toward a marina as the focal point. Large irrigated turf areas, and extensive tree planting are also envisioned. The marina would be located on the north side of Hailstone, in a protected cove. The south side of the major peninsula would be devoted to terraced beaches. A park would be developed to take advantage of, and protect, the wooded area of McHenry Canyon at the west end of the beach area. Although a buffer is proposed to separate Hailstone from adjacent private development, with appropriate planning an interconnection with Mayflower and/or Royal Street developments could be realized. Private companies would likely be allowed to run many of the facilities under a concessionaire agreement with the managing agency. The following list identifies the activities and uses being proposed for Hailstone:

- Single Entry Point - Ranger Station
- Entry Feature/Consistent Design Theme
- Concessions - Bait Supplies\*, Restaurant\*, Convenience Store\*, Boat Rental (All Kinds)\*, Golf Course(18 hole)\*, Marina (75 slips)\*, Tennis\*, Horse Stables\*, Bicycle Rentals\*, Ice Skating (man made rink)\*, Winter Tubing\*, Dry Boat Storage\*
- Boat Ramp (2 locations providing a total of 10 Lanes)
- Jet Ski Ramp Access Only (1 Lane)
- Fish Cleaning Stations
- Interpretive Areas
- Trail Head/ Parking Areas and Linkage to Regional Trails
- Picnic Areas
- Camp Areas/Restrooms and Showers
- Outdoor Amphitheater
- Open Space (Irrigated)Field Sports/ Special Events
- Beach/Swimming (multiple-level beaches)
- Shade (trees, shade structures)
- Ice Fishing (non-motorized access only)
- Cross-Country Ski Trails
- State Park Management Offices/Ranger Station
- Maintenance Yard
- Sanitary Dump Station
- Grading to expand Land Surface Area
- Sewer Line connection to Heber (pending EPA and New US 40 ROW availability)
- Water Line connection to available Springs and/or Wells

Note: \* = Possible Concession Option

#### Proposed Activities/Facilities at Rock Cliff

Rock Cliff, a secondary recreation site, is located on the east end of the East Arm. It is proposed for fisherman access with parking areas and ramps that are exposed along the roadway as the water level fluctuates. Due to the public interest in camping, a large number of campsites could be developed in this area. The shady cottonwood groves of this site lends itself to separation of different camping uses and easy access to the river. Care must be taken to avoid development in wetland areas. The following list identifies the proposed uses for Rock Cliff:

- Single Entry Point - Ranger Station
- Trailhead/ Parking Areas
- 40 RV and 40 Tent Camping Sites/Restrooms with Showers
- Fish Cleaning Station
- Boat Ramp (existing roadway)
- Floating Dock/Shop\* (moveable on spud piers as water fluctuates)
- Sewer Line connection to Francis or Kamas (pending EPA)
- Water Line connection to Springs and/or Wells

#### Proposed Activities/Facilities at Ross Creek

Ross Creek, a secondary recreation site, is located on the east shore of the North Arm. It is proposed for wind boating activities, and group picnic areas. It will also serve as a staging area for recreational users to trails, hike-in camping, beaches and the unpaved old county road east of this area. The following list identifies the proposed uses for Ross Creek:

- Single Entry Point - Ranger Station
- Trailhead/ Parking Areas
- Access to Hike-in Camping
- Boat Ramp
- Beach and Windsurf Prepping Area (multiple terraces)
- Group Picnic Area/ Pavilion
- Moveable Landbase Concession Stand
- Equestrian Staging Area
- Sewer Line connection to Heber (pending EPA)
- Water Line connection to Springs and/or Wells

#### Proposed Activity at Crandall Point

Crandall Point, a tertiary recreation site, located above Hailstone on the west shore of the North Arm. It is proposed for hike-in camping opportunities. Utilities could eventually be provided contingent on future private land development west of Jordanelle.

The following list identifies the proposed uses for Crandall Point:

- Tent Camping 5 acres (not directly related to water edge)
- Limited Access Point
- Shade (tree planting)
- Water Line connection to Springs and/or Wells
- Composting Toilets

#### Proposed Recreation Site - Miller Point

As part of the recommended Master Plan it is proposed that on the upland an area east of the dam be identified as future recreation site with a designated land use undetermined. Miller Point should be acknowledged as worthy of recreation use.

#### Other Proposed Developments

The recommended Master Plan proposes a 27 mile trail system around the entire reservoir that ties to other trails. The trail would be constructed with a rough finish grade to accommodate non-motorized/muscle power recreationists such as mountain bikers, joggers, hikers and equestrian users.

The portion of the trail system that connects Rock Cliff to Ross Creek passes through a mule deer critical winter range area. In order to protect wildlife values this trail section would be open at the ranger's discretion.

Unique shoreline day-use areas are proposed on the east and north shorelines of the reservoir. They will be accessible by boat (boat rental available at the marina) or by trail. No water or restroom services will be available due to high maintenance costs.

The 3,000-acre water surface area of Jordanelle is proposed to be separated into three water-use designations. These water use designation could be: "wakeless water" use area, "active water" use area and "low speed" water use area (minimum speed of 6 - 10 knots). All water users would have access to any water area but with an understanding that the designated use has priority. This management approach is in response to public water use conflicts which are experienced on other reservoirs. The configuration of Jordanelle creates areas separated by natural physical gateways which makes these separations functional.

(Prepared by: Bingham Engineering SLC, UT)

## SOME GENERAL GUIDELINES

As a part of the master plan some elements took the form of guidelines to the development and future operation of the Park. These guidelines are also intended to provide clear understanding of the goals and objectives of the State Park. The guidelines should be refined as they are implemented in the next phase of detail planning and development.

## PROJECTED COSTS FOR RECOMMENDED MASTER PLAN

The projected costs for the recommended Master Plan are approximately \$21.5 million. This cost can be reduced by private land and concessioner participation in construction of the sewer system and some recreation facilities.

## PROPOSED RECREATION OPERATION AND MAINTENANCE COST

Estimates for recreation operation and maintenance (O&M) costs based on National Park Service (NPS) guidelines for recreation facilities at Jordanelle would be approximately \$642,000 annually. Operation costs based on comparable reservoirs managed by State Parks in Utah would be approximately \$242,000 annually.

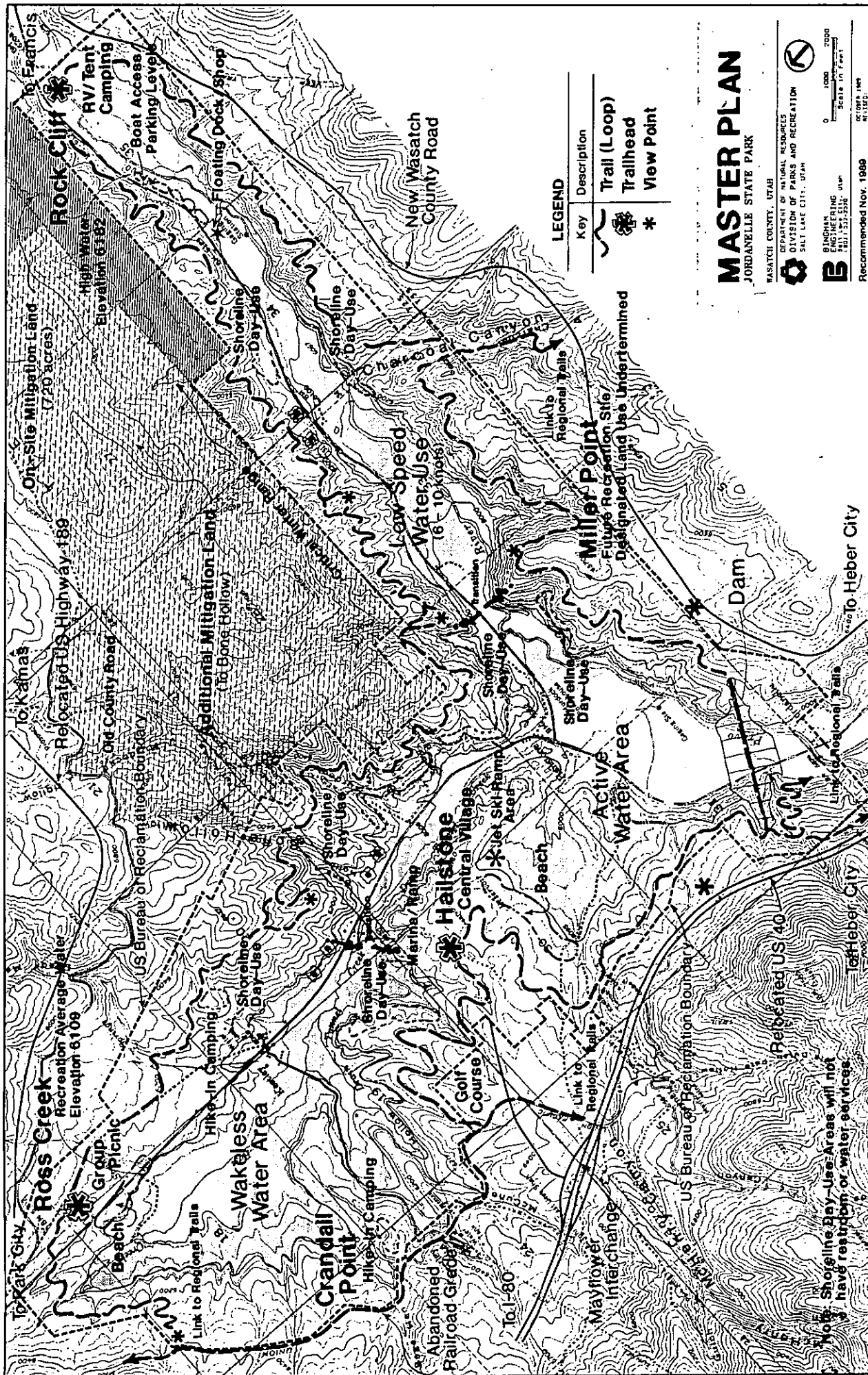
## PROPOSED RECREATION REVENUES FROM JORDANELLE RESERVOIR

Projected recreation revenues at Jordanelle based on comparable reservoirs managed by State Parks in Utah show that Jordanelle would generate between \$95,000 and \$223,000 annually, or approximately an average of \$159,000.

<u>Budget Projection</u>	<u>Revenues % of O/M Cost</u>
1. NPS Standards	\$159,000/\$642,000 = 25%
2. State Parks(comparables)	\$159,000/\$242,000 = 66%

As a point of interest, preliminary calculations indicate that State Parks could manage the marina facility at a net profit for this element of the recreation development.

Note: See next page for graphic representation of recommended Jordanelle State Park Master Plan and preliminary cost estimate for design and construction.



# JORDANELLE STATE PARK

## PRELIMINARY COST ESTIMATE

08-Sep-89

Bingham Engineering

#	ITEM	#	UNITS	\$/UNIT	TOTAL
<b>Utilities</b>					
	Sewer Line to Heber				3,000,000
	Sewer Line to Francis				850,000
	Sewer Line to Ross Creek				1,000,000
	Water Supply				
	Hallstone - well, lg. tank				200,000
	Ross Creek - well, sm. tank				100,000
	Rock Cliff - well, sm. tank				100,000
	Crandall Pt. - well, sm. tank				100,000
	Sewer/water internal dist.	2.5	miles	120,000	300,000
	Restrooms				
	Brick - 4/unit	4	each	58,000	232,000
	Brick - 8/unit w/shower	8	each	75,000	600,000
	Civus - 4/unit	8	each	50,000	400,000
	Fish cleaning stations	3	each	16,000	48,000
	Electrical				
	Lines (under gnd)	2.5	miles	52,800	132,000
	Transformers	4	each	30,000	120,000
<b>Recreation Amenities</b>					
<b>Camping Units</b>					
	Tables	100	each	600	60,000
	Grills	100	each	125	12,500
	Unit posts	100	each	55	5,500
	Gravel pad	100	each	300	30,000
	Group Picnic Pavilion	5	each	45,000	225,000
<b>Boating</b>					
	Marina - 75 slips, brkwater, ship's store.	1	l.s.		1,800,000
	Ramp - 10 lanes x 750'	90,000	s.f.	5	450,000
	Parking - asphalt	250	spaces	650	162,500
<b>Beach</b>					
	Terrace 3,000' x 100' sand	2	terr.	100,000	200,000
	Parking - gravel	300	spaces	325	97,500
	Walks, paths	1500	l.f.	10	15,000
	Trails	27	miles	42,000	1,134,000
	Tennis	10	courts	30,000	300,000

<b>Roads/General Parking</b>					
	Roads - asphalt	3	miles	370,000	1,110,000
	Parking - asphalt	800	spaces	650	520,000
	Parking - grass	500	spaces	325	162,500
<b>Administration</b>					
	Ranger station, res. office	4600	s.f.	50	225,000
	Equipment				
	Boats	1	boat	85,000	85,000
	Trucks 4wdr	2	boat	25,000	50,000
	Misc.	6	truck	20,000	120,000
			lump		60,000
	Entrance Features				
	Landscape	3	lump	33,000	99,000
	Subtotal	35	acres	57,000	1,995,000
					15,622,500
<b>Contingency</b>					
	Design, engr.	25	%		3,905,625
		12	%		1,874,700
	<b>TOTAL COST</b>				<b>21,402,825</b>
<b>Amortization</b>					
	Interest rate	3.5	%		
	Amortization factor	0.033			
	Sinking Fund factor	0.026			
	Maintenance factor	3.0	%		
	Management Factor	3.0	%		
	Annual Investment cost				706,293
	Annual Replacement cost				556,473
	Annual Maintenance cost				842,085
	Operation cost	0.3	visitor/day		56,500

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# JORDANELLE STATE PARK

## MASTER PLAN

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U.S. BUREAU OF RECLAMATION

UTAH DEPT. OF NATURAL RESOURCES/DIV. OF PARKS AND RECREATION

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### Part 2

### DEVELOPMENT OF THE MASTER PLAN

#### *The Recommended State Park Master Plan*

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The following information is to describe the public participation, planning process, sequence of alternative plan decisions and support data that led up to the recommended Jordanelle State Park Master Plan. This report provides in more detail, than the executive summary, useful information for Jordanelle State Park which may be necessary for future phases of work, i.e., design development and construction documents.

## I. BACKGROUND

### A. Geographic Location and Status of the Reservoir

The Jordanelle Reservoir is located in Wasatch County, about 6 miles north of Heber City. It is located in a mountain-encircled valley which, because of their scenic quality, constitutes part of a major recreation area that serves Wasatch Front residents and others seeking outdoor activities in the Wasatch and Uintah National Forests. It will store water from the Provo River, Ross Creek, Drain Tunnel Creek and other small tributaries which was previously stored in Utah Lake. It is also intended to improve the water quality of Deer Creek Reservoir by reducing the amount of phosphorus in the water, which causes algae blooms.

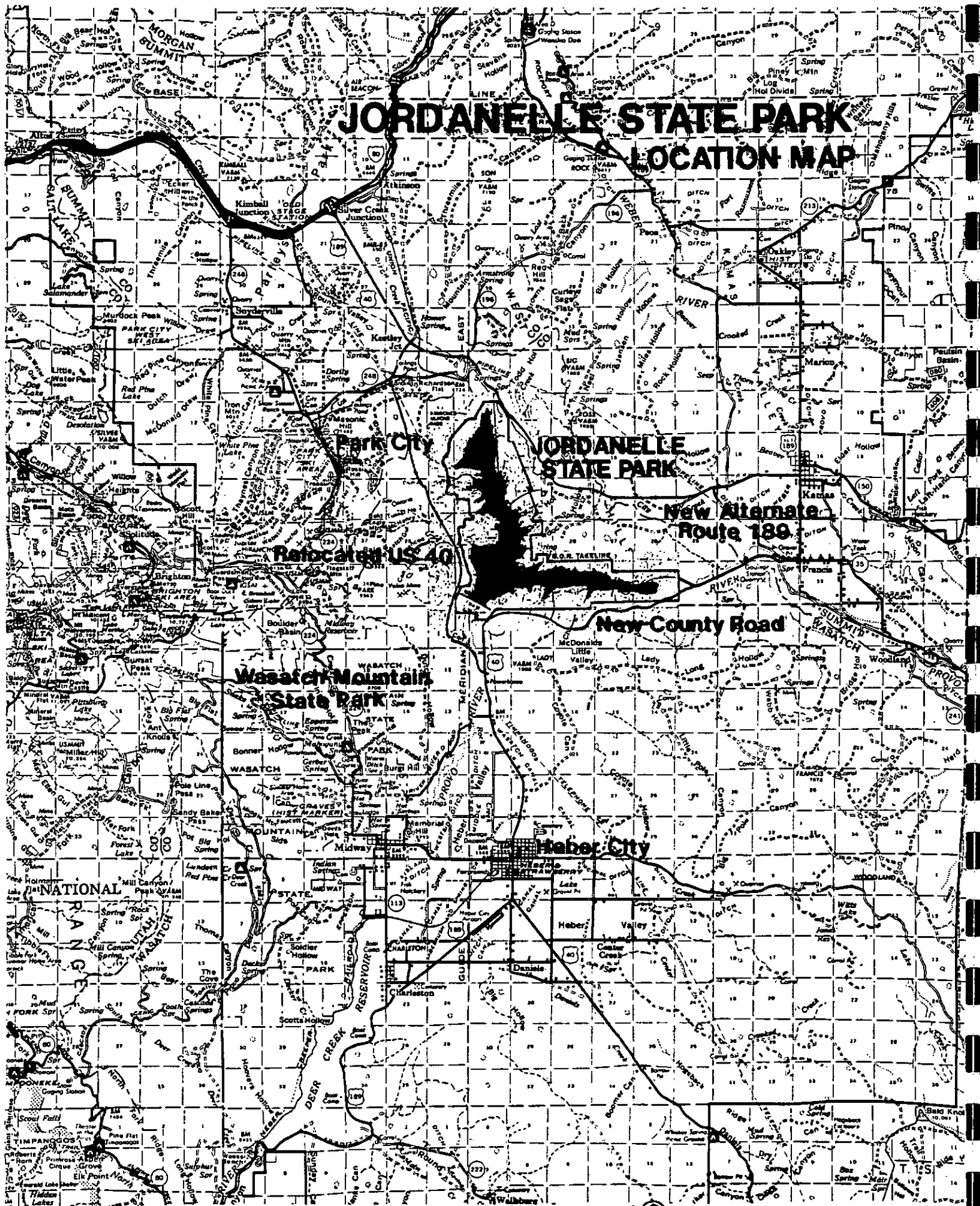
The construction of the reservoir is requiring the relocation of U.S. 40 and Alternate U.S. Route 189 to Kamas. Those reconstructed roads opened for traffic in October 1989 and will be fully completed by fall of 1990. The dam construction is underway and is scheduled for completion in November 1993. Once the dam is completed, the filling of the reservoir is expected to take up to 8 years. However, it will not be necessary to wait until the reservoir is filled to begin using it for recreation. The State Park is planned to be opened with the completion of the dam in 1993.

The Bureau of Reclamation is not only acquiring land for the reservoir, but is also acquiring a buffer zone above the high water level to protect the reservoir from the impacts of adjacent development, to mitigate adverse impacts to wildlife and stream fisheries, to provide flood control, to enhance water quality and to provide recreation. In all, at high water the reservoir will have approximately 3,000 acres of water surface, and 4,000 acres of adjacent land area.



# JORDANELLE STATE PARK

## LOCATION MAP



## **B. EIS Related Master Plan Considerations and Design Criteria**

Jordanelle Reservoir has been in the planning stages for nearly 25 years. It is part of the much larger Central Utah Project which was developed to provide water storage for agriculture and increased municipal water needs in Salt Lake Valley.

Prior to approval of Jordanelle Reservoir an extensive Environmental Impact Statement (EIS) was completed. The Final Supplement to the Final EIS (FES) specified several conditions relevant to recreation development around the reservoir which became important considerations relative to the reservoir Master Plan:

1. Recreation and tourism are major expanding industries in Utah and the Jordanelle project provides public service areas, attracting large numbers of people because of abundant opportunities for fishing, hunting, camping, skiing, hiking, trail biking, horseback riding and boating. In partial compensation for the impacts of the reservoir, the land within the reservoir boundary was to be managed for recreation, wildlife habitat, and wetlands.

(Note: See ERA Economic Analysis, Technical Reports - B, completed apart of this Master Plan.)

2. Recreation facilities for up to 5,000 people at one time were anticipated at Jordanelle in three recreation areas encompassing a total of approximately 968 acres: Hailstone, the primary recreation area, on the west shore of the north arm; Rock Cliff on the east end of the east arm; and a third unspecified area of about 100 acres, on the northeast shore of the north arm (which is referred to as Ross Creek in this report). The land, outside the three recreation sites, was to be managed as suitable habitat for the three major affected game species (deer, elk and sage grouse) as well as to have provided protection for some golden eagle breeding and nesting habitat.

(Note: Although the majority of the land around the reservoir will be managed to preserve wildlife habitat, the recommended Master Plan exceeds the development foreseen in the EIS. Because of Federal EIS regulations, this may result in greater impacts, require an additional environmental assessment, and possibly additional mitigation measures.)

3. The EIS analysis assumed that there would be no major recreation uses within the reservoir management area from late fall to early spring.

(Note: Public input suggests a strong desire for winter activities at Jordanelle.)

4. A 10-lane boat launching ramp was projected for the Hailstone site.

(Note: It was recommended that a total of 10 lanes be divided among two locations on the reservoir to accommodate boating access to the water and safe and convenient egress.)

5. Fire protection was to be the responsibility of the State Forester, who would be aided by local volunteers.

(Note: This continues to be the BOR and State Parks position regarding fire protection. The local county would like to see some efforts in coordination and compensation for services.)

6. Public access and construction activities were to be restricted from designated areas for migrating and wintering mule deer and elk (December 1 - April 15) and breeding, nesting and strutting areas of sage grouse and golden eagles (March 1 - June 30).

(Note: These stipulations are still in force as a part of the Master Plan.)

7. Wildlife mitigation also was to include setting aside additional land for wildlife preserve: approximately 720 acres acquired north of the Provo River/East Arm of the reservoir and 10,000 acres of public owned land in other parts of the region.

(Note: No change.)

8. The management boundary was to be fenced and certain activities excluded: private development, livestock grazing, off-highway-vehicles (OHV) and other destructive practices. The fence was to be low profile to allow safe crossing of elk and deer and to include vehicle passing gates where necessary.

(Note: No change.)

9. Wetland losses related to Jordanelle were assessed to be within the reservoir high water line, dam site and highway construction rights-of-way.

(Note: No recreation facilities would be constructed within wetland areas.)

10. The project was estimated to have no effect on prehistoric cultural resources.

(Note: A letter received from the Utah Rock Art Research Association indicates that there are some archeological sites within close proximity to Rock Cliff for consideration of preservation [See Technical Report - Q].)

11. Two separate mine tailings sites, the Olson/Neihart and the Mayflower sites were anticipated to have potential for negative impact to water quality at Jordanelle.

(Note: It has been determined that the Olson/Neihart tailings are to be relocated and capped on Royal Street property outside of the reservoir boundary. Mayflower tailings will be capped at some future date.)

12. The only identified reservoir development activities which were to impact social and economic conditions were the proposed realignment of U.S. Highway 189 and the construction of the new Wasatch County road.

(Note: The recreation facilities at the Jordanelle are expected to be important economic development resources for the region.)

## **II. THE MASTER PLAN EVOLVED FROM A PUBLIC PLANNING PROCESS**

### **A. A Multi-disciplinary Design Team**

The Bureau of Reclamation and Utah Division of Parks and Recreation contracted a multi-disciplinary design team, headed by Bingham Engineering (of Salt Lake City), to help develop the master plan for the park. Included on the team were specialists in recreation land planning, engineering, architecture, economics, law and risk management and marina design. Each team specialists conducted studies apart from the Master Plan and the information was included in the evaluation and development of the recommended plan. Special consideration was given to the location of the marina in regards to wind, winter freezing and ice movement and orientation to the reservoir water use designations and proposed land base uses (See Technical Reports - A to E for specific team specialists comments and summaries).

### **B. Telephone Random Sample Survey**

As part of the planning process a telephone sample survey was conducted by Dan Jones and Associates and the University of Utah Department of Recreation and Leisure. The 400 random telephone contacts were made in six counties; Wasatch, Summit, Utah, Salt Lake, Davis and Weber, which are generally affected by the development of Jordanelle Reservoir.

Generally, the telephone survey indicated that the public wanted: good basic infrastructure (roads, water, sewer, basic facilities), good support facilities. The responses also indicated that they wanted good access to the water, flush restrooms, camping, adequate facilities for managing the park; no tennis courts or hotels; not commercialized to the point of being "too expensive"; designated areas for each type of activity; development kept relatively small but well planned - don't over-develop the site and fit into the natural setting.

Also high on the list of preferences were services and facilities such as gas docks and campgrounds. The public was generally very concerned about alcohol/drug use controls as a major problem at other parks; they wanted areas zoned for various water and land uses; were very anti-OHV use and wanted good control of potentially conflicting uses. They were very much in favor of the reservoir development and recreation opportunities.

**C. Public Meetings Input and Summary (See Technical Report - O for process and visual charts)**

Under the direction of the Bureau of Reclamation and State Parks a high level of emphasis was placed on obtaining public input during the planning process. There were many meetings with committees, and over 40 potentially affected interest groups (PAI's) were contacted (e.g. Muscle Power, Bicycle Utah, Utah Boating Association, etc). A total of six public meetings were held and a total of approximately 350 people in attendance throughout the planning process .

A coalition of interests in the Park City/Heber Valley areas formed a joint Wasatch/Summit County Task Force which made extensive and substantive recommendations and input into the Master Plan (See Technical Report - K).

The planning process was guided by a Steering Committee composed of representatives from the Bureau of Reclamation, State Parks, Park City, Wasatch County, Summit County and the Central Utah Project team.

Feedback over a broad range of issues was provided by the Jordanelle Recreation Advisory Committee (JRAC), which was composed of representatives from wildlife agencies, recreation groups, and other State and area agencies.

Other technical input, especially on water quality issues, was sought from the Jordanelle Technical Advisory Committee (JTAC). This is a standing committee of State and local agencies which was created to provide input to the design of the reservoir itself and help assure high water quality.

There were numerous local newspaper articles, television and radio interviews regarding the progress and input on the Jordanelle Recreation Master Plan (See Technical Report - T).

Many of the ideas which emerged from the public input have been incorporated into the Master Plan. Much credit is given to the extensive work and interest that was provided by many volunteer individuals and groups (See Technical Report - Q).

**1. Scoping Meetings and First Round of Public Meetings**

The first three public meetings focused on identifying issues, desires and opportunities for the park. They were held on June 13, 14 and 15 (in Salt Lake, Heber City, and Park City) to solicit ideas and issues at the beginning of the planning process (See Technical Report - F).

The responses to a comment sheet handed out at the first round of public (scoping) meetings are summarized below (See Technical Report - I for copy of handout):

### **Sample Responses from Scoping Meeting Questionnaires**

(Note: Total 26 responses [SLC - 9, Heber City - 3, Park City - 14])

#### ***Question #1 - Preferred Recreational Activity at Jordanelle***

<u>Activity</u>	<u># of Responses</u>	<u>Range Based on Points Assigned</u>
1. Trails	16	144
2. Water(motor)	11	92
3. Water(non-motor)	15	87
4. Camping	10	68
5. Fishing	8	44

#### ***Question #2 - Potential Problems and Environmental Issues at Jordanelle***

##### **# of Rsp./Response**

- 10 Wildlife Preservation/Wildlife Education
- 9 Segregation of Activities (motor vs. non-motor)
- 6 Sewer Disposal (campers, visual effect)
- 3 Water Quality
- 3 Controlled ATV Users
- 2 Vegetation Preservation

#### ***Question #3 - Suggestions for Addressing Problems at Jordanelle***

##### **# of Rsp./Response**

- 8 Segregation of user groups (specifically water skiers, single car vs. trailer parking areas, prohibit motorized use)
- 3 Designation of wildlife preservation areas, understand wildlife patterns and needs
- 3 High quality facilities (wide boat ramp, showers)
- 3 Sewer lines around Jordanelle
- 3 Public awareness of opportunities and sensitivities on site

Question #4 - "I think the Jordanelle State Park should be a place...(public to complete the statement. The following quotes are ones that represent the public response to the above statement).

- 1. ...where the State of Utah can look to for new standards and goals by which other parks can be designed or improved. This area could be a model for other state parks as well."

2. ...where many different kinds of people can enjoy the outdoors with people who have similar interests. It's very important to provide protected areas for all interests in so far as it's feasible. After the facilities are in place, education will be important for compliance."

3. ...that will attract visitors from surrounding states. A place that has a high quality development."

4. ...people can safely enjoy active and passive recreation without being imposed upon by thoughtless users and a place where sensitive buildings are complete, well maintained, well supervised and attractive... where the demands of heavy development are not apparent and intrusive within the recreation area.

## **2. An Interim Report was Followed by a Second Round of Public Meetings.**

An interim report was prepared and published which briefly reviewed the process, public input and decisions made to date of the second round of public hearings. There were 2,000 interim reports mailed and delivered to interested parties and public participants (See Technical Report - M).

Two public review meetings were held on August 16 and 17 (in Heber City and Park City) to solicit reactions to the Alternative 1 and 2 Plans and interim report developed by the design team. The Bureau of Reclamation and State Parks accepted comments, criticism and suggestions throughout this process (See Technical Report - G).

## **3. JRAC Review of Public Comments and Modification to Master Plan Alternative 2**

A lengthy working session was held with the JRAC to resolve issues which came out of the second round of public hearings. The following issues were discussed and changes made to the master plan alternatives for further review by the public.

- Issues:
- Alternative 2 (preferred, but with modifications)
  - Sewer Line Connection to Ross Creek
  - Water Use Designation Expansion to Motor Boat Users
  - Additional Mitigation Land to be Acquired within Jordanelle Area (by BOR and DWR)
  - Single Concessionaire (Recommended)
  - Delete RV Camping Use at Rock Cliff
  - 18 Hole Golf Course (Private and State Parks land)
  - OHV Use on Old County Road
  - Boat Ramp/Private Club Marina
  - Regional Trail Connections
  - \*Private Development at Miller Point
  - \*Shoreline Camping

- \*High Quality Development
- \*Management Entity
- Budget

(Note: "\*" indicates issues that were unresolved.)

#### **4. Final Public Review and Input**

A final public review was held on September 6 (at the Wasatch Mountain State Park visitors center near Heber City) to critique the refined master plan, Alternative 3, prior to it being finalized for recommendation and presentation to the Bureau of Reclamation, Division of Facilities Construction and Management (DFCM) and Utah Division of Parks and Recreation Board (See Technical Report - H). Alternative 3, as a modification of Alternative 2 to suit the JRAC and State Parks, was well received in this public meeting.

#### **5. State Parks Board Acceptance**

On September 29, at the Department of Natural Resources Auditorium in Salt Lake City, a meeting was held with the Bureau of Reclamation, DFCM and the State Parks Board to make the final master plan recommendation and presentation. Alternative 3 was presented and discussed. The meeting concluded with three items to be reviewed and resolved prior to the November Board meeting: (1) a statement in the Final Report and Executive Summary regarding a location for large groups of RV users and special events, (2) a report on the anticipated revenues to be generated by park users at Jordanelle (See Technical Report - B) and (3) a final decision regarding which agency would manage the Jordanelle State Park area. There was expressed interest to continue the involvement of public and local county planning in the design development and construction phase of work.

On October 4 a meeting was held with DFCM and State Parks to review the draft report and progress of the project (See Technical Report - Q for DFCM comments).

In regular State Parks Board meeting, held on November 17, there was discussion regarding the modifications to Alternative 3 to arrive at the recommended Jordanelle State Park Master Plan, a follow-up on the requested report on provisions for short term group use areas and budgets and revenues. The Board accepted the recommended Jordanelle State Park Master Plan and Executive Summary as documented and graphically presented in the Part - 1 section of this report.

### **III. THE PHYSICAL SETTING**

(Note: Climate, slope and soil summaries from Soil Survey of Heber Valley Area, Utah and previous consultant work were relied upon for this general level of master planning.)



Jordanelle Reservoir is located in two intersecting valleys, in Wasatch County, that form an "L". The North Arm of the reservoir is about 4 1/2 miles long and the East Arm is about 5 miles long.

The valleys that form Jordanelle are, for the most part, deeper and steeper than those of other reservoirs in the area. This means that Jordanelle will have more water volume for its size than other reservoirs. For example, Jordanelle will be approximately 1/4 larger in surface area than Deer Creek Reservoir, and yet will hold almost 2 times as much water.

#### **A. North Arm**

On the west side of the reservoir, the gently rolling terrain creates fingers, or peninsulas which will extend into the reservoir. These peninsulas have relatively steep sides, but their crowns are gently sloping enough to be usable for recreation. The northern portion of the Hailstone area and Crandall Point area are located on these peninsular forms.

The vegetation of this area is primarily sagebrush, with aspens, maples and scrub oak in widely separated clumps along the drainage ways leading to the reservoir. In order to prevent recreation uses from impacting each other, separation between uses or physical screening should to be created - such as irrigated planting of trees and shrubs and landform.

The south side of the Hailstone area slopes gently southward into a broad basin which currently contains the Olson/Neihart Pond (prior to the reservoir being filled). The gentle slope and south orientation of this area made it the best location for a beach.

The shoreline from Hailstone to the dam is steeper, but doesn't have the rolling character. Much of this area has been impacted by the large fill slopes created by the construction of new U.S. 40. A trail and highway-accessible view area were the only recreation facilities proposed in this area.

At the north end of the North Arm of the reservoir (Ross Creek area) the valley flattens out dramatically, creating a broad, flat, gently sloping shoreline. The proposed Ross Creek recreation area (on the northeast shore of the North Arm), is to take advantage of this terrain to create a beach for windsurfing and sailing.

The east shore of the North Arm of the reservoir is steeper than the west shore (many slopes over 40%), and more deeply etched by the streams that flow into the reservoir. The vegetation of the east shore is predominantly scrub oak, which would provide a much more enclosed feeling for trails and campgrounds. The east shore has dramatic views of the mountains.

By virtue of its steep slopes however, the east shore is much more difficult to access. The east shoreline is also an important wildlife habitat. Its numerous springs create most microclimates for a wide diversity of animal life.

## **B. East Arm**

The north shore of the East Arm is known as the West Hills. It is comprised of broad, rolling, south-facing terrain with sagebrush and pockets of scrub oak. Along the north shoreline of the East Arm there are several irregularly-shaped terraces with weathered rock pinnacles which will be interesting viewing from the reservoir. The north side of the East Arm is an especially important wildlife habitat. Snow on the south-facing slopes will melt more rapidly, making this a critical winter range for mule deer. Also, there are eagle nesting sites along the East Arm.

The east end of the East Arm is a broad, flat river bottomland. This area has numerous groves of tall cottonwoods and willows interspersed in riparian grassland meadows. It has been designated the Rock Cliff recreation area and has great potential to be a traditional wooded, shady camping area. The Provo River flows through the area and is expected to remain a popular fishing spot even after the reservoir is filled.

The south shore of the East Arm is a high, rolling plateau, elevated above the reservoir by steep cliffs. As a result, the upper area is virtually inaccessible from the reservoir itself. Narrow, steep Charcoal Canyon divides the plateau, making east to west travel difficult.

# **IV. PLANNING CONSIDERATIONS FOR RECREATION AT JORDANELLE**

## **A. Private Land Surrounds the Reservoir - Zoning**

Four residential subdivisions have been planned on private land in immediate vicinity of the reservoir area. The largest of which is East Park, 90 units and about 2 miles west of the reservoir's north arm. Hailstone Estates is an 80 unit development proposed about 1 mile south of the Jordanelle Dam site. Also, Mayflower to the west of Hailstone, has planned a 2,000 unit development with full services and Telemark, located between Deer Valley and Mayflower U.S. 40 Interchange, is planning 600 residential units.

Within a 5 mile radius of the proposed Jordanelle Reservoir, about three-fourths of the land, predominantly held by private owners, is zoned for recreation and forestry use, with housing permitted on only about 20 percent of the total acreage. Other present uses include predominately agricultural and grazing. Zoning south of the east arm includes watershed conservation areas and zoning along the Provo River is defined as a flood plain overlay area.

## **B. Preserving Wildlife Habitat is a Key Objective**

Prior to construction of the reservoir the Jordanelle area was a regionally important deer and elk migration route. With the loss of the migration route, the area between the two arms of the reservoir (the West Hills) becomes increasingly important as a winter range for mule deer.



The Jordanelle EIS acknowledged that one impact of the reservoir will be a significant reduction in the mule deer herd in this area. As part of the mitigation measures, an additional 720 acres of land adjacent to the reservoir project area is being purchased and dedicated as a wildlife preserve.

(Note: As off-site mitigation there is planned approximately 9,500 acres of Federal land in Eastern Wasatch and Western Duchesne Counties and 970 acres of Federal land near Deer Creek Reservoir will be transferred to the Forest Service or State Division of Wildlife Resources to be managed for wildlife.)

Other wildlife habitats in the area include golden eagle nesting along the north shore of the Rock Cliff area, sage grouse strutting areas northwest of the North Arm. It is not expected that recreational development will adversely affect these habitats significantly. Several snake dens in the area will be relocated as a part of the project. As additional mitigation for wildlife impacts, the EIS prescribed that the entire Jordanelle area outside of the three recreation sites was to be managed for the benefit of wildlife habitat.

This suggested that recreation development should be concentrated in well-defined centers, with large areas left undeveloped and protected for wildlife. Federal and State wildlife agencies expressed concern that, even within recreation development areas, design should be sensitive to any natural wetlands or stands of vegetation which may be of benefit to the wildlife. The concern for wildlife is not just with wildlife agencies. The general public also placed a high value on wildlife considerations.

At the same time, there was strong public and agency interest in a trail system to showcase wildlife with the public wanting access to camping, on the west and north sides of the reservoir, however, impacting the important wildlife area between the two arms. These two potentially conflicting objectives were carefully addressed in the master planning process.

There is concern from wildlife officials (See Technical Report - Q) that human encroachment into the area between the two arms, without significant control, will create an additional adverse impact on wildlife, especially the mule deer, elk and non-game populations. The recommended Master Plan proposes a trail in this area, for non-motorized use with significant restrictions on the time period the trail is open for use. With such a proposal being accepted, it requires that additional mitigation land be set aside or other on-site mitigation practices implemented.

### **C. Soils are Only a Moderate Constraint**

The soils around the reservoir are cobbly clay loams with greater and lesser amounts of clay. The chief constraints for recreation development are related to the steepness of the terrain and the resulting potential for erosion. There are numerous construction practices that significantly reduce erosion on moderately steep slopes. Roads, active facilities or campgrounds should be avoided on steep slopes. Trails can be developed on steep slopes, but only with great care and increased construction cost (See Technical Report - N).

Also, it should also be noted that along the shoreline of the reservoir wave action and water currents will tend to wash away the fine loam and clay particles in the soil, which will leave a cobbly shoreline. This is not unlike other reservoirs in the area, but the result is not particularly visually attractive and beaches should be man-made.

**D. Water Quality Concerns will Require Total Containment and Off-Site Sewage Treatment for Major Recreation**

A great concern was expressed by the JTAC, Wasatch/Summit County Task Force and the Central Utah Water Conservancy District to maintain the highest possible water quality standards in the region's reservoirs. Strict development standards have been implemented in the region to prevent nutrients from reaching the water in order to avoid the cycle of algae blooms and other problems that result from general and point discharges of nutrients (e.g. sewer out-falls and runoff from feedlots or fertilized lawns) (Cite Water Quality Study).

The closeness of recreation facilities to the reservoir precludes the use of septic systems. As a result, the highest use areas (Hailstone, Rock Cliff and Ross Creek) will require sewage treatment. The two nearest sewage treatment connections are in Heber City, six miles to the south and tying into the sewage lagoons in Kamas or connecting to a line approximately three miles east in the town of Francis. It is recommended that the sanitary facilities at smaller use areas (Crandall Point and Hike-In Camping above existing Keetley) require self-contained composting toilets.

**E. The Lake Surface will Fluctuate Significantly**

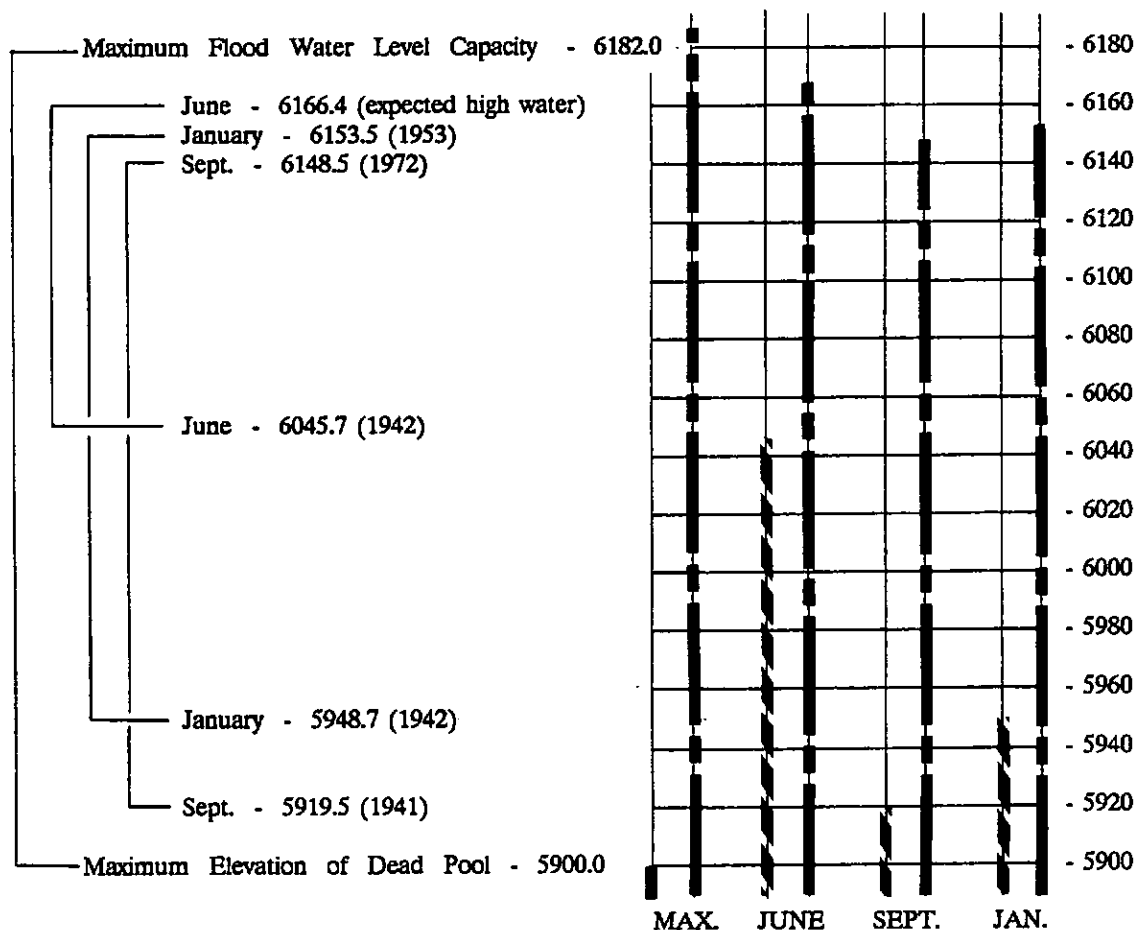
The primary purpose of the Jordanelle Reservoir is water supply. It will store water during wet years and wet seasons for release during dry ones. It is also designed to retain water during flood periods for later release. As a part of a much larger system of reservoirs, Jordanelle is intended to function so as to reduce the fluctuations in other reservoirs in the system. Twelve stabilized reservoirs in the headwaters of the Provo River will benefit Jordanelle by improving the recreation, fishing and aesthetic qualities of those reservoirs.

The following Jordanelle Reservoir water level elevation parameters were established by the BOR:

Maximum Flood Water Level Capacity . . . .	6182.0 Above Mean Sea Level (AMSL)
Maximum Normal Water Level . . . . .	6166.4 AMSL
Maximum Elevation of Dead Pool . . . . .	5900.0 AMSL
Maximum Normal Water Level for June . . .	6166.4 AMSL
Minimum Normal Water Level for June . . .	6045.7 (1942) AMSL
Maximum Normal Water Level for Sept. . . .	6148.5 (1972) AMSL
Minimum Normal Water Level for Sept. . . .	5919.5 (1941) AMSL

Maximum Normal Water Level for January . 6153.5 (1953) AMSL  
 Minimum Normal Water Level for January . 5948.7 (1942) AMSL

Graphic representation of Maximum (■) and Minimum (▤) Water Levels:



As a result, the Jordanelle has been designed to fluctuate. Since it is difficult to predict very long-range climatic conditions, the Bureau of Reclamation engineers have projected backward 44 years, calculating reservoir water usage had the Jordanelle been in existence. The water level charts (See Technical Report - P) show the reservoir water levels that would have existed over that period of time. Also, are charts which show water levels during more specific time periods. For example, the water level fluctuations for the yearly recreation periods during May 15 to September 15 over 44 years. The reservoir, according to the study, is expected to reach and maintain a level near 6166 elevation for longer periods of time. Another chart indicates the percentages of time water levels are at each elevation over the 44 years.

The average annual fluctuation is approximately 35 feet, similar to most other reservoirs in the area. The maximum water level change expected is approximately 260 feet, the height of a 26 story building. Notwithstanding, the 44 year study charts indicate that the lake will be relatively stable at or above its average level for periods of 15 to 20 years. There will likely be shorter periods when the lake will experience greater fluctuations.

The obvious design challenge will be to provide facilities that can remain functional through the majority of these annual and cyclic fluctuations. For example, to accommodate a possible 100-foot change in water level, the marina proposed for the Hailstone area must be designed to move laterally about 700 feet, longer than 2 football fields (See Technical Report - C). There will be additional design considerations to accommodate monthly and yearly fluctuations. Boat ramps on Jordanelle will be significantly longer (and more expensive) than on other reservoirs.

Rather than a single beach, in order to provide reasonable walking distances, a number of beach terraces (See Technical Report - P) will be required, perhaps each with its own parking area. At any point in time, there may be several beach/parking terraces above the water level, and some may be inundated. Siltation on those terraces below water will require additional maintenance to clear them when they emerge. Given the soil conditions and examples from other reservoirs in the area, the shoreline fluctuation may cause an unsightly band of cobble to appear any time the water level drops below optimum. These will not be suitable beaches, and sand may have to be imported.

Not only do facilities need to accommodate a significant change in shoreline, but the actual size and shape of the lake itself will vary greatly under different water level conditions. With a sever drop in water level the large open water area in the north end of the North Arm will disappear altogether, and the peninsula extending south east from Hailstone will emerge and create a division of the reservoir active water area.

At Rock Cliff Recreation site, at the end of the East Arm and because of its flatter valley, the shoreline could move over a mile horizontally. This will make water-related facilities extremely difficult in this area.

As a result, it is important to also provide significant non-water-based recreational amenities as alternatives and complementary attractions to the water-based facilities on Jordanelle. To be successful in all seasons and all years, it is recommended that Jordanelle have a balance of water and non-water based facilities.

#### **F. Conflicting Uses Need to be Regulated**

A significant concern, identified by the public, is to minimize user conflicts at Jordanelle. Below are listed potential conflicts that were identified and also noted are ways the recommended Master Plan proposes to resolve those conflicts. Some of the issues are also addressed in the guidelines Section VI. B of this report.

##### **Conflicts between water users:**

- power boat/water ski
- sail
- fishing
- windsurfing
- jet skis
- pleasure boating

- swimming
- quiet water boating (canoe,/kayak)

The recommended Master Plan proposes that various kinds of boat uses will be given priority in designated areas of the reservoir. For example, one area of the reservoir would be given use priority for wakeless boating, another would be designated as an active use area for all kinds (and speeds) of boating. Perhaps more than other reservoirs, the irregular shape and natural gateways of Jordanelle allows a fairly distinct demarcation of use areas.

#### Conflicts between camping types:

- RV (recreational vehicle)
- car campers
- group camp areas
- primitive (hike-in) tent camping

Separate, specifically-designated campgrounds are proposed. In the three primary areas, separation should be provided by land forms and vegetation (existing and/or introduced).

#### Conflicts between trail users:

- hiking/jogging
- equestrian
- mountain bikes
- OHV (off-highway vehicle)
- wildlife (sage grouse, raptors, big game)

Only non-motorized (for muscle powered users) trails are proposed within Jordanelle State Park. OHV uses should be referred to OHV existing use areas near Francis and in the region. The non-motorized trails within wildlife areas should be open only during seasons posing the least conflict with wildlife.

#### **G. Park Management by a Single Agency is Desired**

It was originally anticipated that State Parks would manage the entire State Park, but which was to include only three recreation sites. Prior to the development of the Master Plan study, State Parks and the Bureau of Reclamation entered into such a management agreement.

The expanded recreation facilities envisioned under the recommended Master Plan will require a much larger management commitment. Ideally the entire area, including the 720-acre wildlife preserve, should be managed as a single entity. Under this scenario, according to public input, State Parks is the appropriate agency to manage the whole reservoir area, but this expanded responsibility will likely require a reassessment of their agreement with the Bureau of Reclamation.



Another approach recommended and discussed in the planning process was to have the Department of Natural Resources (DNR) be the primary contract signature for managing the land and recreation aspects of Jordanelle. This assumes that DNR will allocate responsibilities to Division of Parks and Recreation, Division of Wildlife Resources, Division of Utah Geological Maps and Surveys, State History, Etc. depending on the nature of management needs and areas of efficiency and expertise. This meets the concerns expressed by the JTAC and the JRAC for one managing entity to assure continuity, reasonable response time, authority and resources for management. This issue of which agency will manage the park has not yet been determined but needs to be resolved in time to permit the designated agency to participate in the design development and construction drawing phases on Jordanelle.

## V. A SEQUENTIAL LOOK AT THE MASTER PLAN ALTERNATIVES

The following descriptions are outlines of the Alternatives and the recommended Master Plan as they were presented to the public and agencies throughout the planning process. (Sections of this text are produced in the Executive Summary):

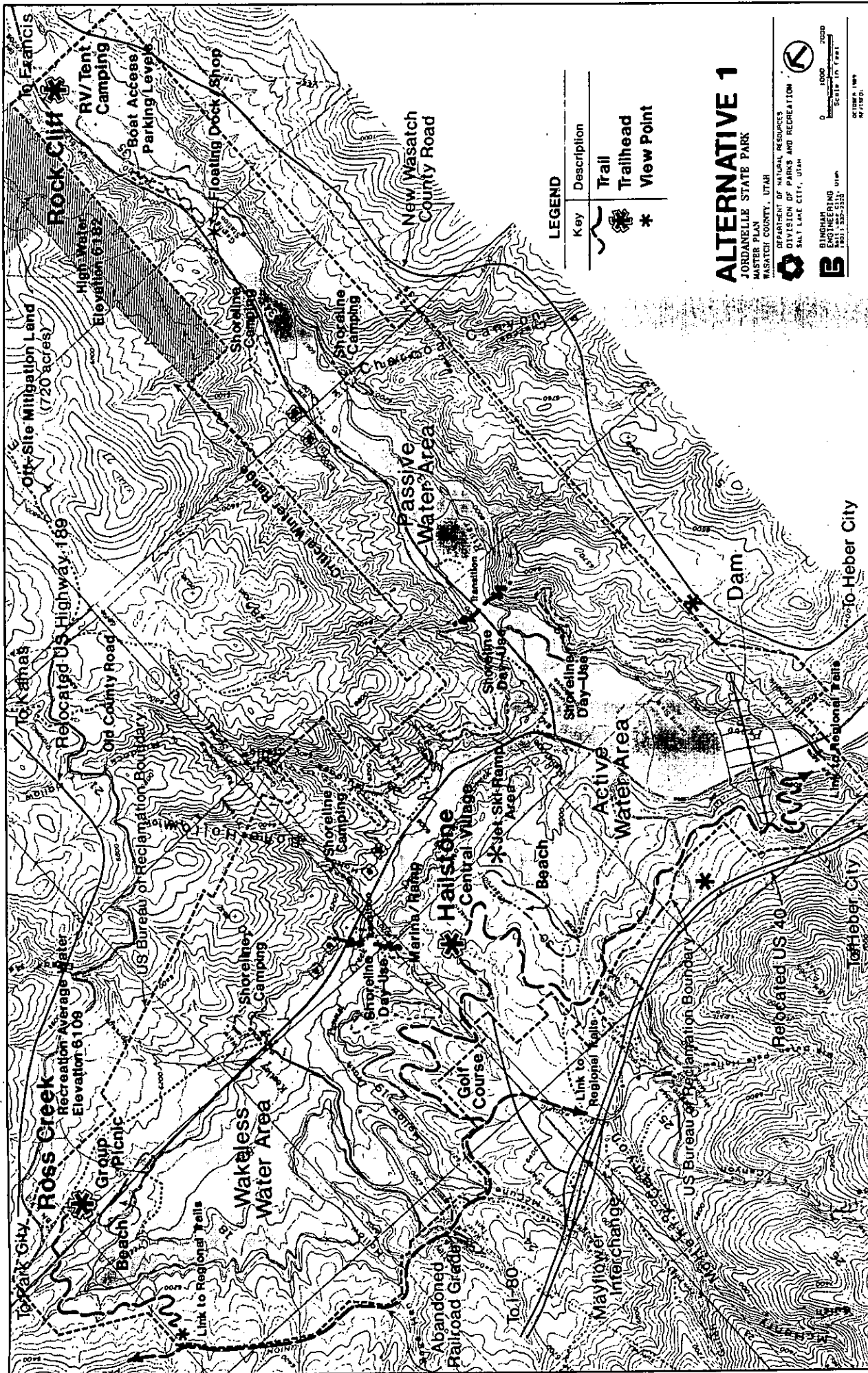
### A. *Alternative 1 - Recreation Restricted to Three Sites*

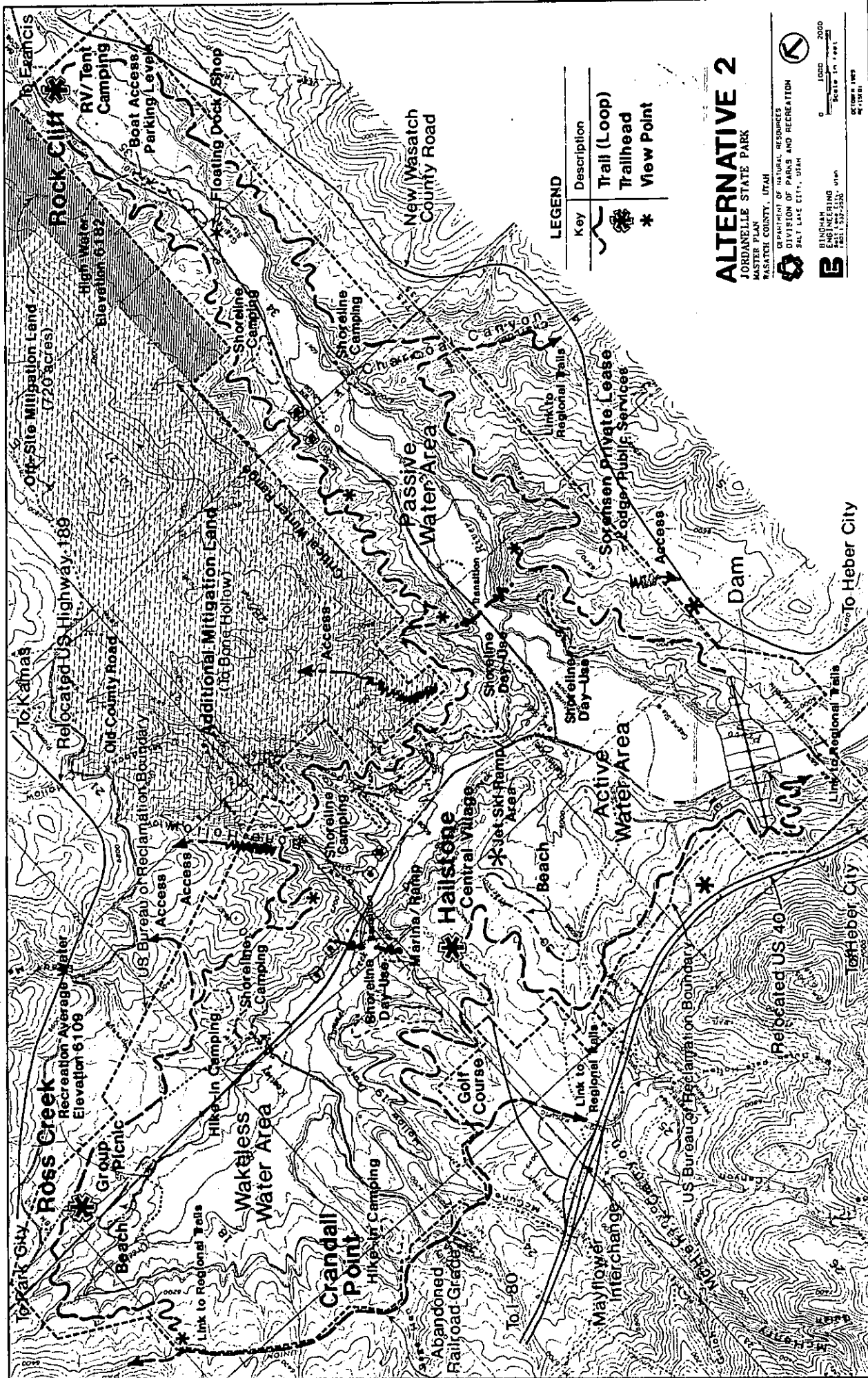
Alternative 1 confined most of the recreation development to the three areas originally designated in the EIS: Hailstone, Rock Cliff and Ross Creek. Shoreline day use areas and shoreline camp sites were proposed because they were confined to areas below the high water level and would not have a significant impact on wildlife. A trail system, approximately 10 miles in length, was proposed to link Ross Creek to Hailstone and to the area below the Jordanelle Dam. This trail system was felt to be within the commitments of the original EIS. The only on-site wildlife mitigation land in this alternative is the 720 acres that was set aside north of the Rock Cliff area.

### B. *Alternative 2 - Expanded Recreation Development*

Alternative 2 included all of the facilities proposed in Alternative 1, and added the Crandall Point hike-in camping area, a recreation development on the existing Sorenson Property (furthermore referenced to as Miller Point), a hike-in camp area on the west side of the North Arm, and additional trail linkages between Ross Creek and Rock Cliff and between Rock Cliff and the area below the Jordanelle Dam (completing an approximate 27 mile loop trail system around the reservoir).

As part of Alternative 2 it was indicated that the Department of the Interior was considering a negotiated first-right-of-refusal lease for a recreation development with the owner of the Sorenson Property on the south boundary of the reservoir. The lease being contemplated would be for a period not to exceed 50 years, with renewal. However, the owners, to date had only made a general proposal with the Bureau of Reclamation and State Parks requesting further detail information.





It was proposed to use the old Wasatch County road for OHV use and link this to the trail system within the Jordanelle State Park boundary.

Additional rights-of-way were proposed to be acquired for access from nearby roads to the north/east and south shorelines. Additional wildlife mitigation lands north of the Jordanelle East Arm were also proposed in this alternative to enhance the wildlife opportunities around Jordanelle.

In this alternative it was proposed that the marina consist of 75 slips: 50 for a potential membership club, 18 short term public and 6 for park staff. Experience at other reservoirs suggests that a membership club approach (open to the public, but requiring annual rather than daily fees) to the marina appears to have the best potential to create a strong demand and a provide an incentive for members to maintain a quality facility. Also, it was proposed that the boat ramp be a single 10 lane boat ramp.

Unique shoreline camping was proposed along the east and north shorelines of the reservoir.

In alternative 2 were proposed composting toilets due to cost of a sewer connection around the north end of Jordanelle. Also proposed were shower facilities with gravel drain sumps to eliminate the need for sewer lines. It was suggested that a water line connection be made tie to Ross Creek water services to the existing abandoned line and some springs above the newly constructed road to Kamas.

**C.     Alternative 3 - *The Preferred Alternative is a Modification of Alternative 2***

Alternative 2 was generally selected as the preferred alternative over Alternative 1, but with the following modifications from the JRAC meetings and Board Review evolved Alternative 3:

**Ross Creek Sewerage** - Inasmuch as private land will most likely be developed above the north arm, it made sense to anticipate sewerage service to the Ross Creek site and thereby provide a higher quality of recreation development for park users.

**Water Use Designations** - There was some concern that the "passive water" use designation was not clear nor enforceable by park rangers. The suggestion was made that the East Arm area be redefined as a "low speed" water use area with 6 to 10 knots being a manageable speed limit. The transition points between designated water use areas were determined to be appropriate.

**Wildlife Mitigation** - Comments in the planning process, by wildlife personnel, indicated that any additional mitigation lands acquired to compensate for the expanded recreation development at Jordanelle should be located in other parts of the state where they could connect to, and be managed as, larger sections of mitigation or National Forest lands. The public and DNR responded that they would prefer to have the required mitigation lands adjacent to Jordanelle where they benefit the impacted wildlife around the reservoir.





**Concessions** - It was the consensus of the JRAC to have a single concessionaire at Jordanelle. This type of agreement would guarantee a higher quality of facility by allowing the investment of the concessionaire to be recaptured over multiple facilities, some of which will be more profitable than others.

**Recreation Vehicles (RV)** - Although Hailstone was felt to be the primary RV site for Jordanelle. It was determined to also keep the RV camping designation at Rock Cliff (which would be bid to an overall manager on a competitive basis) on the Master Plan in order to have it as an expansion area for development if the demand exceeds the Hailstone capacity. Consideration should be given to short term use by large tour groups in the Hailstone or Ross Creek open space areas.

**Golf Course** - The golf course remains defined as a private/public joint venture. An 18 hole golf course is recommended; it was felt by the JRAC that a 9 hole course does not generate adequate revenue.

**Old County Road OHV Use** - Since the old County Road east of the boundary on the north arm is not within the Jordanelle State Park, the ability to use this road for OHV is an issue that would need to be resolved by Wasatch County residents. This type of motorized use is not permitted within the boundary and State Parks had no interest in managing OHV outside of the boundary.

**Power Line** - The location of the proposed Utah Power and Light power line was mentioned so as to disclose that a major power line would be crossing the Jordanelle on the west shore of the north arm. The current proposed location of the power line is within the sight line from the Rails to Trails Parkway along the west boundary of the reservoir. Notwithstanding, it is policy of the State Parks to not have overhead utilities through a State Park area. A letter has been sent from the State Parks to UP&L(See Technical Report - Q) requesting this power line be moved to another location where it will not impact the sight lines and views of the reservoir from the Rails to Trails.

**Marina** - A private club membership marina facility which was originally proposed for Hailstone was determined not to be consistent with State Parks policies. The marina is now defined as consisting of a public facility with 75 slips - 50 for potential long term public, 22 short term public and 3 State Park/DNR Staff.

**Trails** - Jordanelle trails should connect to regional trails. However, it has clearly been indicated by the Bureau of Reclamation that Jordanelle funds for recreation development can be only used for trails within the Jordanelle boundary. Therefore, the trails will terminate at the boundary line. Other funding sources will have to be used to connect Jordanelle trails to Rails to Trails Parkway, Deer Valley/Mayflower Resort trails, Wasatch Mountain State Park trails, Great Western Trail and a trail link to Heber City and Uintah National Forest corridors. The trail system should have sections that are well developed for 1 to 3 mile loops, in addition to the primitive trail development, for heavy use of muscle power users.

An example of a well developed trail section may be the link between the Hailstone Village and the view point above the Jordanelle Dam area.

**US 40 View Area** - Interest was expressed of developing a pull-off view area, near the dam, on the new U.S. 40. A letter has been sent from State Parks to UDOT indicating interest, (See Technical Report - Q) in behalf of State Parks of developing this view area. Due to steep grades the view area would serve only north bound traffic. A trailhead should be provided. To permit this view area will require changing the road section near the dam from a non-access to a limited-access road definition.

**Miller Point** - It was recommended that the upland area west of the dam be identified as a future recreation site (changing its name from Sorenson to Miller Point due to its geological location near Miller Canyon) with a designated land use undetermined. This site should be an optional part of the master plan. There was general public support to acknowledge this site as worthy of recreation use. The JRAC recommended that this recreation site be leased through a competitive bid. It was also determined that any specific development proposal would require the same public review process and mitigation as has been received by the Master Plan.

**Emergency Services** - The issues of fire protection, police and trash pick-up were not able to be resolved in this planning process. However, they are important management issues which will need resolution and coordinating between State Parks and local county governments before the park is opened to the public. Bureau of Reclamation and State Parks has committed to a facility for a fire pumper truck, to aid the State Forester, until such time that fire protection can be provided by services within a 5 mile radius of Jordanelle. It is also recommended that an inter-local agreement for protection be developed.

**Beach Day-Use Areas - Shoreline Camping** - Due to maintenance costs State Parks proposed to delete water and restroom services from the beach day-use and shoreline camping areas. They expect that the use areas for this shoreline recreation activity will change as the water levels fluctuate.

**Development Quality** - Jordanelle State Park has been viewed by the public throughout this process as having high quality of development and acting as a model for other state parks. Concern was expressed by State Parks about their ability, as a matter of policy, to create a higher level of quality at one park than at others.

**Management Entity** - The consensus of public input was to see a park that is managed under one entity or agency. This will most likely be Utah Parks, or perhaps its parent agency, the Department of Natural Resources. The Division of Wildlife Resources, who will likely have responsibility for managing the wildlife habitat, requested an office space, workshop, covered boat storage and vehicle parking area as part of the Hailstone site development.

**Budget** - It was pointed out early in the public and JRAC meetings that the preliminary budget for construction of the Alternative 3 is higher than the original \$12 million budgeted. The JRAC and public still felt strongly that the Alternative 3 Master Plan should be established as the preferred plan, feeling that some costs possibly could be decreased; e.g., sewer line development, private concessionaires may build some of the facilities, and/or some elements may have to be deferred until additional funding is available.

**D. The Recommended Master Plan - *A Public and Agency Consensus***

Following the final State Parks Board and Bureau of Reclamation review, the following modifications were made to Alternative 3, thus resulting in the recommended Master Plan as described below and in Part - 1/Executive Summary.

**Two Boat Ramps** - The single 10 lane boat ramp was replaced by two boat ramps (totalling 10 lanes) for ease of access during peak periods and emergencies.

**Shoreline Camping** - The shoreline camping areas were downgraded to shoreline day-use areas with no maintained water or restroom services.

**Vehicle Access Points** - The access points from private land east and south of the reservoir (intended only for emergency and maintenance use) were eliminated as unnecessary and implying public access.

**1. Hailstone - *The Central Recreation Village***

The Hailstone recreation site is located on the west shore of the North Arm. Due to its relatively flat terrain and proximity to the major highway interchange on U.S. 40, this site lends itself to easy vehicular access and the highest concentration of use.

As the primary recreation area of the park, the Hailstone area is envisioned to have a wide variety of recreation opportunities to appeal to both Utahns and out-of-state visitors to spend multiple-day vacations in the area. Being proposed are both water and non-water related activities. All facilities are to be of a high quality and well sited for visual, circulation and functional purposes. The restaurant, convenience store, bait shops, etc. would be clustered into a village (with consistent architectural character) that orients toward a marina as the focal point. Large irrigated turf areas, and extensive tree planting are also envisioned. The marina would be located in a protected cove on the north side of Hailstone.

The south side of the major peninsula is devoted to terraced beaches. A park would be developed to take advantage of, and protect, the wooded area of McHenry Canyon at the west end of the beach area.

Although a buffer is proposed to separate Hailstone from adjacent private development, with appropriate planning an interconnection with Mayflower and/or



Royal Street developments could be realized. Private companies would likely be allowed to run many of the facilities under a concessionaire agreement with the managing agency.

The following list identifies the activities and uses being proposed for Hailstone:

- Single Entry Point - Ranger Station
- Entry Feature/Consistent Design Theme
- Concessions - Bait Supplies\*, Restaurant\*, Convenience Store\*, Boat Rental (All Kinds)\*, Golf Course(18 hole)\*, Marina (75 slips)\*, Tennis\*, Horse Stables\*, Bicycle Rentals\*, Ice Skating (man made rink)\*, Winter Tubing\*, Dry Boat Storage\*
- Boat Ramp (2 locations providing a total of 10 Lanes)
- Jet Ski Ramp Access Only (1 Lane)
- Fish Cleaning Stations
- Interpretive Areas
- Trail Head/ Parking Areas and Linkage to Regional Trails
- Picnic Areas
- Camp Areas/Restrooms and Showers
- Outdoor Amphitheater
- Open Space (Irrigated)Field Sports/ Special Events
- Beach/Swimming (multiple-level beaches)
- Shade (trees, shade structures)
- Ice Fishing (non-motorized access only)
- Cross-Country Ski Trails
- State Park Management Offices/Ranger Station
- Maintenance Yard
- Sanitary Dump Station
- Grading to expand Land Surface Area
- Sewer Line connection to Heber (pending EPA and New US 40 ROW availability)
- Water Line connection to available Springs and/or Wells

## **2. Rock Cliff - *A Campground/Boating Facility on the East Arm***

This secondary recreation site is located on the east end of the East Arm. It is proposed for fisherman access with parking areas and ramps that are exposed along the roadway as the water level fluctuates. Due to the public interest in camping, a large number of campsites will be developed in this area. The shady cottonwood groves of this site lends itself to separation of different camping uses and easy access to the river. Care must be taken to avoid development in wetland areas.

The following list identifies the proposed uses for Rock Cliff:

- Single Entry Point - Ranger Station
- Trailhead/Parking Areas
- 40 RV and 40 Tent Camping Sites/Restrooms with Showers

- Fish Cleaning Station
- Parking Areas
- Boat Ramp (existing roadway)
- Floating Dock/Shop\* (moveable on spud piers as water fluctuates)
- Sewer Line connection to Francis or Kamas (pending EPA and Facility Plan)
- Water Line connection to Springs and/or Wells

### 3. **Ross Creek - *A Sailing Beach/Trailhead on the North Arm***

This secondary recreation site is located on the east shore of the North Arm. It is proposed for wind boating activities, and group picnic areas. It will also serve as a staging area for recreational users to trails, hike-in camping and beaches.

The following list identifies the proposed uses for Ross Creek:

- Single Entry Point - Ranger Station
- Trailhead/Parking Areas
- Access to Hike-in Camping
- Boat Ramp (existing road)
- Beach and Windsurf Prepping Area (multiple terraces)
- Group Picnic Area/Pavilion
- Moveable Landbase Concession Stand
- Equestrian Staging Area
- Sewer Line connection to Heber (pending EPA and Facility Plan)
- Water Line connection to Springs and/or Wells

### 4. **Crandall Point - *A Hike-in Primitive Camping Area***

This is a tertiary recreation site located above Hailstone on the west shore of the North Arm. It is proposed for limited access to the wakeless water area and primitive camping opportunities. Utilities could eventually be provided contingent on future private land development west of Jordanelle.

The following list identifies the proposed uses for the Crandall Point:

- Tent Camping 5 acres (not directly related to water edge)
- Limited Access Point
- Shade (tree planting)
- Water Line connection to Springs and/or Wells
- Composting Toilets

### 5. **Miller Point - *Proposed Recreation Site***

As part of the recommended Master Plan it is proposed that on the upland an area east of the dam be identified as a future recreation site with no specific designated land use. Miller Point is acknowledged as worthy of recreation use and as land uses

are determined be subject to the same public and agency review process as the Master Plan.

**6. Trails - *An Integrated Regional System Is Possible***

The recommended Master Plan proposes a 27 mile trail system around the entire reservoir. The trail would be constructed with a rough finish grade to accommodate non-motorized/muscle power recreationists such as mountain bikers, joggers, hikers and equestrian users.

The portion of the trail system that connects Rock Cliff to Ross Creek passes through a mule deer critical winter range area. As a result, in order to protect wildlife values, this trail section should be only open at the ranger's discretion. For most of the year the trail would be closed to public access.

Along the trails are proposed view points, educational interpretive signs at appropriate locations, water and restroom facilities at trailheads. The trail system will cross Jordanelle Dam and also connect with the Rails-to-Trails system (on the Union Pacific right-of-way), with regional trails to other reservoirs, Deer Valley/ Mayflower Development, Wasatch Mountain State Park and Great Western Trail and a trail link to Heber City and Uintah National Forest corridors.

**7. Beach and Shoreline Day-Use Areas - *Accessible by Trail or Boat***

Beach and shoreline day-use areas are proposed on the east and north shorelines of the reservoir. They would be accessible by boat (boat rental available at the marina) or some areas by trail from the east side trail system when it is open for use to the public. Service and supervision would be provided via boat by State Parks staff. No water or restroom services would be available due to high maintenance costs.

**8. Water Use Designations - *Priorities are Given to Various Uses in Designated Areas***

The 3,000-acre water surface area of Jordanelle is proposed to be separated into three water-use designations. All water users would have access to any water area but with an understanding that the designated use has priority. This management approach is in response to public water use conflicts which are experienced on other reservoirs. The configuration of Jordanelle creates areas separated by natural physical gateways. There are beach and day-use areas within each water use area.

**a. Wakeless Water (North Arm)**

The North Arm of Jordanelle has characteristics which cause it to be suitable for windsurfing, sailing, swimming, fishing and motorboat (wakeless speed). Due to the limited inflows of tributary streams the water in this area will

remain more stagnant and less desirable for flushing of motorboat gas/oil deposits. The shoreline slopes are gentle and relatively flat, creating desirable areas for deep beaches and warmer water temperatures. This area is in alignment and open to the directional winds created by Provo Canyon which are desirable for sailing and windsurfing. This section of the reservoir could also provide a warm-water fish habitat.

**b. Active Water (Center)**

The center area of the Jordanelle is felt to be suitable for motorboats (regulation speed), water skiing, jet skiing (course), swimming and fishing. This area provides wide areas for turning and racing at higher speeds as well as higher noise levels. The steep slopes will maintain opportunities for deep waters as water levels fluctuate. A 3,000-foot wide gentle south-facing slope at the Hailstone site will create a major beach area (no boat access). It would be anticipated that as the water levels lower, the fish habitat will move to this central active water area which is the deepest part of the reservoir.

**c. Low Speed Water (East Arm)**

The East Arm of Jordanelle is felt to be suitable for low speed water uses. It has characteristics which lend themselves to motorboat pleasure-cruising (minimum speed of 6 to 10 knots), rowing, canoeing, kayaking, swimming and fishing. The in-flow of the Provo River will create significant cold fresh-water habitat for fish as well as a natural flushing of boat gas/oil deposits. The steep slopes the canyon and scenic terrain will require a sensitivity to noise levels, yet provide dynamic opportunities for pleasure-boating.

Inasmuch as the recommended Master Plan exceeds the scope of the original Jordanelle EIS, the addition of trails, hike-in camp areas and designated recreation sites would require at a minimum that an Environmental Analysis be conducted (which could take 6 to 9 months) to assess the impacts of additional trails and camp areas development on wildlife and wetlands within the Jordanelle project area. If there is a finding of significant impact, an EIS would be required, which could take 1 1/2 to 3 years to complete.

**VI. IMPLEMENTATION.**

**A. Policies**

There are a number of issues which have come up in the planning process and public input for which Utah State Parks Board already has policies, including:

1. Concessions
2. Special Events
3. Project Planning
4. Opening and Closing of Parks

5. Multiple Use
6. Law Enforcement
7. Access Roads
8. User Fees

These policies will continue to be applicable to Jordanelle State Park. Copies of these policies are available from the Utah Division of Parks and Recreation office. The development of Jordanelle State Park, as proposed, may require modification of some of these policies and development of new ones. Inasmuch as developing or revising policies needs to be a careful and deliberate process, an adequate amount of time to do so should be built into the planning process. It should be done concurrently with the next phase of design for the State Park to allow an interaction between the policies and their design implications.

## **B. Guidelines**

As a part of the master planning process a number of guidelines are proposed to help guide its development and future operation. These guidelines are also intended to provide clear understanding of the goals and objectives of the State Park. The following preliminary guidelines should be refined as they are implemented in the next phase of development.

1. The Jordanelle Master Plan shall adhere to Wasatch County plan approval processes (including review by the JTAC and JRAC) whereby any public development (Federal, State, or local including any recreation development or facilities) shall comply with the same requirements as specified for private developments. Ensure that any lessee, manager, or operator abides by these same requirements. This is to ensure compliance with regional environmental and water quality standards as well as development decisions which have evolved out of the 1989 master planning process.
2. Public education and awareness of wildlife values and protection of environmentally sensitive lands (public and private) shall be an integral part of the mission of Jordanelle State Park staff. It shall be fostered through brochures, presentations and graphics throughout the Park. It shall be coordinated with cooperating State agencies, and volunteer groups. This educational effort shall also extend to awareness of how those values influence park use and operating procedures (trails in wildlife areas, designated water areas, etc.)
3. Wherever reasonable, fair to the public and efficient a contract shall be negotiated for a single Jordanelle State Park concessionaire and that concessionaires be encouraged to construct and build facilities within the Park with close coordination and approvals between State Parks Board, State Parks personnel and Wasatch County.
4. State Parks shall be charged with the responsibility to assure that a wide range of quality recreation facilities and activities are available to the public in the most cost-effective manner possible.

5. Facilities related to the water surface of the reservoir shall be designed for a low water of elevation 6075 and high water of elevation 6182.
6. The facilities at Jordanelle State Park shall be of high quality with design being developed by a qualified group of inter-disciplinary professionals. The design shall have a coordinated theme throughout the State Park, being consistent in terms of building mass, materials, roof types, signage etc., and following standards and covenants developed by the State Parks and its advising committees (See Technical Report - U).
7. A Park Superintendent shall be assigned early and made part of the design development and construction phase of the Jordanelle State Park Reservoir in order that an understanding of goals and objectives can be continued into the actual management of the area.
8. A formal Park Management Plan shall be developed which coordinates, complements and expands the recreational activity and wildlife values relationship between Jordanelle, Wasatch Mountain State Park and Deer Creek Reservoir to provide a rich and varied recreation experience for State Park users and assures efficient use of equipment and personnel.
9. A process shall be developed that guarantees communication between the Park Superintendent and other area government agencies. It may include representation from the JRAC and JTAC whereby periodically a review of practices, education and recreation uses/conflicts can be discussed and resolved.
10. A specific fishery plan will be devised by DWR for the reservoir. It shall be based on the types of fish that will be best suited for the reservoir conditions and careful analysis of the reservoirs likely habitats. Consideration shall also be given to the compatibility of the competing uses on the reservoir itself and the fishery.
11. The managing agency of the State Park should coordinate with land managers and be aware of the Water Quality Management Plan and planning process for Jordanelle and assure compliance as facilities and development occur and relate to water quality.
12. A sewer system shall be carefully designed to assure a system which will provide quality, convenience and comfort to the user and protect the standards for water quality. A final system will be analyzed and established by the State "Facilities Plan" pursuant by the State Division of Environmental Health.

**C. How Much Will It Cost?**

The purpose of this master plan was to identify the full range of desired and possible recreation uses for Jordanelle State Park, to see which of them can be accommodated physically and environmentally within the constraints of the site, and then to develop a

program for implementation. Balancing cost and budget are obviously an essential part of implementing the plan.

The current Bureau of Reclamation budget is \$22.1 million for design, planning, contracting and overhead expenses. Very preliminary order-of-magnitude estimates of the plan described in the recommended Master Plan section V. D suggests costs in the range of \$21.5 million to \$23.5 million. This cost, with the quality of the envisioned State Park are possible if careful controls on overhead are established and a number of the commercial facilities are built by private concessionaires.

Estimates for recreation operation and maintenance (O&M) costs based on National Park Service (NPS) guidelines for recreation facilities at Jordanelle would be approximately \$642,000 annually. Operation costs based on comparable reservoirs managed by State Parks in Utah would be approximately \$242,000 annually.

Projected recreation revenues at Jordanelle based on comparable reservoirs managed by State Parks in Utah show that Jordanelle would generate between \$95,000 and \$223,000 annually, or approximately an average of \$159,000.

Projected Recreation Revenues at Jordanelle Summary:

<u>Budget Projection</u>	<u>Revenues % of O/M Cost</u>
1. According to NPS Standards	$\$159,000/\$642,000 = 25\%$
2. According to State Parks (comparables)	$\$159,000/\$242,000 = 66\%$

As a point of interest, preliminary calculations indicate that State Parks could manage the marina facility at a net profit for this element of the recreation development (See Technical Report - B and S for history and figures used for calculations).

VII. TECHNICAL REPORTS



**A. Economic Memorandum and Summary - ERA**



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### MEMORANDUM

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**To:** Mr. Bruce Maw, Bingham Engineering, and  
Members of the Jordanelle Master Plan Team

**From:** Economics Research Associates

**Date:** June 22, 1989

Project No. 9523

**Subject:** Preliminary Market Analysis

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Per the original work scope associated with the planning for the Jordanelle reservoir recreation master plan, ERA has completed to the greatest degree possible its initial work tasks outlined as Task 3.18. This analysis was confined to reviewing available data and making comments and recommendations prior to actual programming for the master plan. The four areas which were to be addressed included reviewing the key trends in economic conditions, assessing strategies to maximize economic value, reviewing the objective of enhancing local development through tourism, and making comments regarding concessionaire agreements. The latter category may not be discussed in detail at this juncture because it will depend greatly upon the land uses adopted for the master plan, but will be further elaborated upon as the planning process evolves. The results of the research to date on each of these four areas is discussed below.

## TRENDS REGIONAL/SUBREGIONAL ECONOMIC CONDITIONS

From 1980 to 1986 Utah was hit very hard with the reduction of nearly 5,000 employees in the mining industry alone. This had severe repercussions throughout the state, which affected all earlier growth projections regarding population, income, etc. During this same time frame, there was little, if any, growth in the winter skiing market, which has been a major contributor to the economic viability of the state. There now appears to be signs of economic recovery, and there are revised projections regarding population, employment, etc. Below are highlighted some of the more salient points regarding future projections.

- o As indicated in Table 1, the employment base within the state will show greater diversification with manufacturing, trade, and the service industry and the largest gainers numerically.  
Table 1 from the West Valley project that Bill did -- Table III-3.
- o Table 2 shows the aggregate increase in population between 1970 and 1987, as well as the average household size. As is evident, the growth in the 1980 to 1987 period has been significantly below that of the earlier decade. So also, following national trends, household size is also decreasing.
- o As is shown in Table 3, the Wasatch front and mountainland regions of the state constitute by far the largest portion of the statewide population. In 1990 it is anticipated to be approximately 80 percent of the population, increasing gradually over the next decade to nearly 82 percent. This is an important consideration given the proximity of the Jordanelle reservoir to Salt Lake City and therefore the majority of the population of the state.
- o Because of the economic diversification which is occurring, as well as the clustering of the population within the major urban area, it is

anticipated that the population will be much more economically viable in the future and have a greater disposable income. Typically this relates directly to spending on recreational pastimes.

- o At the same time, the age of the Utah population is significantly less than the country as a whole and translates into a much stronger orientation towards family. This age structure is shown in Table 4. Therefore, even with increased household spending, the disposable income per capita will be less.
- o This is undoubtedly reflected in the resident surveys wherein a much greater emphasis is placed on basic recreation rather than highly developed recreation opportunities with a coincidental higher cost. In fact, camping, fishing/hunting and picnicking were those activities which were most frequently cited on an individual as well as family basis among residents in the State Comprehensive Outdoor Recreation Plan (SCORP). All other identifiable outdoor recreation activities were a distant second in terms of participation.
- o It is also interesting to note that in most cases it was these uses which were cited in the 1985 SCORP plan as being underserved to the population in general. Additionally, it is interesting that in the resident survey recreation facilities close to home was a primary consideration. Given the concentration of population in Salt Lake City and the mountainlands region, development at Jordanelle would undoubtedly gain tremendous use, but would follow the seasonality patterns typical with other facilities in the state.

#### OPTIONAL STRATEGIES FOR ECONOMIC VALUE

The key issue under this category is the definition of economic value and the potential beneficiaries thereof. For instance, the goal may be to provide the greatest recreational opportunities at the lowest cost to the general public in order to

ensure that the greatest number of people have equal opportunity to the facilities. This normally connotes relatively basic facilities that may in fact need to be subsidized by the state or from other sources in order to be self sufficient. On the other hand, generating the greatest public economic value may be defined as providing economic generators than create jobs and bring in a great deal of revenue in their own right.

From the resident surveys the overwhelming desire is for facilities which are basic (albeit high quality) but that commercial recreation and artificial recreational opportunities be limited. Uses specifically spoken against include private real estate development, private beaches, hotels, visitor centers, swimming pools, etc.

On the other hand, there is a legislative move to enhance the skiing opportunities in the winter which can have dramatic impact on Park City and the immediate environment. Moreover, Park City has been actively promoting off-season use in order to engender more tourism visitation to the area. Thus, their desire is to have more built recreational opportunities to create more summer and off-season demand. Upon review of this visitor survey, ERA would see that certain facilities that are desired by residents could also be supportive of the goal to bring in more visitors to the immediate area surrounding Park City.

### TOURISM AND ECONOMIC DEVELOPMENT OBJECTIVES

In reviewing all of the available data it is apparent that there is a very strong desire on the part of the state to encourage tourism as a clean industry. The Jordanelle could become an integral part of that tourism promotion program, were it compatible with the desire of residents. Several points lead to this conclusion.

- o As noted above, the City of Park City has tremendous bed base capacity and visitor serving facilities that now cater primarily to the

winter market and go largely unused or underutilized during the summer months. Although they have been successful in generating significantly more visitor days during the summer and off season months, there is a strong desire to gain greater utilization at those facilities. Water based recreation could prove to be a strong draw to Park City during the summer.

- o The Utah Tourism Study (1987) indicated that half of the summer visitors to Utah, spend at least one night in the Salt Lake City area. Moreover, one-quarter of these summer visitors stayed in a camper or recreational vehicle, and nearly one-fifth of summer visitors were traveling around the state in recreational vehicles or with camping equipment.
- o In total, summer visitation is larger than winter visitation, and three-quarters of the summer visitors arrive by private vehicle.
- o "Outdoor recreation" was the single most often cited attraction that brought summer visitors to the state. Over 18 percent stipulated "outdoor recreation" as the attraction that comes most to mind when they think of Utah, followed by "scenic beauty" and "winter sports."

Thus, it would appear that the availability of outdoor recreation facilities catering to the visitor market would receive good support, and could be compatible with the states long range economic goals of increasing tourism. In fact, the 1987 Tourism Study conclusion and recommendation was that Utah should target the specialized markets within the United States that are drawn to camping, white water rafting, hunting and fishing, and other outdoor recreation activities.

## CONCESSIONS AND OTHER COMMERCIAL RECREATION

The types of concessions and opportunities for commercial recreation at the Jordanelle will obviously vary given the type and extent of development incorporated into the master plan. From our research to date, there would appear to be a dichotomy between the desires of the residents and those of visitors. Both groups obviously want quality in whatever facilities are to be provided. However, the residents prefer more low key development, whereas the visitor desires more extensive development, and in ERA's belief would be willing to support such facilities.

This translates into a very broad spectrum of potential operators and concessionaire arrangements. For instance, if the focus will be on resident serving facilities that are less developed, ERA would see that most of the facilities would in all likelihood mirror the existing concessionaire operations which prevail throughout the state. Most of these are basically small operators whom are undercapitalized, and whose service levels and quality of experience provided may vary tremendously.

On the other hand, if there is a commitment to bring in more visitor serving facilities, then there is both the requirement for and an opportunity to provide much more sophisticated operations. The difference could be clearly illustrated by comparing an independently owned and operated recreational vehicle park/campground versus a KOA or similar franchised campground. The first type most frequently offers limited facilities, no onsite developed recreation or convenience store. The latter might be expected to offer a broad range of other ancillary recreation facilities (swimming pools, tennis courts, etc.), and convenience services, and they would normally expect to operate at a higher utilization rate. The

same range of opportunities exist for the development of marinas and marine-related recreation, golf courses, etc.

Part of the decision making process will be the desire and/or need to make the recreational opportunities provided revenue producing versus recreation serving. ERA has seen a trend toward privatization of state and local parks recreational facilities through long-term leases of golf courses, marinas, etc. These rate structures are scheduled to offset the operating costs of the overall larger facility. On the other hand, a greater array of recreational opportunities may be provided if there is a public willingness to fund the construction and operating deficits normally associated therewith. Jogging trails, bike trails, exercise courses, etc., are all prime examples of non-revenue producing facilities which may be easily incorporated into the Jordanelle master plan.

## SUMMARY

From the research to date, it is apparent that the resident market is underserved in nearly all of the facilities normally associated with water based parks, i.e., camping, fishing, hunting, various types of boating, etc. It is also apparent, however, there are opportunities for incorporating visitor-related facilities of a similar nature which could aid in the Utah's goal of attracting tourism and diversifying its economy. There are some facilities of a visitor nature, specifically hotel/motel accommodations, which would not necessarily serve the resident market. On the other hand, most of the opportunities for visitor related facilities seem to duplicate in some fashion the needs identify the residents. Therefore, the question is more one of scale, quality, and orientation, rather than non-compatiability.





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### MEMORANDUM

**To:** Mr. Bruce Maw  
Bingham Engineering

**From:** Anne Trela  
Economics Research Associates

**Date:** June 29, 1989

**Subject:** Summary of Visitation at Recreation Areas  
Jordanelle Master Plan Project

Project No.: 9523

Per our conversation today, I have summarized a couple of points pertaining to the attached visitation numbers for state park and recreation areas in Utah. I do not know the source for these numbers. According to Greg, they were embedded in a pile of information he received from you. He guesses that they are probably originally from Terry Green. Because these numbers are of limited use to us, I have put in a call to Terry to see if we can get more detailed information on utilization of specific facilities at the various areas. However, a number of generalized statements can be made.

- o Not surprisingly, the most highly visited areas are primarily in the Salt Lake City region situated in the wilderness areas within the Ogden-Provo corridor (see map). This is an important observation considering the location of the Jordanelle reservoir in this region. Below are the top state park and recreation areas in terms of visitation.

	1988 No. of Annual <u>Visitors</u>
Wasatch Mountain	801,984
Pioneer Trail	420,126
Ant. Is. - GSL	356,511

Deer Creek	318,414
Bear Lake	295,667
Willard Bay	235,221
Yuba Bay	222,766
Rockport	205,898

- o Figure 1 graphically displays visitation for major state recreation areas in the Salt Lake City Region from 1983 to 1988. In this time period, no major trends in visitation can be noted based on the available data. Although there has been some fluctuation year by year and there seems to be some indication of a downward trend since 1986, in most cases the level of visitation is generally at the same level in 1988 as it was in 1983.
- o In any case, the number of visitors to many of these areas is substantial (200K-800K) especially in the four summer months (June - Sept) when most of the areas receive 50% to 75% of their visitation as indicated below:

1988 % of Total Visitation  
During June through September

Wasatch Mountain	56%
Rockport	77%
Pioneer Trails	49%
Deer Creek	77%
Willard Bay	65%

In the absence of more detailed visitation and utilization numbers, but based on research in the 1985 SCORP study indicating an undersupply of recreation facilities across virtually every category, we surmise that facilities in these areas are currently being filled to capacity during the peak months (July and August).

I hope this summary is helpful. I will follow up with Terry Green to see if I can get any additional information.

cc: Greg Cory

Table 1

WASATCH FRONT MCD MAJOR INDUSTRY EMPLOYMENT PROJECTIONS  
1980-2005

	1980	1986	1990	1995	2000	2005	Annual Compounded Growth		
							1980-1986	1986-1990	1990-2005
Mining	7,122	2,014	2,600	2,700	2,800	2,900	-19.0%	6.6%	0.8%
Construction	21,608	23,323	25,400	29,900	34,200	38,900	1.3%	2.2%	3.3%
Manufacturing	60,121	63,161	70,100	80,800	91,100	102,100	0.8%	2.6%	2.9%
TCPU 1/	26,989	29,147	32,400	36,900	41,200	45,800	1.3%	2.7%	2.6%
Trade	95,898	113,441	127,000	145,400	161,600	180,000	2.8%	2.9%	2.7%
FIRE 2/	20,770	27,303	30,700	35,000	38,800	43,200	4.7%	3.0%	2.7%
Services 3/	71,019	98,021	115,700	137,200	153,800	170,400	5.5%	4.2%	3.5%
Government	86,017	97,628	102,500	107,500	110,900	117,600	2.1%	1.2%	1.0%
TOTAL	389,544	454,038	506,400	575,400	634,400	700,900	2.6%	2.8%	2.6%

1/ Transportation, Communications, and Public Utilities.

2/ Finance, Insurance, and Real Estate.

3/ Services include private household employees.

Source: Utah Office of Planning and Budget  
and Economics Research Associates

Table 2

## UTAH'S HOUSEHOLD CHARACTERISTICS

	<u>1970</u>	<u>1980</u>	<u>1987</u>	<u>Average Annual Increase</u>	
				<u>1970-1980</u>	<u>1980-1987</u>
Population:	1,059,300	1,474,000	1,678,000	3.23%	1.87%
Number of Households:	306,000	452,100	538,000	3.90	2.52
Average Household Size:	3.46	3.26	3.12	----	----

Source: Utah Office of Planning and Budget: Economic & Demographic Projections 1988; U.S. Bureau of Census; and Economics Research Associates

Table 3

**UTAH POPULATION PROJECTIONS**  
1990-2000  
(Thousands)

Multi County District (MCD)	1990		1995		2000		Average Annual Increase	
	Population	Percent of State	Population	Percent of State	Population	Percent of State	1990-1995	1995-2000
Bear River	112.8	6.4%	119.4	6.3%	124.9	6.2%	1.1%	0.9%
Wasatch Front	1,138.7	64.4	1,242.5	65.6	1,332.0	66.6	1.8	1.4
Mountainland	287.7	16.3	295.6	15.6	304.3	15.2	0.5	0.6
Central	53.2	3.0	55.4	2.9	55.9	2.8	0.8	0.2
Southwest	80.9	4.6	84.8	4.5	88.8	4.4	0.9	0.9
Utah Basin	39.3	2.2	40.3	2.1	42.1	2.1	0.5	0.9
Southeast	55.0	3.1	54.8	2.9	54.7	2.7	(0.1)	(0.1)
TOTAL STATE	1,767.0	100.0%	1,893.0	100.0%	2,003.0	100.0%	1.4%	1.1%

Source: Utah Office of Planning and Budget, UPED Model - Utah Planning and Budget: Economics & Demographics Projections, 1988, and Economics Research Associates

Table 4

**UTAH AGE DISTRIBUTION  
COMPARED WITH UNITED STATES AGE DISTRIBUTION**

	<u>United States</u>		<u>Utah</u>	
	<u>1980<sup>1</sup></u>	<u>1987<sup>2</sup></u>	<u>1980<sup>1</sup></u>	<u>1987<sup>2</sup></u>
Under 14 years	22.6%	21.5%	31.6%	32.4%
15 to 24 years	18.8	15.7	20.2	16.5
25 to 34 years	16.4	17.8	16.5	18.3
35 to 44 years	11.3	14.1	9.8	11.7
45 to 54 years	10.1	10.0	7.7	7.0
55 to 64 years	10.0	9.0	6.8	5.8
65 years and over	11.3	12.3	7.5	8.2
Median Age:	30.0	32.1	24.2	25.5

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<sup>1</sup> April 1980

<sup>2</sup> July 1987

Source: U.S. Bureau of the Census; and Economics Research Associates.

**B. Supporting Documentation for the Jordanelle Reservoir Recreation Economic Analysis**

## **JORDANELLE RESERVOIR RECREATION**

### **ECONOMIC ANALYSIS FOR UTAH STATE PARKS BOARD**

**PREPARED BY: UTAH PROJECTS OFFICE**

#### **PURPOSE:**

This summary will provide additional economic information to the State Parks Board. The information herein should provide important data to assist the Board in evaluating Jordanelle Reservoir as a new State Park.

#### **1. PROJECTED COST OF DEVELOPED RECREATION FACILITIES**

The total cost of developing recreation facilities at Jordanelle Reservoir as outlined in the proposed master plan is \$23,500,000 including all design, planning, contracting, and overhead expenses (see attached Recreation Feasibility Cost Estimate Guide). This cost includes the boat ramp, boat slips, concession buildings, recreation O&M buildings, ranger housing, utilities, tennis courts, play structures, campground, picnic facilities, beach area and support facilities. Reclamation has currently budgeted \$22,100,000 for the development. This leaves a difference of \$1,400,000 or a 6% short fall. This difference could be made up if careful controls are established on overhead, if attractive cost efficient designs are required and if contracts are prepared to encourage competitive bidding.

#### **2. PROJECTED RECREATION OPERATION AND MAINTENANCE COSTS**

Estimates for recreation operation and maintenance (O&M) costs were prepared using National Park Service guidelines and comparable State Parks in Utah with a factor for recreation use differences.

Reclamation's projections for O&M costs, based on National Park Standards of 3% of the development costs minus the land cost with a \$.10 cost per visitor, is \$641,000 annually (see attached Recreation Feasibility Cost Estimate). This budget provides for a high quality recreation management program.

Comparable reservoirs to Jordanelle were evaluated and recreation O&M costs were projected based on recreation visitation factors. The reservoirs selected were: Deer Creek, Willard Bay, Rockport and East Canyon. Based on the past 7 year history at these water oriented State Parks, a reservoir the size and visitation projected for Jordanelle would be budgeted between \$216,000 to \$268,000 annually or about \$242,000 average under the current budget levels (see attached work sheets for State Parks Budget). This is only 38% of the National Park Standards indicating a less effective recreation management.



### 3. PROJECTED RECREATION REVENUES FROM JORDANELLE RESERVOIR

Projected recreation revenues at Jordanelle reservoir were based on the same comparable reservoirs used in the O&M projections. Revenue anticipated at a Jordanelle would be between \$95,000 and \$223,000 annually. Table 1 takes this one step further and compares projected costs with projected revenues.

TABLE 1

Budget Projection	Lowest Projected Revenues % of return	Highest Projected Revenues % of return
1. NPS Standards	\$95,000/\$641,000 = 15%	\$223,000/\$641,000 = 35%
2. State Parks	\$95,000/\$242,000 = 39%	\$223,000/\$242,000 = 92%

### 4. PROJECTED OPERATION AND MAINTENANCE COSTS FOR A 75 SLIP MARINA

Reclamations estimate for the construction of a 75 slip marina including overhead, planning and design is approximately \$342,000. Building the marina with Reclamation funds will eliminate the investment cost and allow the State Parks to handle maintenance estimated at 3% of the total cost or \$10,000 annually. This would be in addition to the regular park maintenance costs. The unseen cost of the marina is the replacement cost. Replacement on a 25 year sinking fund basis is estimated at \$9,000 annually. The total real cost for the State Park to operate the marina is \$19,000 annually (see attached marina work sheets).

Projected revenue from the marina assumes an 80% occupancy rate over a five month recreation season. Current State Park slip rental rates are \$3.50 per foot per month and it is anticipated that the average slip at Jordanelle Reservoir would be 20 feet. The calculations show the estimated revenues would be approximately \$21,000 annually. These revenues would be in addition to those projected above. If the State Parks were to manage this facility, they would realize a net profit even with the replacement costs taken into consideration.

### 5. PROJECTED TOTAL REVENUES GENERATED BY RECREATION AT JORDANELLE

Recreation use at Jordanelle Reservoir will generate revenues to the State of Utah and local communities. It is anticipated that Jordanelle reservoir would receive approximately 80% of its use from residents and 20% from non-residents. The State Comprehensive Outdoor Recreation Plan reports user expenditures for residents run about \$13.50 per visitor and non-resident expenditures run about \$29.50 per visitor. Table 2 shows the total annual revenue generated by the projected use at Jordanelle Reservoir.

TABLE 2

Recreation Visits		x	Visitor Expenditure	=	Revenue Generated
Resident Use					
479,000 x .80 = 383,200			\$13.50		\$5,173,200
Non-resident Use					
479,000 x .20 = 95,800			\$29.50		\$2,826,100
				TOTAL	\$7,999,300

It is apparent that there is significant economic benefit to the State and local communities that can be generated by recreation use at Jordanelle Reservoir.

Prepared 10/11/89 by: F. Liljegren

**ESTIMATED COST FOR A 75 SLIP MARINA**

**COSTS:**

**TOTAL INVESTMENT**

75 boat slips - 75 @ \$2760 each	= \$207,000.00
Minor items 10%	= \$ 20,700.00
Contingencies 20%	= \$ 51,750.00
Overhead 30%	= \$ 62,100.00
<b>TOTAL</b>	<b>\$341,550.00</b>

**ANNUALIZED COSTS:**

Investment Cost (@ 3.25% = .0339)	= \$ 11,578.00	
Replacement (25 years = .0265)	= \$ 9,051.00	State Park cost
Maintenance (3% of investment)	= \$ 10,246.00	is \$19,297.00
<b>TOTAL ANNUAL COST</b>	<b>30,875.00</b>	

**ANTICIPATED REVENUES**

**ASSUMPTIONS:**

1. Average marina slip is 20 feet long.
2. Occupancy rate at the marina will be 80% during the recreation season between May 15 to September 15 - 150 days or 5 months.
3. No utility hookups are provided on the docks.
4. Slip rental will be by the month.

**FORMULA FOR CALCULATING PROJECTED REVENUES:**

Number of slips	Occupancy rate	Number of months	Monthly rate per foot	Length of slip	Projected income
75	.80	5	\$3.50/ft	20 ft	\$21,000.00

PROJECTED RECREATION O&M COSTS AT JORDANELLE FROM COMPARABLES

COMPARABLES

1. DEER CREEK RESERVOIR

YEAR	VISITATIONS	EXPENDITURES	REVENUES COLLECTED
6-30-89	306,678	\$190,515	\$140,196
6-30-88	385,937	\$203,537	\$127,312
6-30-87	365,484	\$182,445	\$104,744
6-30-86	245,185	\$149,950	\$ 71,248
6-30-85	201,441	\$ 87,082	\$ 79,873
6-30-84	257,470	\$ 83,423	\$ 82,902
6-30-83	437,528	\$106,054	\$ 61,214
TOTAL	2,199,723	\$1,003,006	\$667,489
AVERAGE	314,246	\$ 143,286	\$ 95,355

Projections for Jordanelle Based on 474,900 visits  
 Expenditures =  $474,900/314,246 \times \$143,286 = \$216,539$   
 Revenues collected =  $474,900/314,246 \times \$95,355 = \$144,104$

Percentage rate of return =  $\$144,104/\$216,539 = 66\%$

2. WILLARD BAY

YEAR	VISITATIONS	EXPENDITURES	REVENUES COLLECTED
6-30-89	177,884	\$227,293	\$153,841
6-30-88	325,307	\$230,594	\$202,047
6-30-87	416,443	\$212,138	\$214,162
6-30-86	412,440	\$209,849	\$179,498
6-30-85	349,491	\$194,466	\$149,457
6-30-84	288,670	\$180,473	\$136,003
6-30-83	502,203	\$169,187	\$124,247
TOTAL	2,472,438	\$1,424,400	\$1,159,255
AVERAGE	353,205	\$ 203,485	\$ 165,608

Projections for Jordanelle Based on 474,900 visits  
 Expenditures =  $474,900/353,205 \times \$203,485 = \$273,595$   
 Revenues collected =  $474,900/353,205 \times \$165,608 = \$222,667$

Percentage rate of return =  $\$222,667/\$273,595 = 81\%$

### 3. DEER CREEK AND WILLARD BAY

RESERVOIR	VISITATIONS	EXPENDITURES	REVENUES COLLECTED
Deer Creek	2,199,723	\$1,003,006	\$667,489
Willard Bay	2,472,438	\$1,424,400	\$1,159,255
GRAND TOTAL	4,672,161	\$2,427,406	\$1,826,743
AVERAGE	333,726	\$ 173,386	\$ 130,482

Projections for Jordanelle Based on 474,900 visits 2/  
 Expenditures =  $474,900/333,726 \times \$173,386 = \$246,732$   
 Revenues collected =  $474,900/333,726 \times \$130,482 = \$185,679$

Percentage rate of return =  $\$185,679/\$246,732 = 75\%$

### 4. ROCKPORT, EAST CANYON, DEER CREEK, WILLARD BAY

Rockport YEAR	VISITATIONS	EXPENDITURES	REVENUES COLLECTED
6-30-89	210,481	\$229,881	\$101,656
6-30-88	243,724	\$189,708	\$ 91,921
6-30-87	296,335	\$173,019	\$ 85,368
6-30-86	227,321	\$162,443	\$ 84,736
6-30-85	149,241	\$163,348	\$ 75,064
6-30-84	118,299	\$138,219	\$ 68,200
6-30-83	262,041	\$138,437	\$ 71,718
TOTAL	1,507,442	\$1,195,155	\$578,663
AVERAGE	215,349	\$ 170,736	\$ 82,666

East Canyon YEAR	VISITATIONS	EXPENDITURES	REVENUES COLLECTED
6-30-89	143,745	\$174,395	\$ 60,947
6-30-88	267,526	\$175,697	\$ 61,790
6-30-87	306,642	\$149,685	\$ 56,416
6-30-86	315,135	\$129,040	\$ 67,291
6-30-85	288,175	\$116,942	\$ 57,962
6-30-84	279,539	\$110,625	\$ 55,166
6-30-83	324,848	\$102,273	\$ 48,058
TOTAL	1,925,430	\$958,657	\$407,630
AVERAGE	275,061	\$136,951	\$ 58,233

Deer Creek AVERAGE	VISITATIONS	EXPENDITURES	REVENUES COLLECTED
	314,246	\$143,286	\$ 95,355

Willard Bay			
AVERAGE	353,205	\$203,485	\$165,608
	<hr/>	<hr/>	<hr/>
GRAND TOTAL	1,157,861	\$654,458	\$401,862
AVERAGE	289,465	\$163.614	\$100,465

Projections for Jordanelle Based on 474,900 visits 2/  
 Expenditures =  $474,900 / 289,465 \times \$163,614 = \$268,427$   
 Revenues collected =  $474,900 / 289,465 \times \$100,465 = \$164,824$

Percentage rate of return =  $\$164,824 / \$268,427 = 61\%$

C. **Marina Memorandum and Summary - Warzyn Engineering**

August 15, 1989  
13866.00

**MEMORANDUM**

To: Bingham Engineering  
100 Lindbergh Plaza, No. 2  
5160 Wiley Post Way  
Salt Lake City, Utah 84116  
Attention: Bruce Maw

Date: August 1989

From: Warzyn Engineering Inc

Re: Proposed Boat Marina and Related Facilities  
Jordanelle State Park  
Wasatch County, Utah

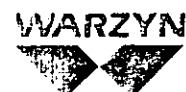
This memorandum summarizes the planning discussions held on July 24, 25 and 26, 1989 between members of Jordanelle Master Plan Team and Warzyn Engineering Inc. In preparation of these comments Warzyn Engineering has reviewed available documents depicting the proposed facility, had several discussions with key team members and toured the proposed site as well as similar facilities in the immediate area of the project.

CONCEPT OF PROPOSED MARINA AND RELATED FACILITIES

Based upon a review of State boat registration in Wasatch and surrounding counties, and review of existing facilities at nearby reservoirs, a general consensus was reached to provide the following boat slip mix;

<u>Slip length</u>		<u>Number of Slips Proposed</u>
20 ft	70% Total	52
25 ft	25%	18
35 ft	5%	6
	100%	(76) slips

It was also the consensus that with approximately 76 wet slips, an equal amount of dry storage facilities be provided. Due to significant water level fluctuations, floating dockage structures of high quality construction would be appropriate for this site. Sanitary pump out and fuel dispensing





facilities would be available to the water based activities. There would be a 10 lane concrete surfaced boat launch ramp with boarding piers and that the ramp would be in general proximity to the marina dockage. The facility should be of high quality and durable construction, capable of functioning given the severe water level changes anticipated.

#### DESIGN DIFFICULTIES AND SOLUTIONS

With a high water elevations of 6182, a low water elevation of 6075 and an average useable water elevation of 6109, it has been assumed that 30 to 40 ft of annual fluctuation in the water level will not be unusual. Fluctuations on the order of 60 ft may occur at 5 year intervals and as much as 260 ft of fluctuation may occur during a 40 year period. These water fluctuations make it difficult to design an operable marina within reasonable cost constraints. However, given the topography of the site and the use of chain and winch anchorage systems, it is our opinion that the proposed floating dockage will function satisfactorily during these fluctuating water levels. Additional cost is involved as well as additional maintenance and inconvenience to marina patrons but, the facility appears feasible and not unusual for the area.

Design details must be incorporated into the facility to not only accommodate the vertical movement of dockage but also lateral movement particularly as related to water level changes in excess of 30 ft. A permanent concrete access ramp upon which a moveable bridge ramp will traverse appears to be a reasonable solution for patron access to the floating dockage. Provisions for alternate dockage anchor points on the floor of the reservoir can be provided to accommodate larger fluctuations in water levels and associated lateral movement of the dockage. Aesthetically the exposed shore line which will appear with large fluctuations in water level must be addressed. Decorative rip rap or the possible use of tolerant vegetation in the area of the marina would improve the visual impact this section of exposed shore line.

Wave protection within the marina basin may be needed. However, there is little record data to evaluate the degree to which this wave protection will be required in the area of dockage. It is our opinion based upon the average recreational surface area of the reservoir that some form of wave protection, such as a floating breakwater, will be required. The extent and size of this structure has only been estimated at this time for cost estimates. Further study is required.

Ice damage to the floating dockage and floating breakwater has been considered. General practice in the project area is to remove dockage during the winter months to prevent damage from ice movement. This certainly could be continued with high quality floating dockage that has been proposed at this site. However, by partially dismantling the dockage system and tethering the pieces together and to land base anchors, it may be possible to allow the system to float freely in the ice and be reassembled in the spring. This would reduce maintenance expenses associated with this facility.

#### PROBABLE COST OF CONSTRUCTION

The following assumptions were made in the preparation of the cost estimates which follow:

- Floating dockage would be of a type commercially manufactured utilizing galvanized steel angles, pressure treated wood decking and polyethylene floats filled with closed cell polystyrene.
- Some form of floating breakwater will be required for the dockage basin.
- Floating boarding piers associated with the launch ramp are provided but, no floating breakwater protection is assumed at the ramp location.
- Water fluctuations occur over the ranges previously stated but do not exceed 30 to 40 ft annually.

#### Basic Items of Construction

• Floating dockage, including head walks (\$4,800 - \$6,600/slip, average \$5,700)	\$ 433,200.
• Floating breakwater utilized as temporary mooring facilities (\$40 - \$50/sq ft, average \$45/sq ft)	\$ 352,350.
• Anchorage system including that used for breakwater	\$ 98,200.
• Fuel dispensing and sanitary pump out facilities	\$ 150,000.
• 10 lane boat launch ramp including boarding piers	\$ 671,000.
• Administration and ships store (1,350 sq ft at \$90/sq ft)	\$ 121,500.
• Dry boat storage area	\$ 59,500.
Total	\$1,885,750.

#### OTHER ITEMS

Access to the floating dockage from land base facilities has been proposed to be a rather steep concrete walkaway ramp. While this is a workable scheme, alternate means should be considered to comply with applicable accessibility codes. One alternative might incorporate the use of a small motorized tram constructed with the previously mentioned concrete ramp. Concrete steps could also be incorporated into the ramp thus providing three means of access, the smooth ramp, concrete steps and a small motorized tram.

Methods of operating the proposed marina facility either by the Division of Parks and Recreation or by a private developer (concessionaire) were discussed. Warzyn engineering has been associated with several marina water front facilities which have been constructed with public money and then leased to private developers for operation. In general, the operation of these facilities has been successful. It appears the key to success for these facilities has been good planning, quality marina construction and associated facilities, and to provide several different marina and related activities from which the operator can derive profits.

SUMMARY

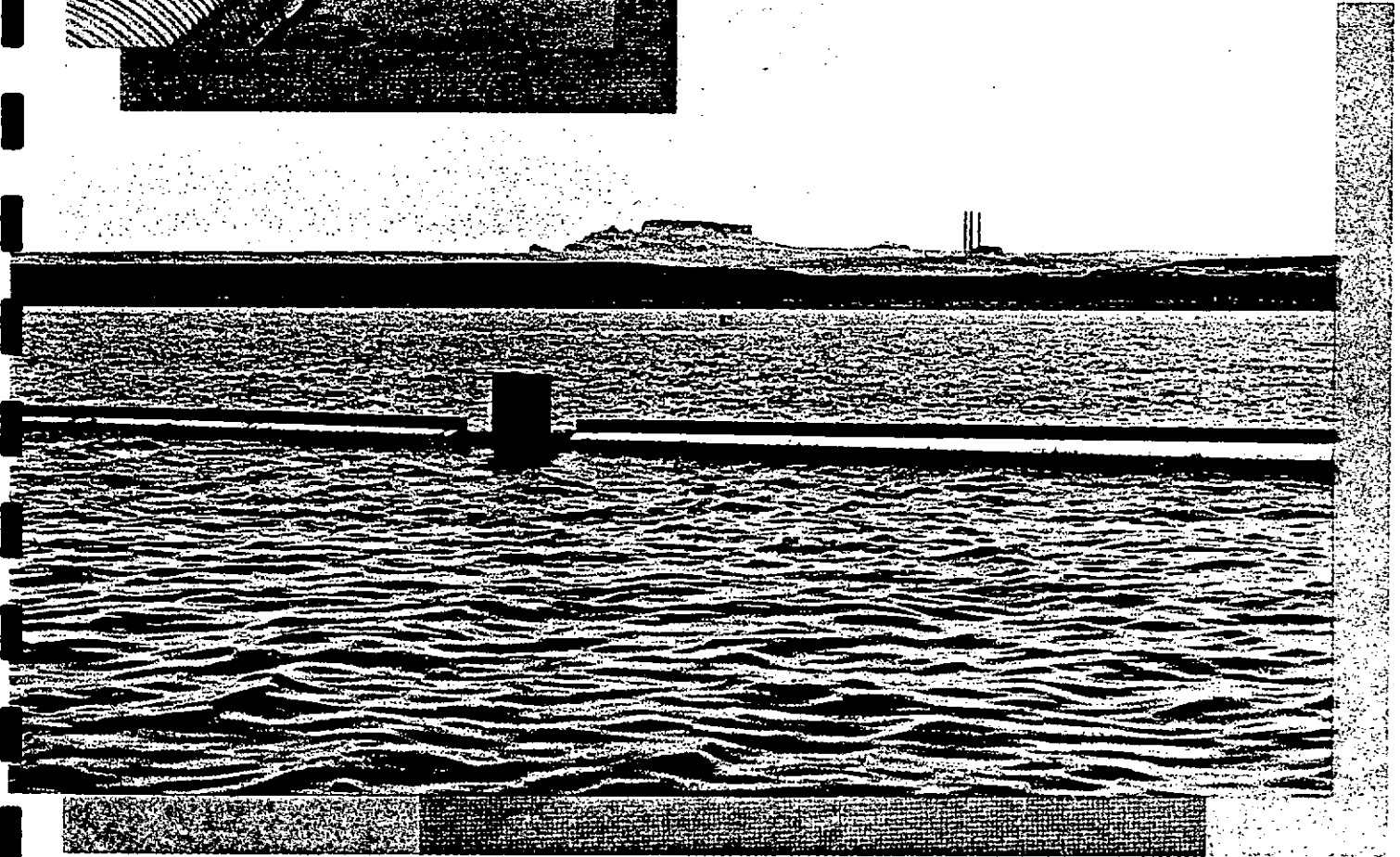
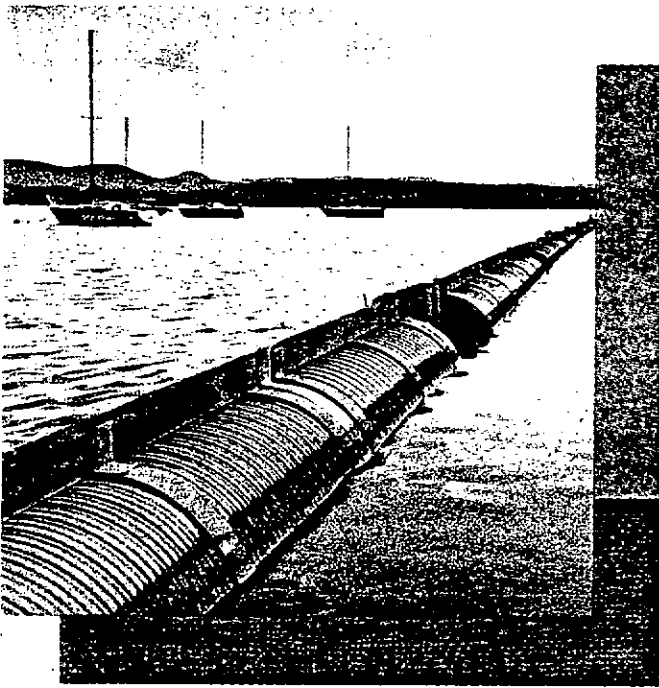
In our opinion the significant water fluctuations associated with the Jordanelle Reservoir Project will present problems and increase costs for the proposed marina boat basin and related facilities. From the evaluation that has been done to date it appears these inherent problems can be overcome and a successful facility developed. It appears desirable to provide higher quality dockage facilities than what are commonly found at surrounding reservoirs. The cost benefit ratio of this higher quality dockage is more favorable when considering long-term maintenance costs and the greater desirability on the part of the marina patron to use the facility. It is also our opinion that the marina basin and associated facilities, i.e., boat ramp, administration and ships store, should be in close proximity to one or another. This will help to focus park activities as they relate to boating which will make the marina facility more attractive to potential private developers who will want to operate the facility for a profit.

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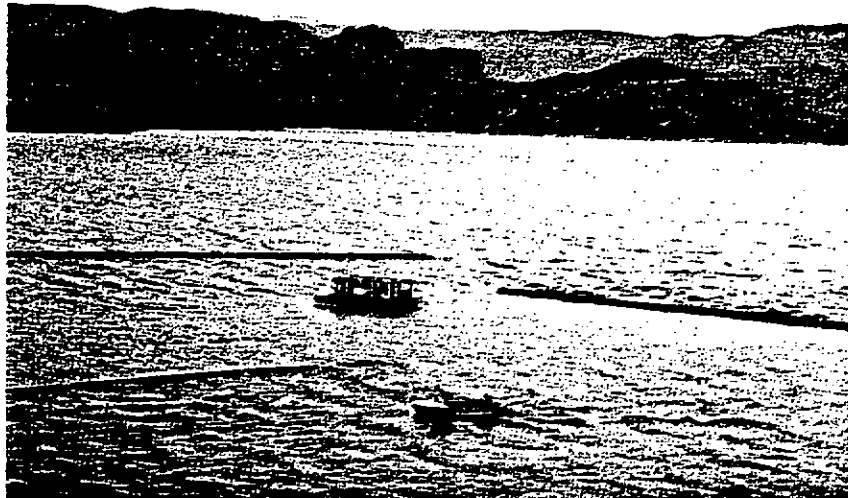
# Floating Breakwaters

from the flotation experts

**United Flotation Systems**



**United McGill**  
Corporation  
**United Flotation Systems**

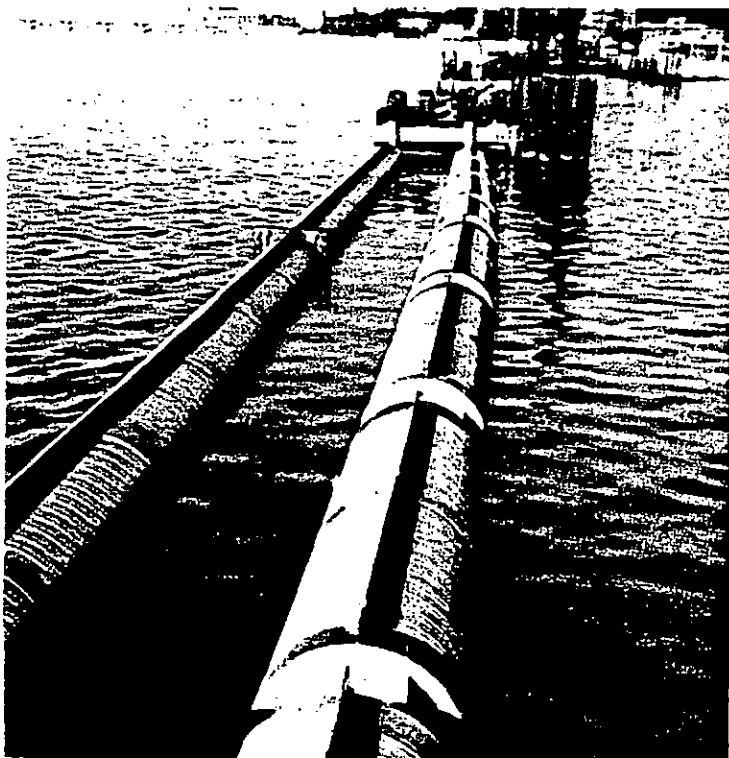


# United Flotation Systems' Floating Breakwater—

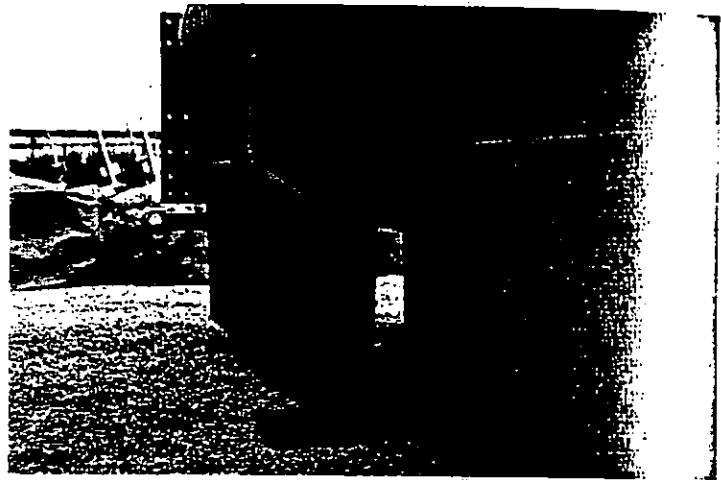
## ...A Proven Design.

United Flotation Systems is a product group of United McGill Corporation: a company which has been in the steel fabricating business since 1951 and active in the design of flotation systems since the 1960's. Since that time United Flotation Systems has designed, furnished and installed over 1,000 flotation projects.

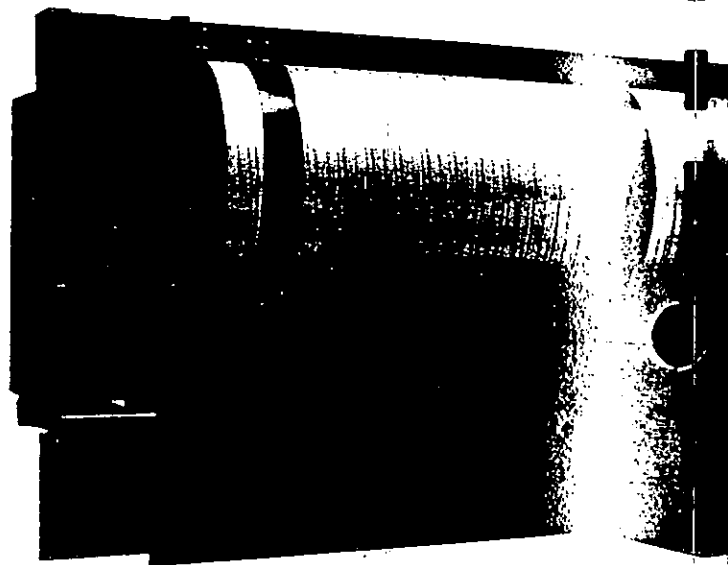
During the early 1970's we started designing and installing floating breakwaters. The first few installations required re-design, and in 1973 we perfected the design which is still used today. We offer one of the only, if not the only, proven floating breakwater, and we offer it at a reasonable price.



Two of United Flotation Systems' breakwaters installed in the early 1970's being used to protect a harbor in Detroit, Michigan.



A close-up view of United Flotation's steel baffle system and baffle reinforcement legs.

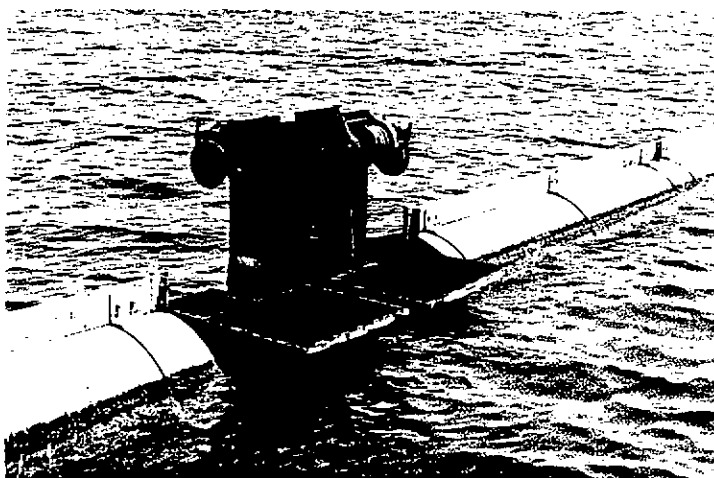


## Advantages

1. Much less costly than conventionally designed permanent breakwaters, particularly in deep water.
2. Quick and easy to install.
3. Movable.
4. Expandable into different lengths or arrangements.
5. Almost no maintenance.
6. Has proven effective against waves up to 5 feet.
7. Adjustable to fluctuating water levels.
8. Not a debris catchers, eyesore, or environmental problem as in tire breakwaters.

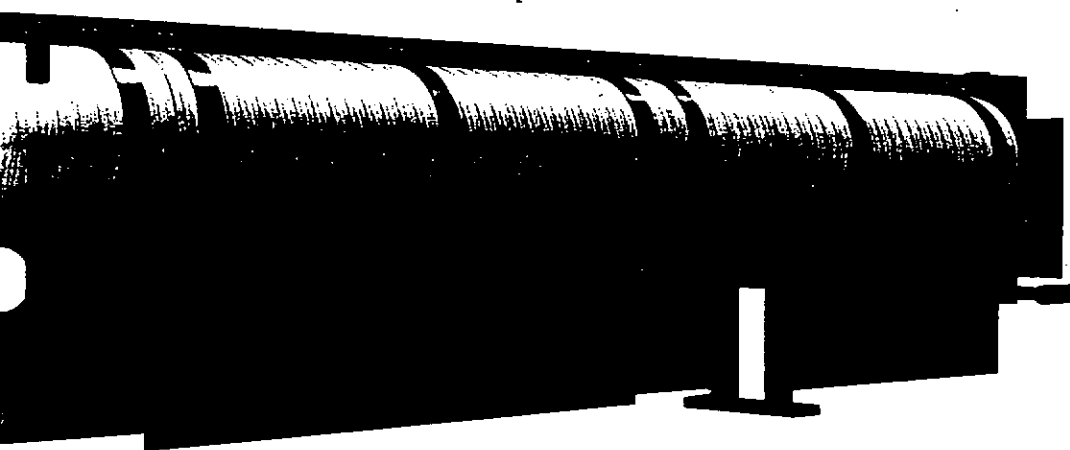


Part of the success of United Flotation Systems' breakwaters is the use of all welded construction. This view shows how main beam, end plate, baffles, pontoon and cable guides come together as a rugged single-bodied unit.

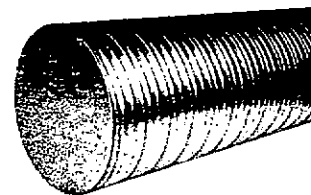


Pictured is the junction of a winch stand and platform with two breakwater units. The winches attach to long galvanized cables which connect to strategically placed underwater anchors. This winch-cable anchoring system allows the entire breakwater to be adjusted to fluctuations in water levels and wave action.

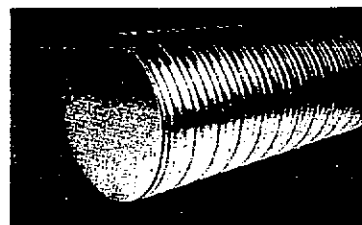
Below, a completed 40-foot breakwater unit showing the overall design configuration. This particular unit has been coated with a bitumastic, epoxy-based paint, but other coatings or natural steel finish can be specified according to customer preference and water conditions.



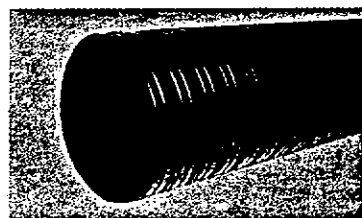
High Density Polyethylene



Galvanized Steel



Aluminum or Stainless Steel



Bitumastic-Coated Steel

United Flotation Systems offers several pontoon shell materials (pictured above) which can be specified to meet the customer's needs and water conditions.

## Design

Breakwater units come in standard 40-foot increments of length, although other lengths can be designed to accommodate special requirements. Each 40-foot unit is rigidly attached to the adjoining unit by large bolts through 2-inch-thick vertical end plates.

The unit's backbone is a 40-foot-long beam with plates welded to each end. This weld, and all welds, are very important to the integrity of the system and are done by AWS certified welders supervised

under an approved AWS program which is monitored by AWS certified inspectors from United McGill's Quality Assurance Department.

Next intricately designed steel baffles are welded along each side of the beam with openings to let just the right amount of wave load through. These baffles are reinforced between each other and onto heavy leg sections which protect the baffles from grounding out or being damaged in shipment.

The unit is floated by using United Flotation's unsinkable pontoons. Shells are of high density polyethylene, galva-

nized steel, aluminum, stainless steel, or bitumastic-coated steel. These circular shells are filled with expanded-in-place polystyrene foam. The polystyrene provides the flotation and the shell provides protection for the polystyrene.

After the pontoons are attached to the steel structure with heavy steel bands, the winch stands and winch stand platforms are added by bolting and/or welding to the structural I-beam backbone.

The final and most important aspect of the breakwater is the anchoring system. Long galvanized cables connect the breakwater winches to strate-

gically placed anchors to provide holding power from all directions.

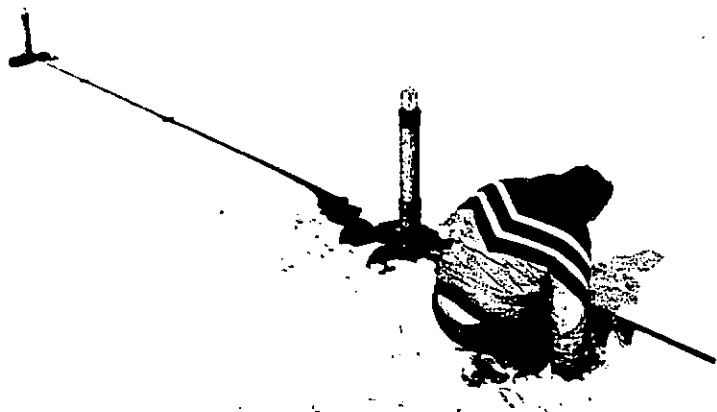
The same design is used today that was used in 1973. That unit has been continuously monitored and shows no signs of deterioration after over 10 years of wind, waves and storms.

# Service

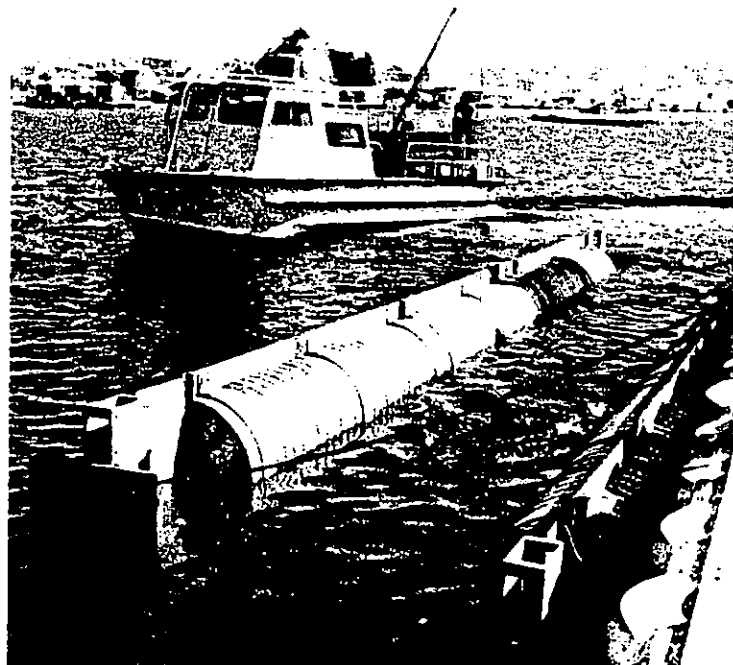
Our engineers will work with your engineers to develop a design for your requirements. A complete site study will be performed to determine design parameters based on water fluctuations, bottom construction, wave and wind action, and ice development. The system then can be designed, factory fabricated, delivered and installed under United's supervision. Even after installation, United will perform routine maintenance inspections of the system to assure performance.

Some of our breakwater projects are pictured in this brochure. A film is available showing one of the breakwaters during a violent wind and wave storm.

We welcome the opportunity to work with you. Call on our experienced staff to help you with your breakwater project.



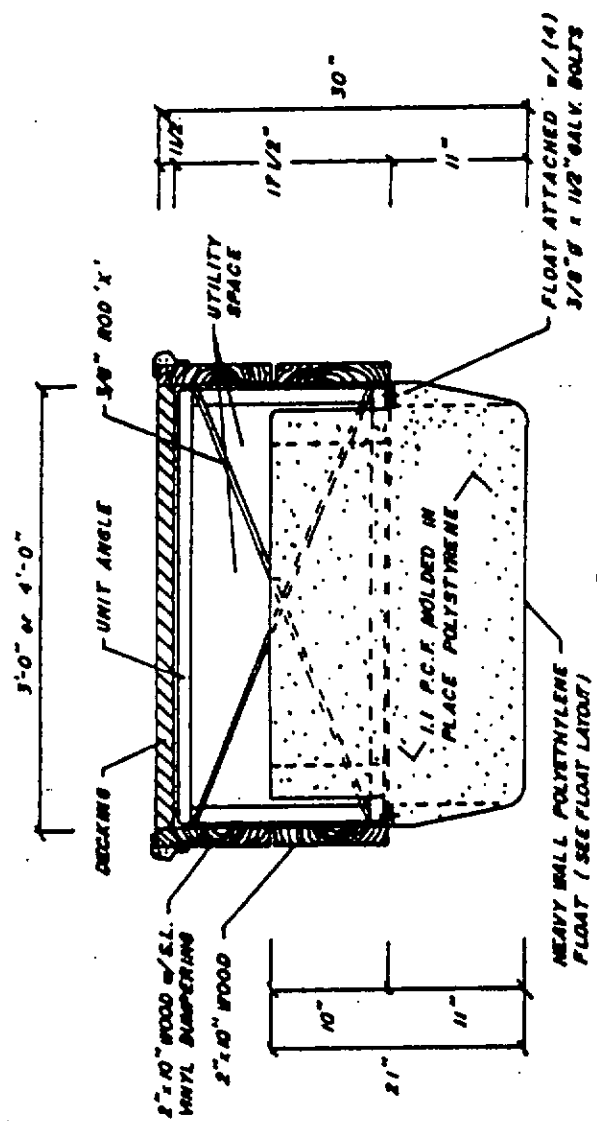
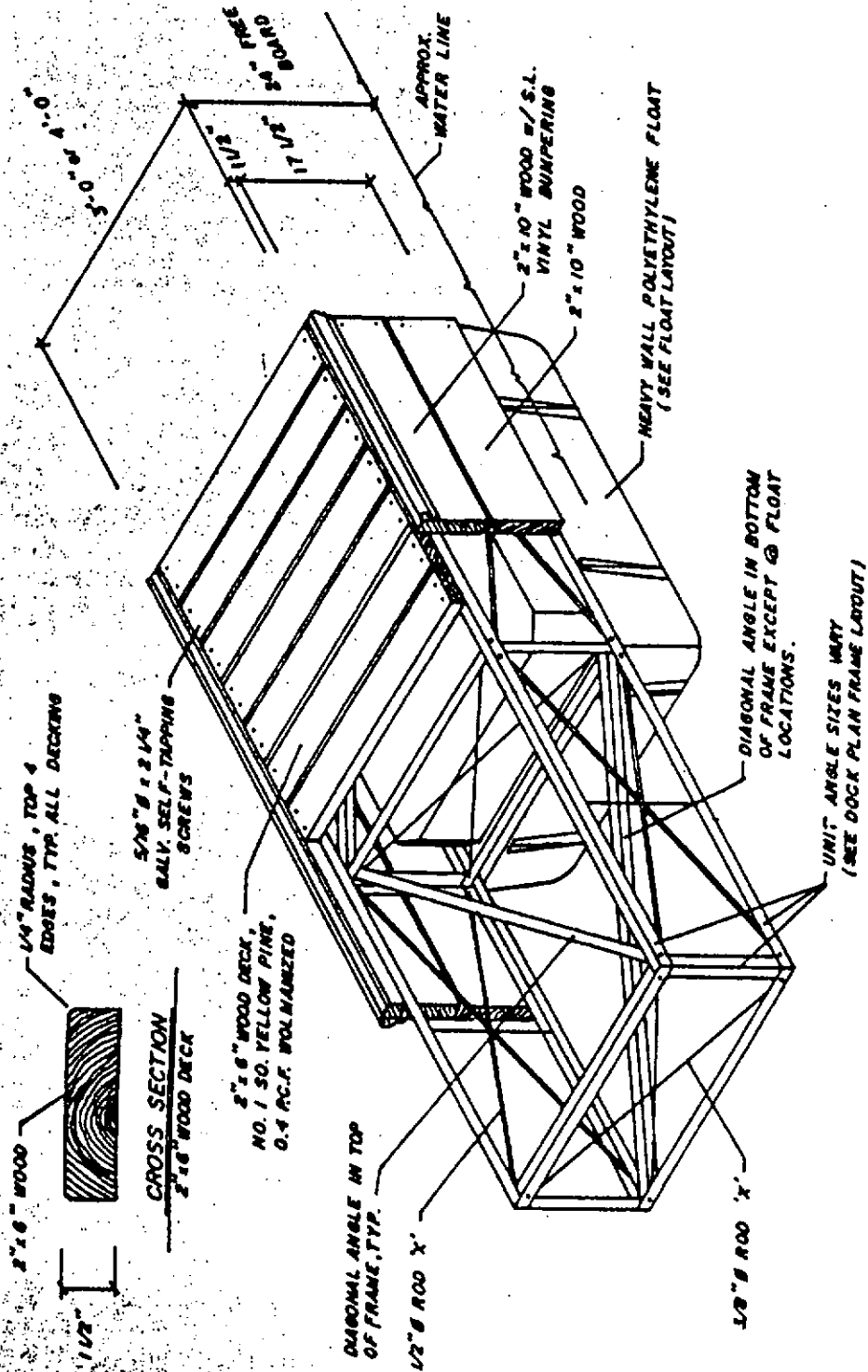
United Flotation Systems' breakwaters are designed and manufactured to withstand the extreme conditions of wind, wave and water conditions, even non-flowing ice. Here one of United Flotation Systems' staff makes a routine inspection of a breakwater encased in ice on Lake Powell in Arizona.



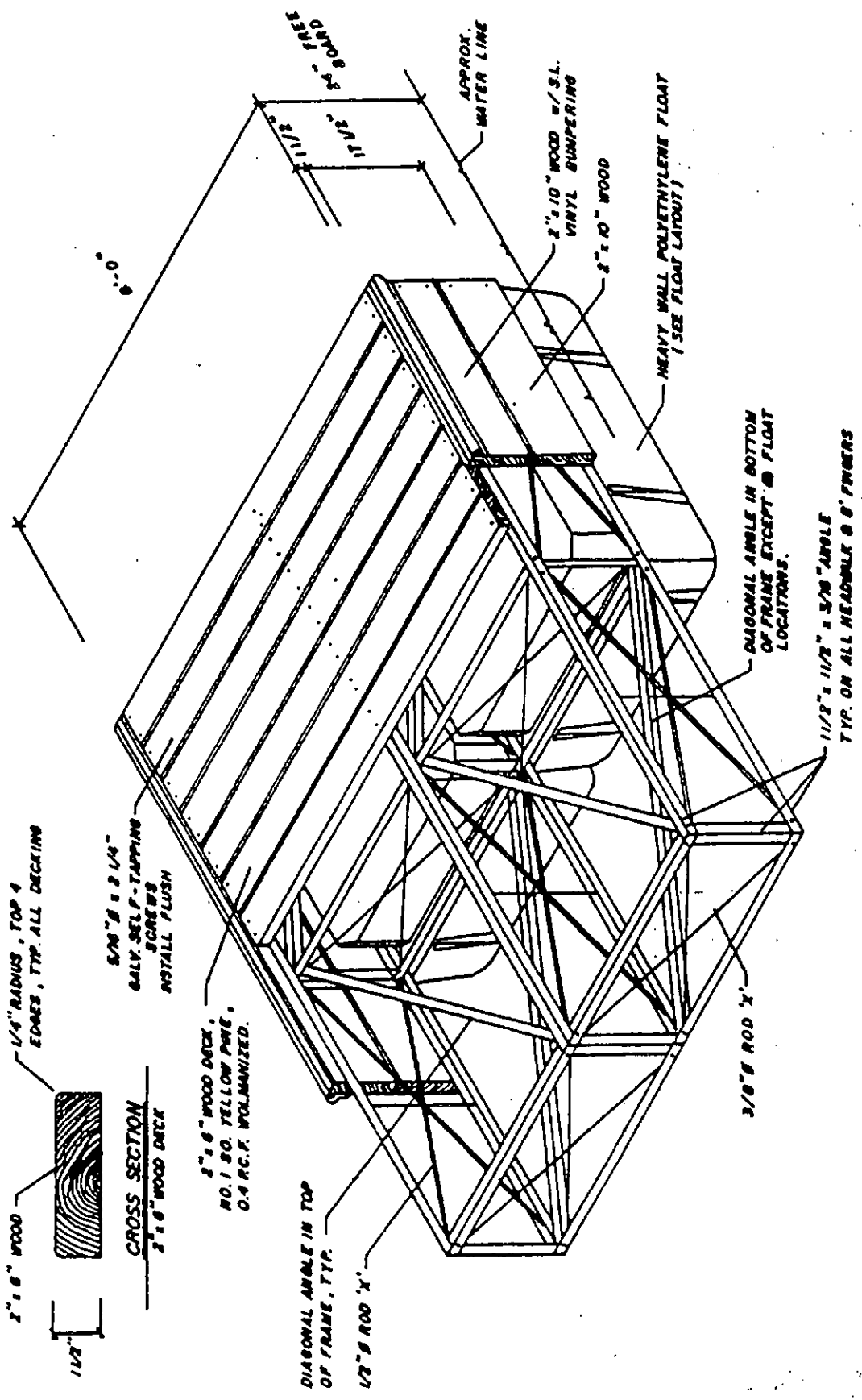
**United McGill**  
Corporation

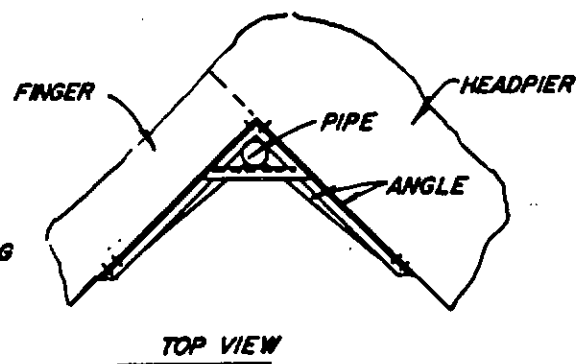
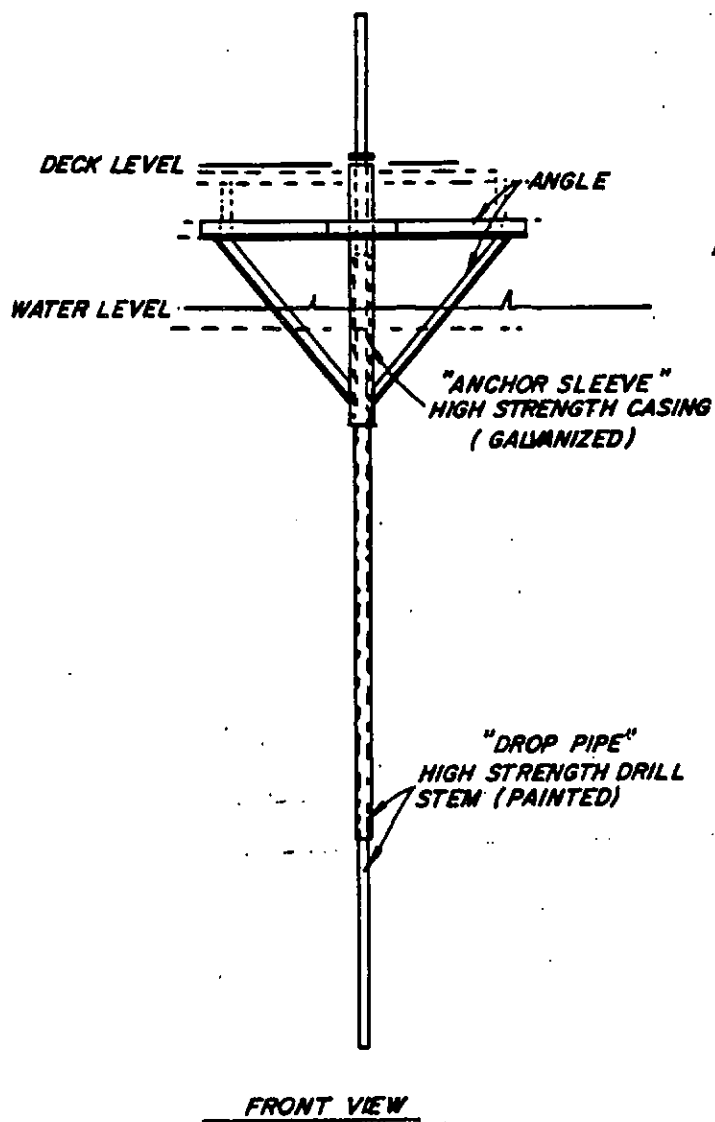
**United Flotation Systems**

2400 Fairwood Avenue, P.O. Box 820  
Columbus, Ohio  
Phone: 614/443-0192  
Telex: 245-384



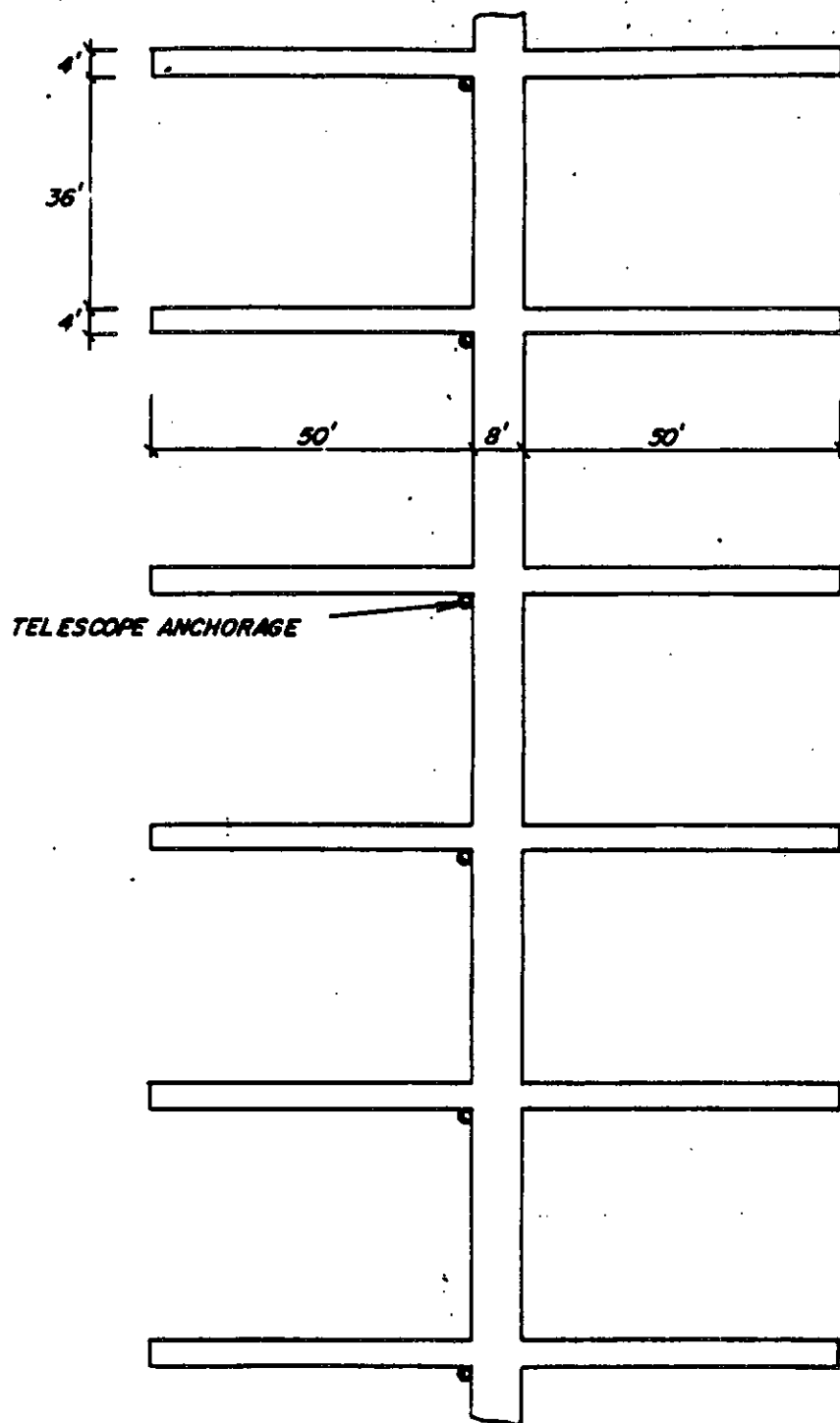




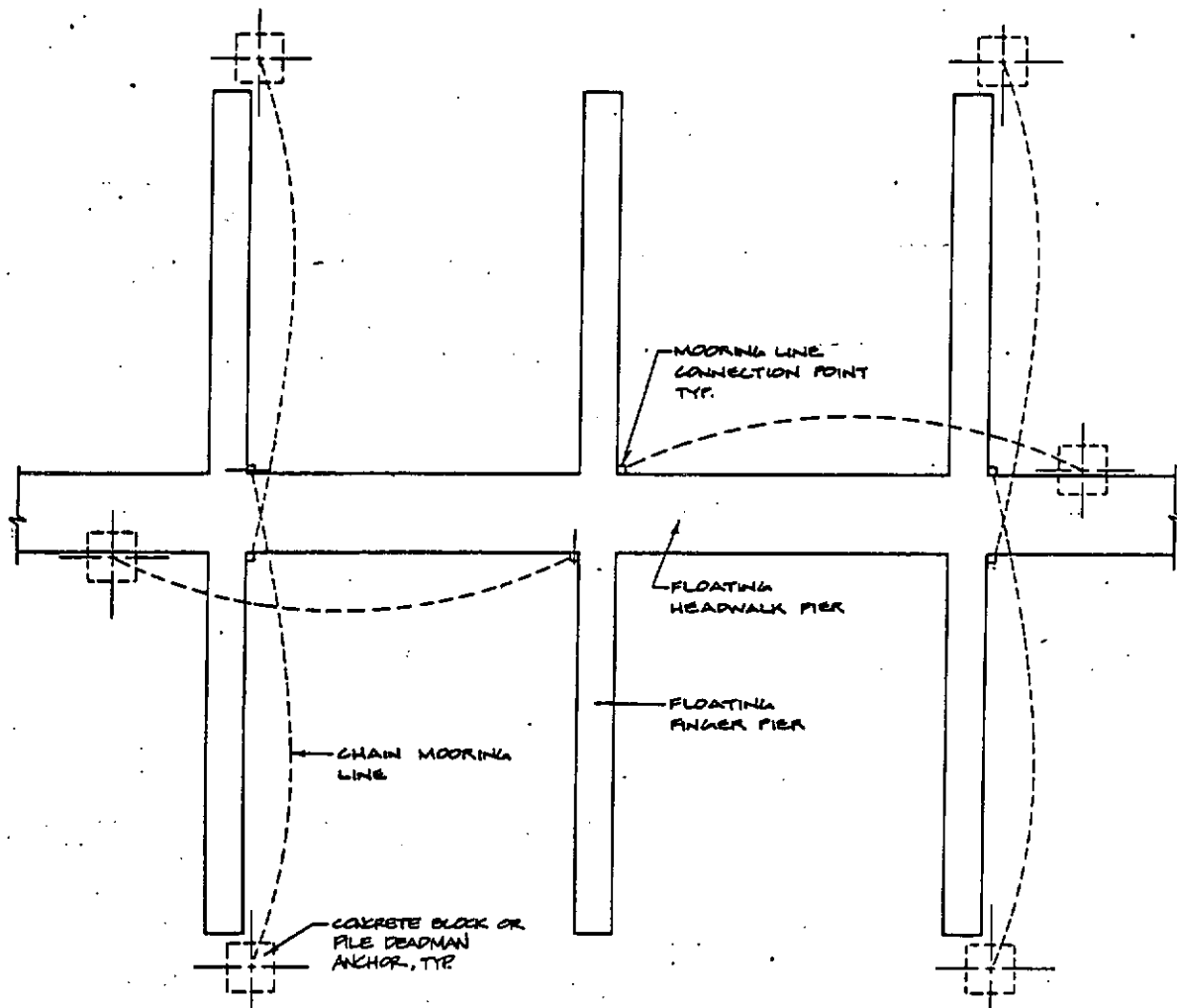


**NOTE :**  
MATERIAL TYPES AND DIMENSIONS WILL  
VARY AND WILL BE DESIGNED BASED ON  
SPECIFIED LOAD CRITERIA.

**TYPICAL TELESCOPE ANCHORAGE**

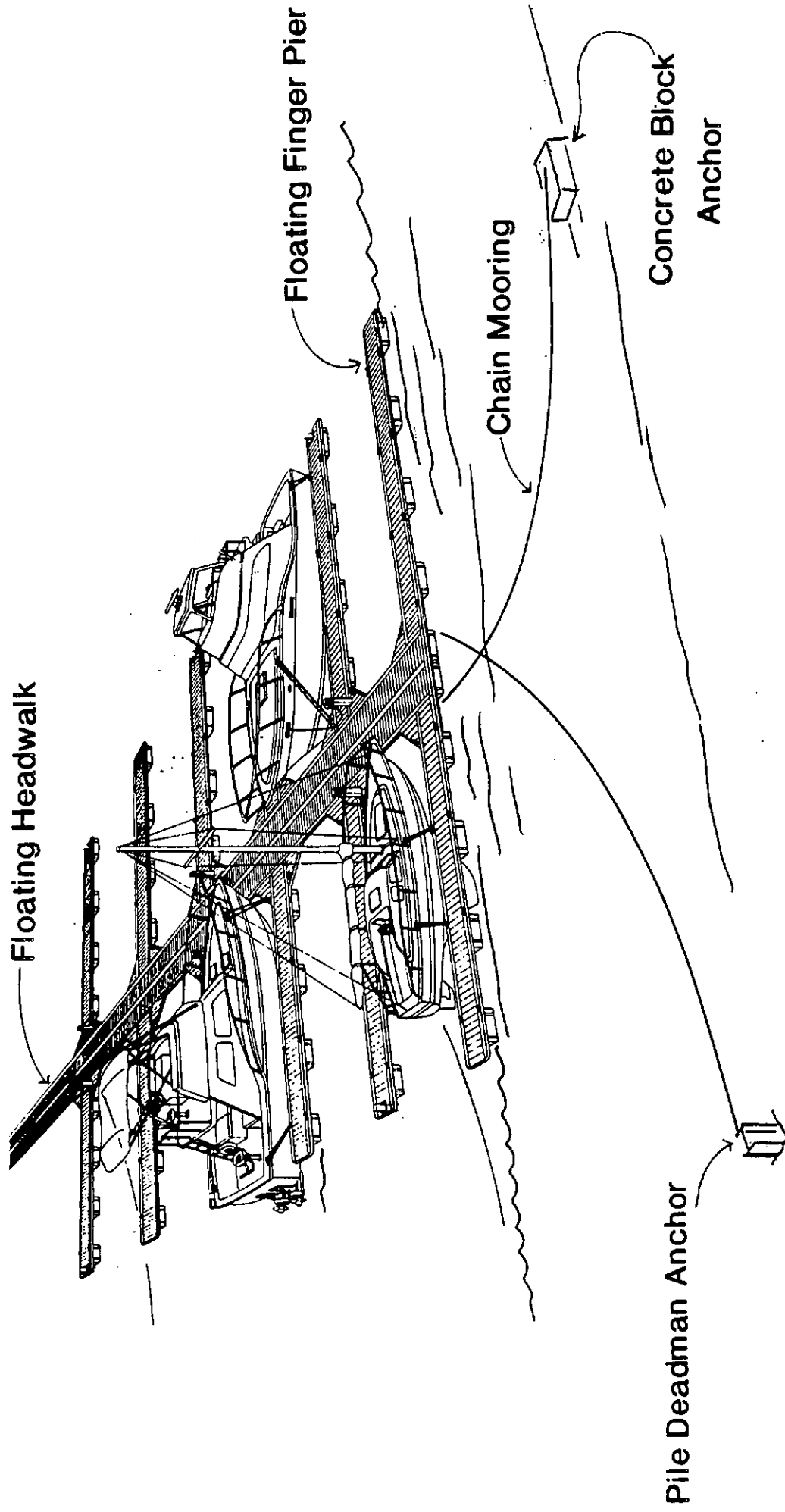


**TYPICAL ANCHORAGE LOCATIONS**



4 PLAN VIEW - ANCHORAGE SYSTEM SCHEMATIC  
5 SCALE: NONE

NOTE:  
FLOATING PIER ANCHORAGE  
SYSTEM IS DEPICTED SCHEMAT-  
ICALLY AND IS INTENDED TO  
SHOW GENERAL REQUIREMENTS.  
ACTUAL LOCATION, FREQUENCY, CHAIN  
AND ANCHOR BLOCK REQUIRE-  
MENTS SHALL BE DETERMINED  
BY THE FLOATING PIER MANU-  
FACTURER TO SATISFY THE  
CONTRACT DOCUMENTS AND THE  
STRUCTURAL INTEGRITY OF THE  
DOCKAGE SYSTEM.



## ANCHORAGE SYSTEM SCHEMATIC

**D. Risk Management and Legal Aspects Letter and Summary - Wheatley & Ranquist**

LAW OFFICES

WHEATLEY & RANQUIST

SUITE 1225

EAGLE GATE TOWER BUILDING

60 EAST SOUTH TEMPLE

SALT LAKE CITY, UTAH 84111-1004

(801) 237-1700

WASHINGTON D.C. AREA OFFICE

34 DEFENSE STREET

ANNAPOLIS, MARYLAND 21401

(301) 266-7524

IN WASHINGTON D.C.

261-8608

CHARLES F. WHEATLEY, JR.\*

HAROLD A. RANQUIST

DON C. UTHUS\*

PHILIP B. MALTER\*

PETER A. GOLDSMITH\*

JOHN R. KROEGER\*

TIMOTHY P. INGRAM\*

MICHAEL W. CRIPPEN

J. CRAIG SMITH

\*NOT ADMITTED IN UTAH

September 7, 1989

Bruce Maw  
Landscape Architect  
Bingham Engineering  
5160 Wiley Post Way  
Salt Lake City, Utah 84116

Re: Jordanelle Masterplan

Dear Bruce:

I have taken the opportunity to review the Jordanelle Interim Report and the proposed Masterplan. I am pleased with the effort, reflected in the Masterplan, to separate incompatible water uses. A major risk inherent in reservoir recreation is conflict between powerboaters, sailboarders, jetskiers, fisherman and swimmers.

A second area of water use risk that does not seem to be as fully addressed in the Masterplan is submerged objects. With the tremendous fluctuation in water level which is anticipated in Jordanelle, it is important to identify rocks, sandbars, trees, etc., which will be just below the surface at low water levels. This is especially important when such objects may be in high-use areas away from the shoreline. By mapping such objects they can be bouyed at appropriate times and such bouying should be a policy of the State Park. (It has been my experience at other reservoirs with State Parks that this is done.)

A third concern is the remote campgrounds. Some type of emergency access should be considered. Emergency access could be provided by a road which is limited to emergency and service vehicles or by an area where a lifeflight helicopter could land in, or adjacent to, the campground.

Some thought should be given to the placing of telephones for emergency use at various points.

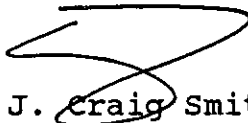
Bruce Maw  
September 4, 1989  
Page 2

Finally, the topography around Jordanelle appears to be such that there will be several peninsulas of land extending into the lake. It is my understanding that several of these peninsulas may have roads. If this is so, careful thought should be given on how to sign the roads to indicate those that they are dead end with drop offs into the reservoir. Of course, all improved roads should be constructed to ASHTE standards.

Another potential problem is that of developing criteria for selection of concessionaires, and those with commercial inholdings. However, this is outside the scope of the present Masterplan and will not be addressed in this letter.

This letter is not intended to be exhaustive but only to address risk management issues which have become apparent at this stage of the planning process. I will be happy to discuss those issues or any concerns you may have at your convenience.

Yours truly,

A handwritten signature in dark ink, appearing to be "J. Craig Smith", written over a horizontal line.

J. Craig Smith

JCS:pr  
JCS.420



LAW OFFICES

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JOHN R. KROEGER\*

TIMOTHY P. INGRAM\*

MICHAEL W. CRIPPEN

J. CRAIG SMITH

\*NOT ADMITTED IN UTAH

October 5, 1989

Bruce Maw  
Bingham Engineering  
100 Lindbergh Plaza 2  
5160 Wiley Post Way  
Salt Lake City, Utah 84116

Re: Jordanelle Recreation Masterplan

Dear Bruce:

I have reviewed the draft of the Jordanelle State Park Master Plan final report dated September 25, 1989. In addition to previous reviews for risk management, copies of which are enclosed, I have the following comments:

1. On Page 4, it states that the EIS assumed that there would be no major recreation uses from late fall to early spring. With the growing popularity of ice fishing and Nordic skiing, there would seem to be a high level of demand to use Jordanelle State Park during winter months. If the Park is open, it should be adequately staffed to manage the recreational use. The Park should be properly signed and policed to prevent conflicts between skiers and snowmobilers. If the Park is to be closed during the winter months, adequate steps need to be taken to secure facilities and other hazards, especially any which could be considered attractive nuisances. Once I understand the winter plans for the Park, I can provide more specific comments.

2. I have previously discussed the hazards caused by the lake fluctuation on Page 10 of the Masterplan. Please refer to my previous letter.

3. The results of the telephone survey on Page 12, point out the public awareness of the potential public risk from alcohol and drug use while recreating. Availability of beer and alcoholic beverages from vendors at the recreation area presents a concern. Contracts with any vendor or concessionaire should contain a requirement for public liability and dram shop liability insurance as well as full adherence to state law and local regulation concerning alcoholic beverages and beer. Of course, Park personnel should enforce DUI laws for both boats and automobiles.

4. The discussion of regulation of conflicting water camping and trail uses begins on page 14 of the Masterplan. I strongly concur with the recommendation of not allowing OHV's in the Park. This ban lessens conflicts on trail use to a great degree. However, there should be some study as to compatibility of pedestrian, equestrian and bicycle uses of trails. It may be necessary to further segregate trail uses.

5. Segregation of water uses, motor boats, sailboarders, jet skiers, swimmers, etc. is more complex. As I have previously discussed, segregation of inconsistent uses through zoning and speed limits is appropriate. I encourage and support a plan to zone the lake and segregate inconsistent uses.

Within the constraints of clustering of facilities, consideration should be given to segregation of boat ramps from beaches and windsurfing areas and not have motor boats traveling through areas which are heavily used by swimmers and windsurfers.

6. The Memorandum from Warzyn Engineering, Inc. regarding proposed Boat Marina and related facilities provides good information on proposed construction standards. I support the use of government and industry standards in construction of all facilities. However, I am not familiar with all of the standards used by Warzyn. For example, on Page 02488-2 a Wisconsin Department of Transportation standard is referenced. Some review should verify that the standards used are sufficient and appropriate and meet or exceed any applicable legal minimum standard.

7. It appears that a great deal of geologic information has been developed regarding the Jordanelle area. This information should be used to site facilities to avoid identified geologic hazards. For example, a potential slide area is not appropriate for constructing permanent facilities.

Bruce Maw  
October 5, 1989  
Page 3

As I stated above, this letter is not intended to be exhaustive, but cumulative of risk management issues identified to date. Should you have questions regarding the above, or any other issue, please do not hesitate to contact me.

Yours truly,



J. Craig Smith

JCS:prs  
Enclosure  
JCS.485

**E. Wildlife Recommendation Letter and Summary - Craig Johnson**

To: Bruce Maw  
Date: July 5, 1989  
From: Craig Johnson

Re: Fish and Wildlife Concerns - Jordanelle Reservoir

## FISHERIES

As of June 28, 1989 the fishery proposed for Jordanelle Reservoir would include rainbow and brown trout and smallmouth bass. Inclusion of yellow perch was proposed and is still being debated (Thompson 89 ). Fisheries biologist Charlie Thompson expects that Jordanelle, like other newly filled reservoir will be excellent trout fishery for the first 5 to 10 years after which it will decline to some lower level of productivity. The quality of the smallmouth bass fishery is difficult to predict since smallmouth bass have not been previously introduced anywhere in the Provo River watershed.

Some general patterns of fish distribution in the reservoir can be expected on a seasonal basis. During the spring all species should make extensive use of the littoral zone. Trout would be expected to be dispersed throughout the reservoir. When the reservoir is drawn down during the summer months fish will seek out cooler deeper water with a higher oxygen content. Assuming Jordanelle will have water quality characteristics similar to Deer Creek Reservoir few fish would be expected in water depth below 30 feet because of the limited oxygen content (Thompson 1989). Trout would be expected to migrate into the East Arm during the hot summer months because of the higher water quality that is anticipated there. Smallmouth bass would be expected to seek out rocky ledges and bars that drop off sharply into deeper water. Younger fish of all species will continue to inhabit the littoral zone all summer. As the water cools in the fall and the reservoir "turns over" fish will disperse throughout the remaining reservoir pool.

The pattern of reservoir use by fisherman would be expected to roughly parallel the patterns of fish dispersal:

- A. Fairly constant fishing pressure along the littoral zone particularly in the East Arm by bank and boat fisherman all season long with highest fisherman density in the spring.
- B. Trout fishing concentrated in the East Arm during the summer month.
- C. Bass fishing concentrated along rock ledges and bars during the summer months.
- D. Dispersed fishing throughout the reservoir during the early spring and fall months.

- F. Dispersed fishing throughout the reservoir during the winter.

Changes in water quantity during draw downs and dry cycles, changes in water quality, variations in the food supply -- both species quantity, and location - are all factors that can modify general fish location patterns and thus fishing patterns.

The EIS produced by the Bureau of Reclamation suggests moderate to high levels of fishing pressure are to be expected. If a quality fishery can be sustained fishing pressure should remain high. With moderate to high levels of fishing pressure conflicts between fisherman and other reservoir users particularly power boaters, water skiers and jet skiers would be expected at Jordanelle. Other than boating safety regulations there are no specific state or local statutes that will help alleviate these conflicts. Thus, the recreation experience of all water recreationist could be diminished if these conflicts are not resolved. Several options to mitigate these user conflicts should be considered.

- A. Assess the patterns of fisherman use of the reservoir during the first season of use. Use the findings from the study to make recommendations for zoning the reservoir.
- B. Regulate time of use. Sunrise until 10:a.m. fishing only, 10:00 - 7:00 p.m. all users, 7:00 p.m. - dark fisherman only.
- C. Zone the reservoir for particular uses. Assuming a high level of fishing pressure in the East Arm, make the entire East Arm a wakeless zone.
- D. Require power boaters to operate at least 100 yards from the shoreline except to start or drop off skiers on all other areas of the reservoir.
- E. Strictly enforce whatever regulations are ultimately passed. Without enforcement regulations are of no value.
- F. Consider providing fishing access for the handicapped. Obviously it would have to be sited in a location that is more drastically affected by draw down and would be isolated from powerboat users.

I have talked with Charlie Thompson on three occasions about the proposed fishery for Jordanelle Reservoir. I forwarded a copy of the report to him and in a phone conversation he concurred in principle with the findings and recommendations presented above.

## WILDLIFE

Once the Jordanelle Reservoir is operational the level of human activity will increase substantially above pre-project levels. Activity will be most intense at developed recreation sites, popular bank fishing locations and undeveloped boat-to-picnic and camping sites. Activity would generally be expected to be high within 100 feet of the water around the entire shoreline. With draw down of the reservoir activity would remain most intense in the shoreline zone but may move to locations different than those associated with high water because of changing beach conditions.

The greatest diversity of wildlife species will be attracted to the high water pool shoreline zone particularly if riparian vegetation such as willows and cottonwoods become established. It is to be expected that some of the less tolerant species of wildlife will be discouraged from establishing territories and breeding because of the high levels of human activity. One area of particular concern is the sage grouse strutting grounds along the north west edge of the reservoir. Access to this area by trail of boat during the critical breeding and brooding season, March - June, could have adverse impacts on this relic population. The following recommendations are made to alleviate potential conflicts.

- A. Where possible, combine any through trails or links to regional trails with the shoreline trail that will develop along the edge of the reservoir anyway. Where possible, route trails around and away from shoreline vegetation.
- B. Close the trail through the strutting grounds from March 1 - June 30.
- C. Do not allow motorized vehicles on any trail within the take-line.
- D. Do not allow dogs on the trail through the strutting grounds.
- E. Close the area to sage grouse hunting.

The strutting grounds has potential as an interpretive and educational site. Construction of an elevated observation site -- to be located outside the flight zone (consult with DWR personnel about the size of this zone) could capitalize on this unique opportunity. However, a 3 to 4 year waiting period before beginning any detailed planning or construction is recommended. This should provide ample time to determine whether or not this relic population is going to survive in the new reservoir environment.

Golden eagles nest in an area located in the rock cliffs .02 miles from the highest water pool on the north side of the reservoir above the East Arm. Once the reservoir fills an increase in the level of human activity in the East Arm can be expected. This may increase the levels of stress on the eagles and when combined with the loss of hunting grounds flooded by the reservoir could displace them from the site. It is recommended that a 1000' no access zone be established around the entire nesting area to minimize the pressure on the eagles at an interim measure of protection. Further study of the potential impacts of the proposed action on the

eagles may be warranted.

Several issues related to mule deer have been raised during scoping meetings. At the Salt Lake Meeting a proposal to establish a deer feeding program was presented. The intent of the program would be to compensate for winter range lost to flooding and to create an attraction that would draw tourists to the area in the winter -- similar to the Hardware Ranch. This proposal should be discouraged. It would create a local population of deer, artificially inflated in numbers, that would be dependent upon the feeding program for survival. Concentrating deer on a feed lot makes them more prone to outbreaks of disease and to predation, particularly from dogs. In addition feeding programs are expensive and once a feeding program begins it cannot be terminated without high levels of deer mortality. Monies spent on feeding deer might be better spent on enhancement planting and other habitat improvements in the designated mitigation area in the West Hills.

Another concern related to mule deer is protecting the winter range value of the proposed mitigation lands - the West Hills Area. For these lands to be of value they must be devoid of human activity during the critical winter months - December through March. To protect the habitat value it is recommended that no snowmobiling, ATV, cross country skiing or other activity be allowed in the West Hills area during these months.

I have talked briefly with George Wilson about the contents of this report. In general he concurs with its findings but there are several outstanding issues that need to be resolved.

## SUMMARY

To protect overall wildlife habitat values it is recommended that the recreation developments be concentrated, the number of trails limited, that no motorized vehicles be allowed on any trails and that off-trail activities by bikers and cyclists be restricted. Lands inside the take line and mitigation lands should be managed to protect and enhance their value to wildlife so that no net loss of wildlife value occur as a result of proposed recreation development.



**F. June 13, 14, 15 Scoping Meeting Summaries**

JORDANELLE RECREATION MASTER PLAN  
SCOPING MEETING  
DNR AUDITORIUM, SLC, UT  
May 14, 1989, 7 PM

(32 present at the meeting)

Jeff Winston explained the planning process, and the need for public input to the process. Public ideas will be incorporated into the design. Jeff asked that the attendees fill out the forms and sign the attendance sheet. He then showed approximately 10 colored slides of the study area and explained the scope of the project in general terms.

**PUBLIC PARTICIPANTS:**

**Mr. Tom Clyde (Wasatch County, Woodland):** He noted that typical state park users bring most of their supplies, spend little in the area. He wants to induce people to stick around. He noted important "Linkages" to other resources in the area, and trails; e.g., Deer Valley, UPRR right of way, the School Section (36?) should be incorporated into the Wasatch Mountain State Park. He suggested we connect to the sewer line, and zone areas on the lake as "wake-free." He suggested separating RVs from Tent Campers. He felt the area could be as important in the Winter as in the Summer, with year-round restaurants and concessions.

**Mr. Dave Wilson (Wasatch County):** He feels that the planning process should reach into the whole area, not just the boundaried area (about 7200 acres). The county must provide services. They want good quality development to set a high standard for subsequent development. He wants to see the park and area sewerred. Sewer should be planned with other property owners-- this would be cheaper and more efficient for everyone. He encouraged good coordination in design and development, with links to the Great Western Trail, Pine Creek as an alignment.

He was very concerned about big game degradation of the land and private ranches along the river. He suggested some sort of feeding program. He would like to see more winter range below the county road on the east side of the reservoir; also a program for Dutch Hollow..similar to Hardware Ranch. HE WANTS EVERYONE TO CARRY THEIR SHARE OF THE LOAD.. He also suggested coordinated administration of Wasatch, Deer Creek and Jordanelle state parks. OPERATE ALL AS A SYSTEM, Not as separate fiefdoms(sic).

**Mr. Don Davis (Salt Lake County Regional Trail System Committee):**  
He noted that the Regional Trail Committee had met last Thursday and endorsed several of the ideas already mentioned; e.g. (1) Recreation Trails should be multipurpose in terms of construction and use..this reduces the dedication of land for this purpose.

General Notes: Public Meeting, Heber Middle School  
7:00 PM

JORDANELLE STATE PARK MASTER PLAN PROCESS

INTRODUCTIONS: Mr. Winston--make certain to sign sign-up sheet and to fill out the questionnaires (53 present at 7:10 PM). Had some problems. All ready had an EIS, to which the plan will generally conform. Detailed design phase will follow this public input and master planning process. They are assisting the DPR in preparing this plan. Want more than adequate public input. Brief comments by T.E. Green: it's the public's meeting, not a government meeting.

We are establishing menu for your projects. Your process. We first attempted to contact over 30 groups for comment. After your suggestions, come back in mid-August to see alternatives..then a final meeting in September for final finishing touches. We are now in the scoping process, understanding the physical constraints; plus your concerns.

Then introduced Bruce Maw. Gave facts about the Jordanelle: highways, cities, and physical features. About 4025 acres of land, and about 3000 acres of water (4.7 square miles). About two-thirds larger than Deer Creek. Uinta ground squirrels, raptors, snake nesting, mule deer, golden eagle, sage grouse.

Reservoir has a 20 year cycle..Strawberry has a 30 year cycle. Highest flood capacity is 6182 highest level 6130 is the average water level. About 100 acres on the north eastside. Bruce then showed slides of site from this same area; and from the proposed recreation development sites (peninsulas when filled).

PUBLIC COMMENTS

Where, what quality, potential problems, conflicts and mitigation ideas. Please use the comment sheets as an outline for your comments. No ground rules. We will start with those with prepared comments. Please state name, organization, and where you reside.

Commissioner Moroni: Pleased Terry/Fred to give opportunity. Please consider incorporating their ideas. Thanks to the committee for their donated time. Six present, plus the Commissioner. Thanks to Summit County task force, and working with them--have similar ideas, good for both counties.

Larie Pedro (Wasatch County): Primary recommendations shown on the map: (1) Deer Creek, Wasatch, to Jordanelle, to Rockport, Echo, all a well connected system. POLICY--will enhance potential for all facilities, including rails to trails. Deer Valley and Kamas roads. BUILT TO HIGHEST QUALITY..COMPATIBILITY WITH PRIVATE DEVELOPMENT.INCLUDING PARK FACIITIES, PLUS SEWER SYSTEM..FOR YEAR ROUND..MINIMIZE BY ZONING AREAS FROM CONFLICTING EXCHANGES BETWEEN PARTICIPANTS. Major marina on west shore. Portion of the lake to be wake-free. OHVs..only on nearby county roads..not infringe on muscle powered areas. Segregate users..RV from tent campers. Concerned about wildlife mitigation. Provide for significant winter use..concessions helped for year-round opportunities.

Dave Wilso: represents Task Force..and on CUP board. A very comprehensive and complex system. Area a large complex..Jordanelle will complement it ..all part of a large system. Trails will connect to Wasatch, Deer valley, Mormon Trail, and Great Western Trail..this must be kept in mind. People from all levels must be involved. Roads about 100 million, the dam over 300 million. Private over 500 million. Take into account the private developments. 5200 average daily attendance..about half or population of wasatch County. HIGH QUALITY CONSTRUCTION..QUALITY WATER..WELL MANAGED. WANT STRONG ATTITUDE OF COOPERATION. HAND FOR HELP..COOPERATION..NO SELFISH TURF BATTLES! Example: must have sewerage facilities..part of an overall plan for entire area..everyone pay a little.

There is a current wildlife problem..living off the farmers..especially winter range problem. Expand east range to old county road. Roads impacting on the west side. Have a winter feeding program in the state park..alleviate farmer problems..make it a recreation experience! Many people stop and look at herds in Midway area. Demand is there.

Wasatch County will be impacted, + and -! Sewerage and garbage will complicate services. All except their respective responsibility and help pay for it. Cooperation to reduce complications.

LARIE..how much separation..not out of site...but functionally separated..could use same resroom areas. Paved Trail? Initially unpaved..eventually partially paved (Tom).

Dick Baum: On Wasatch Task Force. RR for mountain bikes, joggers, equestrians, all the way to Echo. Want trails around reserovir..without hurting wildlife area, or interfere (raptors and deer)..mostly in state park, outside reservoir: Dutch Canyon, Cottonwood Canyon, .to Glencoe Canyon, and between (see map). Improve by cleaning, water checks, signs..leave them natural up high...be quality, not too much horse touring (commercial).

Jeff Winston: we have greater impact early in the planning process.

Terry Parkin: C.O. for this area, north of the dam..for 16 years for wildlife. (DWR)..Northern Regional Boundary. All critical deer range..exclude traffic during winter. Doesn't like trail around reservoir..deer come from northeast to the area. No skiing or snowmobiling..especially dogs. There is another strutting area north of deer range on northeast. New roads have knocked birds down this year..they don't tolerate change well...the old dump road out from Kamas. Feeding creates disease problems..but they are already dependent..take advantage of it. DWR not in favor...want to be involved. What about nongame species? This is a wintering area for Bald Eagle. Another strutting area on east arm on south side..snow too deep..and in river bottom. Highway deer kill will increase. High kill on south side in summer, as they move to water.

Jeff Winston: couldn't we open trails when no impact. Terry thinks its OK, except during nesting and strutting (mid-March to May, nesting to June). Thinks DPR does good job closing trails when needed. OK up behind the cliffs to allow watering.

Dick Segrine (?): where are boat ramps (2)..camp sites all the way around? Haven't decided.

Max Miller: Likes the east arm..not the south arm (or Provo Arm). Winds are heavy from west to east from Baldy to Francis..it really blows. This might be a good surfing area.

Commercial development..2020 units in Mayflower..may be larger than Heber. 253 Motels in Wasatch (rooms?)..500 in Mayflower..3400 skiers on Deer Valley. New site will be 10,000! Great economic impacts..some shopping area..but wants it in Heber (5000 rooms in Park City). Fishing won't be that good. Heber Power and light may put plant on dam. They want a planned development..not a lot of gaudy, garrish area. (Max Mahoney)

Craig Smedly: represents Mayflower. Wants it first class. Will be first serious public facility..for world guests..design and maintenance should be high quality..transition of public to private..don't want barriers..even attitudes. Nice transition. They want sewer..are planning sewer out. They want public help to build it in "reasonable time." Olympics wont directly impact..some Deer Valley will be used. Too many variable..may help financing for Mayflower. McHenry canyon will have a high speed lift connecting to Silver Lake flat..all interconnected. Some commercial in Mayflower..no mall or grocery store. Spent a half million on tailings. No golf course; would have been on the state park site.

Jeff Winston: would someone define "quality"..what comparable facility. Tom ( )..Dillon Lake, CO. Heavy fluctuates..Bear Lake and GSL ,no just a black top lot..or typical state park.

State facilities in San Diego...near La Jolla? Mission Bay quality?

Bob Mathis: good policies to understand public/private relationships. GOOD WATER..FOR YEARS, GOOD SEWER GOOD CAPACITY..GOOD ACCESS AND PARKING..THEN LET THINGS HAPPEN IN THIS CONTEXT. Want good relationships between private and public..don't develop barriers..some areas may be dangerous..who has access to what? What level of staffing? Must have O&M funding..they must give us cost estimates for maintaining park. ABOUT 56 WERE IN ATTENDANCE AT MEETING TERMINATION; 9:12 PM.

T.E. Green, Jr./DPR

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GENERAL NOTES  
Park City Public Hearing  
Marsac Building  
15 June 1989  
7:15 PM.

Introductions by Jeff, Terry...as before.

Strategies: contacted over 30 interests..at least 17 meetings, plus 7 scheduled meetings--please attend--we appreciate your efforts..much more than even our consultants.

Difficult decisions before us. Please fill out the information sheet--use as an outline for your comments--especially any good examples of facilities.

Bruce gave orientation and basic info about the reservoir. Five miles on north/south axis; about 4.5 miles east to west. Will hold about 2/3s more water, than Deer Creek. Three sites identified in the EIS for recreation development.

Bruce showed slides of the reservoir area. 20 year cycle on the proposed reservoir. Section is through the east arm. 6162 AMSL is the maximum level of the reservoir. 6130 AMSL is average of the 40 year study. 6117 will be average for recreational use.

## PUBLIC DISCUSSION

Ask questions. What comments about quality, scope. (+68 present)

MR. TOM CLYDE: Wasatch County/Summit County task force--the two came together after the Spring Chicken meeting--now have joined forces. Some Provo arm camping..possibly Charcol Canyon. (similar than last night)..more than typical state park boat ramp and parking. Rentals..restaurant. Separated camping..some RV and separated tent camping. They have been working with Mtn. Fuel to use the extension of the railroad right of way. Seasonal closures in winter range and strutting areas.

MR. PETE TAYLOR: Bicycle Utah--tie in with rails to trails--and the old rail line to tie in Park City. Must be well maintained trail system around the lake. Want several trail heads..either side of dam..and across the top of the dam. Tie in entire aerial system..Wasatch, Echo, Rockport, Mormon Trail, Great Western Trail.

Want a link from Bridle Veil, up and down canyon..also some equestrian trails, especially in the steep part.

NICK MASS; could be a fine windsurfing water with water, and prevailing winds. Claims better winds than Deer Creek. North area a prime area..want power boats out. NOT FOR BEGINNERS..COULD BE BLOWN DOWN THE LAKE. SIDE SHORE WINDS BEST..THEY CAN WALK BACK. Thermals and fronts are major wind generators.

SPENCE SMITH: talks fish. They move..whole lake must be available for fishermen..trollers dont make much wake..don't want to fish when winds are up. Wasatch County knows the area well.

EMER WILSON: from Midway..deer problems and opportunities. Can move people, not the animals. About 500 head winter in Midway area. There was a terrible traffic hazard..lots of families cameup. Pine Creek in park. Want feeding station..deer into manageable areas. EACH PARK A DIFFERENT MANAGEMENT STRUCTURE.

BOB MATHIS: Wasatch County Planning-- he started 1976. County concerned about Jordanelle for 13 years +! Need support through legislature to get St. Park and county money to administer the facilities...good land use controls..building requirments. QUESTION ABOUT EAST SHORE? No one has reponsible plan..G-1..no subdivisions..acquire area for wildlife. Only one house over there. Wants sewer, or nothing at all in development.

Mayflower will develop wells for their water..state park cooperate with water district. Inadequate facilities slows growth. A special service district now formed.

JENNIFER HARRINGTON: slide show. Great examples of Calif. trails, marina, Breckenridge in CO, fish viewing ports in CO, special timber surfaces, high level of finish, gates that can be opened without getting off horse..good signs as to who can use. even with low water, beautiful vistas off Echo railroad.

Water weinies a problem...backing and starting up in launching..generally OK out on open water. Many feel zoning wont work. Boats pay tax..no one else. Maybe tax the surfers..their fair share? Who is going to blow whistle and manage the water users? A managers headache. Northend of Rockport is calm..the place for skiing (comments from audience--4) ZONING OFF JUST WONT WORK. HOW MUCH FLEXIBIITY DO WE GIVE UP BY SITING PERMANENT FACILITIES??

WILDLIFE..doesn't see trails as problem..so brushy.

Swimmers and snorklers want everyone off lake!

DENNIS WEAVER: hard to manage the zones. Teach/educate to proper conduct. STEVE ERICKSON: Muscle Power..disagrees with a natural zoning..it doesn't always hold tight. It is dangerous to have different users in same area. he thinks some zoning is needed. His comments were given to Bruce tonight. Send comments to State Parks.

STEVE ERICKSON: agree with good quality, broad opprotunities..trails around reservoir for non-motorized..summer and winter...connect out to other trails. Want zoning of water..canoest..eastern arm..canoe, kayak, rowers. North end also for wakeless..a lot of area, but central area for power boatsers. Even willing to help pay..by a fee. Parks develop as it needs. Septic..and solar composting may be adequate..East Canyon works well. Steve Jenkins says its ok..Summit county..but surrounding may have to sewer..park need not make it an issue.

FRANCIS SMITH: Heber Valley Chamber of commerce. Hopefully a railroad a time back. Wants a unique experience..compliments Morni..Mathis..hopes state agency be regional in scope..unified managment..tying in skiing areas.

Please come to August meetings. (Mary Cohleo..horse staging areas..not an asphalt lot..but designated areas..horses trample everything..keeping them in one area. In east, they must have knock down fences..no barb wire. Horse staging can be further apart than trail bike or mountain bike staging areas.

Meeting adjourned at 9:17 AM.



**G. August 16, 17 Public Hearing Summaries**

August 16, 1989  
PUBLIC HEARING MEETING  
Heber City, 7:35 P.M.

Welcome: JEFF WINSTON-- Winston and Associates. Apologized for late meeting--no key for entry.

Plan is to be your plan--broad input, a response to real needs. We want you to respond to that which you see before you and the Interim Report that has been mailed. The goal is a Master Plan. It has a finite budget--now only \$12 million--but plan now calls for \$15 to \$20 million. We may want to seek additional funding. But we need to know priorities.

You have been given a blue questionnaire with 14 issues noted. But don't limit your thoughts and concerns to these issues.

BRUCE MAW..BINGHAM ENGINEERING:

Master plan before is a compilation of concepts--primarily alternative 2.

ROSS CREEK--solar composting, new sewer, cost prohibitive (\$1 million dollar extension cost, too much). Beach for surf boards and sailing, group picnicking. Trailhead..water and restroom. Also equestrian trail head. Possible use of old county road for OHV use (Wasatch Co. suggestion) and parking for staging.

Also a view area on the old abandoned railroad alignment.

HAILSTONE: THE MAJOR DEVELOPMENT--see report. Ten lane ramps? Some concern about winter use..in cove, north side, less ice movement problem. Possible executive 9 golf course..joint private and public. Beach important..money maker, desired by the public. Terrace swim beach to accommodate water fluctuations (could drop from 100 to 250 feet in extreme conditions).

ROCK CREEK SITE: RV and camping..separated 40 units tent and RV. Small parking along road as accommodation for extreme water fluctuation..up to a mile in length with water draw-down. Some shoreline camping..for each major water uses (3); north arm wakeless, eastarm passive and wakeless, elbow multiple uses for higher speeds. Less noise problems in open "L".

There was concern for conflicting uses..reservoir presents itself with natural divisions.

Trails to dam and Wasatch. No OHV use in boundaries.

ALTERNATIVE TWO: A PRIMITIVE CAMP--hike in, with beach area, rather than for surfboard destination..access road for O&M only. Sorensen developent--lodge, concession area. South boundary has no access to county road.

Trail system sensitive to wildlife limitations..open at discretion of park managers (deer, eagle, etc.) Park managers must have emergency access. Pursue additional big game winter range up to old county road before development, and escalating land prices.

JEFF WINSTON: (8 P.M.) Early EIS concepts predetermined planning scope, or reassess impacts in another EIS process..one to two years!...maybe 3 years if there is a finding of significant impact. Alternate 2 more elaborate, resulting from task force ideas. Site will be visually interesting..quite varied..divided into rooms and hallways (metaphor), but special accommodation for the severe fluctuations.

Narrowing will suggest divisions of use, naturally--people will be aware of area uses, and accept area limitations.

#### PUBLIC COMMENTS

CLYDE SMITH (Sorensen Enterprises): would like to see additional view areas on the south arm..this overlooked. Private boat slips--50 for private suggested; maybe need an alternate site for private. 18 not enough for public. Need higher quality--BOR will have to let free enterprise be involved. Areas for Private: current is too restrictive for private sector. (For housing?) We need to anticipate demand in 10 years..but must be flexible, 'cause no one knows. JEFF: MEMBERSHIP CLUB--creates a higher quality club..not expensive, but more pride of ownership. They feel this is the way to go. Is this a good idea??Is 5,000 AOT (visitors at one time= AOT) realistic? SMITH thinks, no. Need to balance demand with what we can afford. Could have 300-400 slips if we needed them, and had money. Not many can capitalized the development we want.

DAVE WILSON (Wasatch Co. Task Force): concerned about planning process and impacts on county. Troubled just confining problems and opportunities to take line..remember to include total system and its effects. Look at private resources around the park. Get their participation. County must provide services..can't see how county will fit into the process...county wants high quality. How does development code and standards have status?..they should be met or exceeded. State should plan and allocate resources to operate it well..at high levels. Give them the FTEs they need. We're trying to squeeze too many activities into the area..maybe allocate out to other sites? But most trails outside park..into

Wasatch..larger planning horizon. County must provide services. Must have sewer! (Ross Creek..a step down without sewer). Water quality the highest priority! Need police protection (10,000 residents..plus double that on weekends and holidays)..plan to help Wasatch County some way??? ANY WAY TO FUND IN COUNTY COSTS GENERATED BY PARKS..GARBAGE IS PROBLEM...?? We (SP) should take fair share of load of costs..pack in, pack out..this complicates county garbage. Forget TURF problems (Marty polemics).

PROBLEM WITH WILDLIFE: they've forgotten about wildlife problems with ranchers. Solution is too far away..600 more permits for doe won't take care of problems. Insist problems looked at objectively..do something about it..WINTER FEEDING..not given adequate hearing.."can't and won't feed deer" isn't realizing real problem.

JEFF: 720 acres still doesn't solve problem. Its only part of the problem..especially in winter. Wilson--plan doesn't solve their local problem! Jeff: reduce herd until its not a problem.

LEO LENCH (DWR): DWR feel Wilson's problem is outside the scope of the plan..BOR is talking about it now. DWR has limited means to reduce problem and depredation. Habitat won't handle the herd with new changes in winter range. Feeding artificially enlarges the herd..exacerbate problems..particularly in area of feeding program. Happens after a light winter..herd gets enlarged. For the PLAN FOR FISHERIES: small mouth bass, rainbow, Kokanee Salmon, brown trout will established. Good first years..5-10 years. Trout fishery on east arm.

JEFF: WANT good policy, and budget to care for site.. meet with county concerns. Locals should be vigilant and help assure proper funding for the parks..adequate relief..do homework..know limitations..if we reach beyond the budget, public must do it..it is long term process. We reflect what is going on..and put it into an area-wide plan by county..BE POLITICALLY INVOLVED!

BOB PETERSON: (Anti-BOR, and negative handout)--He has been offended. Worked with Dr. Mahoney..anti-CUP (1963)..CUP couldn't pass a cost benefit analysis. Jordanelle is a typical bad example..no electricity will be generated...LAS 3 cents per KW hour is the cheapest. We aren't using the facilities we have to full capacity..this.won't be worth it. "There are volcanic voids under the dam." Uintas underutilized..why more dams ruining the Provo River fishery??

HARRY SAUNDERS (Homstead): asked by Task Force to comment..wants to produce a high-quality concessionaire area. Best to give it to a master concessionaire..One concessionaire with adequate resources..a free hand. Limit services to those that have the

greatest probability to succeed..what will persist. Dry boat, slips, convenience store, boat rentals, and bicycle rentals. The best would be a golf course!! Concessionaire build for long term viability..long term as NPS..a buy out at appraised value for opportunity for success. Give more control to concessionaire. A lot of concern with fluctuation..but not be held to these conditions. Too much for too many, and fail..rather than do fewer and do well!

HARRY REED; At Blue Mesa Lake, Colorado..owner may want to bid on concession here! Maw and Pa in east arm, let major concessionaire in Hailstone area. JEFF: At Hailstone, have a variety--that are not all water-dependent. ..FACILITIES THAT HAVE MULTIPLE USES ON A GIVEN FACILITY. SAUNDERS: State Parks are controlled by economic resources of state..vagaries...clear that we don't have resources and FTEs to manage parks, well. If you extend responsibilities without resources..a more inferior experience! This is why State Parks develop facilities that are not profitable..most intensive in use and maintenance..broadest experience at least expense..therefore, you can't charge enough to pay for personnel and still serve the public...then drains, expends the resource. This is not an advantageous situation for a concessionaire! He is largest employer in Wasatch County..can't get people for his 13 positions! He has same problems...don't over develop and over use resources to the point you cannot serve the public, or have a profitable situation.

BOB MATHIS: exciting to work with everyone. We must communicate with Legislature and board that facilities must be high quality..adequate O&M. We need the basics for broad services..roads, sewer, etc. in place, when they are needed. PLEASE TALK TO COUNTY AS PARK IS DEVELOPED...CANT LEAVE PAVEMENT UNDER WATER..rip up all the pavement..store in Hailstone area!! Then use rec. dollars to clean it up again. PROBLEM..250,000 cubic yards are already there. This is not the way to dispose of the asphalt! ANOTHER: GRAVEL PIT...Many scars being made that will have to be mitigated. ANOTHER: don't ignore wildlife in Master Plan. How will the deer die? Expire and rot..how will it be taken care of? County can't bear that problem..what plan, then? PRIVATE BOAT SLIPS: can't afford them. Make certain that public has resources for boating..bad at Willard. We should learn from our past mistakes. DONT CROWD OUT PUBLIC DOCKS. Still thinks it will be crowded. Demand is for day use..don't take away from what real demand is.

MORONI: MOSTLY LIKE IT. The County can't provide what state doesn't provide..do it right, now. Don't want to be stuck with state/federal responsibility.

( ): MAHINEY (?) Do it all right, have concessionaires.

FRED BODEN (?) (Was. County)--bad garbage problem. Too much from weekenders...Was.Mtn..doesn't help..Deer Creek does..guarentee help on garbage.

FRED LILJEGREN: thanks..good process.

T.E. GREEN: thanks for help. Continue to provide input. You, the public can do things we cannot. Advocate for the park before the Legislature if it is important to you. Congratulations to Bob Mathis, Jennifer, Moroni, Mr. Wilson and others for their hard work. If we are to have adequate park management and maintenance, you will have to help us. In our recent legislative audit we were efficient and effective..smaller manned parks were efficient, but not effective..just not enough resources for hard working rangers to use.

DENNIS WEAVER VIDEO TAPED THE PROCEEDINGS..FILM DELIVERED

\*53 in attendance at meeting..Meeting concluded at 9:45 P.M.

PUBLIC HEARING  
Park City Public Hearing  
Marsac Building, 7:15 PM  
17 August 1989

WELCOME: JEFF WINSTON-- An exciting sequel--we've refined ideas into two alternatives, presented last night in Heber, and now here. A preferred alternative plan will now be prepared for the Sept. 6 meeting for the public. Tonight, criticize and scrutinize what you see and hear. Look close at the Interim Report..be candid with us.

Two master plans are before you, constrained or delimited by the earlier EIS..certain basic assumptions with three (3) major sites..impacts were assessed..and visitor day estimated (5200 per day). If greater impacts, additional EIA work will have to be done. Alternative Two may require that EIA process if a finding of significant impact is made. This could extend development by 1 to 3 years.

To this point we have ignored costs to see what is desired. Now we must fit available funds with a priority of actions. Now estimates are 15 to 20 million dollars: scale back, or phase the program as funding is available..or get legislative/congressional funding support. WHAT ARE PRIORITIES, WHAT STRATEGY FOR FUNDING?

Please fill out signup sheet, and fill out comment questionnaire.

BRUCE MAW (Bingham Engineering)--referred to report and maps, and the elements noted in the alternatives; i.e., alternative 1 (which is in delimitation of EIS). Ross Creek? Sewer service? May cost about 1 million (was brought up by Heber attendees); otherwise, solar composting. NO OHV USE..perhaps on old county road..but outside of state park boundary. 6.2 miles of trail from Ross Creek to Hailstone complex

HAILSTONE: MAJOR DEVELOPMENT NODE--trail nexus with Ross Creek; beach, restaurant, day-use, service center (DWR? and DPR?)..DWR putting a request to have a fisheries administration office in with the DPR? Over 250 potential water drop. Must design for this option. Want a central village development, and major marina on the north-facing cove..protection from Provo winds and large ice fetch movement. Must change highway designation to achieve a turnoff view area. ROCK CLIFF: RV and tent camping..separation planting. Want 750 acres manage wildlife area for DWR(?) Several shoreline areas associated with certain reservoir uses--camping and day-use, accessible by water. Zones would be wakeless, transition, active (L), transition, wakless or passive area.

Question: no enforcement of zones. BRUCE: we anticipate there would be enforcement.

ALTERNATIVE 2: goes beyond EIS..primitive camping, walk-in at Crandall point..may not be a desirable beach area (may be a management headache??) Would complete 27 miles of trail and new view areas. Sorensen development as a private lease..some sort of a lease...leave options open, but subject to environmental review in the future. More wildlife lands taken with #2; therefore, additional land acquired up to county road. Question on "regional trail"--generic? BRUCE: yes, generic at this time..some extant, GWT, we must look at total system and how park relates.

JEFF WINSTON: (7:45 P.M) Be aware of great water fluctuation that are probable--up to 750 feet horizontal with fluctuations on east arm (over two football fields). Some design accommodations will have to be made. Give us ideas. Will still be a very interesting reservoir--analogous to long halls and rooms, will be very popular. Want and need water and non-water related activities. Talking about 75 slips--but up to 300 to 400 slips. Other areas success, suggests some sort of private or commercial slip program..better maintained, a higher level of attractiveness; and attracts more expensive boats; but only 15 to 18 public slips (enough for public??). Start small, and see how demand develops.

What about the notion of private concessionaires? Build for concessions; or let concessions build (prefer this, allowing them to build their own--but delimits potential concessionaires to larger, well capitalized concessionaires)--would they be less sensitive to public needs?

#### PUBLIC COMMENTS (8:55 P.M.)

STEVE ERICKSON: where is lowest water? JEFF: very small area, would eliminate north end (BOB PETERSON, ANTI-DAM ADVOCATE STARTED PASSING OUT HIS BUREAU OF WRECKLAMATION PAPER). Advisory Council on Muscle Power Activities--a few recommendations--favor alternative 2: eliminate RV site in Rock Cliff (will need costly sewer)--boat ramp, no docks, too much fluctuation. In Hailstone area: favor, but concerns about sewer system to Heber. Let others put it in and not detract from development funds--more carefully studied. Water quality a big issue. Don't like golf courses and fertilizers. Enough golf courses in area. Private Club utilization: don't want public limited or held out. Sorensen should be addressed as a separate issue. Look at it when it comes. May be an enforcement nightmare. Leave it open for public interpretation..don't like it. Just close it to



boards..make it clear what you do and where you do it. From management standpoint, put up buoys to help management--make it clear. Audience didn't like elimination of RV use. STEVE: just too costly, could go in later. Power Boater: want to go where they want..pay taxes..don't close them out! JEFF: disagrees with Steve..easier to control wakeless traffic--want areas understood as wakeless, but accept controls. You abide by rules of the area you are in. East arm will be terrific for water skiing, but also for scenic viewing and fishing--a bit of a dilemma.

\$650,000 for sewer from Rock Cliff to Francis. Springs and wells will provide water (probably will not come from Francis). Project will set standard for state parks. AUDIENCE: won't future SLC water needs dramatically affect Jordanelle? JEFF: yes, it will fluctuate..high country lakes won't fluctuate to the same degree. BOR could alter operation, but this is a vague and uncertain possibility. MATHIS: 119,000 acre feet about the same as Deer Creek out of 320,000 acre feet. Except in extreme years won't be as noticable--more stable. Maybe we over-emphasize the fluctuation..we just need good design to accommodate what will happen.

MAX MAWHINEY: look outside of take line for economic effect. Must have good sewer everywhere..eventually it will be needed, or have a second class situation. 1963 Chambers of commerce for Heber and PC needed cooperation for new ski industry. 13 years ago set up travel region (Mountainlands). Must look at the area as a region. Jordanelle will be linkage or nexus between communities. DO JORDANELLE RIGHT, FAVORS ALTERN. 2, with access points. No hodge-podge..Wasatch will be stuck with problems that project doesn't address. Want great restrooms..not filth. Audience: saw excellent solar composting in Idaho. MAX: keep the standards high..do project correctly if you have the opportunity. GO ALL THE WAY WITH SEWER LINES..ROSS CREEK AREA. Developers will be required to, so should BOR!

Audience: looks like Jordanelle picks up most of costs. Doesn't see that park needs such a system.

BOB MATHIS: (8:50 P.M.)--have enjoyed the process, and the cooperation of forward-thinking people in both counties. We have certain concepts we need. We've learned alot since 1986. We must have administrative structure to help the future--want the RIGHT POLICIES, NOW. Not like Center, Snake, and Lake Creek--we should have learned our lessons. Be courageous and solve these problems. We don't know all the answers. Don't want to subsidize private development. Composting works, but this is not the place for the long-term.

OHV use of the old county road. County road can't be abandoned because of private land owners. Want OHV road to belong to the State Park..county can't (won't do it). Like trail around the reservoir. Wants all trails connected..SP accepts this when we take the park(?) Connection with Cottonwood Canyon. 1.2 million dollars for 27 miles is Jeff's estimate (\$8 per foot)..trail head water and parking, restrooms. BRUCE: trails should be closed from Ross Creek to Rock Cliff during sensitive wildlife episodes. This makes county road even more important. Wants to know more about concessions and concession policies--what are BOR policies (probably adopt NPS process??)

Sorensen not impacted by project. Understand values in the area to be protected. After other reservoir factors considered, what will fit there, regardless of who owns it. JEFF: explained Sorensen holdings, in and out of reservoir. He may have right of first refusal. Area very limited. Good scenic opportunity..little access to water. Hasn't been anticipated as a state function in the plan. Has many options--should be a competitive aspect. Will open doors to other land owners around the reservoir. QUESTION TO BOB: don't put Sorensen in plan..plan can always be amended. Will have to be looked at anyway. Request is very nebulous..but don't look at lodge or any other development..later in full context. BOB: notion of private; no exclusive use, maybe boat slips. County thinks that area most overlooked, is what are the policies..greater than the utilities (POLICIES!). Less than 1/3 in water..value of shoreline will be very important; therefore the site fits into a planning process. BOR decision was based on technical legal basis..will get what courts decide. DOI CAN GIVE 50 YEAR FIRST RIGHTS OF REFUSAL LEASES!

JEFF; YOUR COMMENTS REGARDING OF WATER USE AND ALLOCATIONS, IS NOT A VOTE..BUT WE DO APPRECIATE YOUR COMMENTS. There are difficult choices to make. Trying to balance uses and users. Division of Parks and Recreation must make decisions pursuant to BOR requirements. AUDIENCE: windsurfers like conditions that power boaters don't like..maybe there won't be clashes..so we don't want closures..fine tune to time..Mission Bay does this.

AUDIENCE: why designation..could they be moved? JEFF: natural divisions make sense. We have heard concern of many conflicts. We want at least 6 boats on the lake (??).

TOM CLYDE: a resident of Woodland (JRAC and W/S Task Force). Final alternative looks like task force recommendations. Want rails to trails connection--parkway or trail way to Echo and along the Weber River. Affraid of State Parks stopping every-

one on the trail for fees. Run as a unit..no Check Point Charley approach by State Parks. Want it run as a unit--want private or commercial development to make major investment. Wasatch and Summit people have made major investment for quality of water for the Wasatch Front. Don't want too much spent for sewer, and not get quality in park. Don't feel wildlife displacement and impacts are being addressed adequately. Only lead poisoning??

PETER TAYLOR: met with potential concessionaires. ONE MASTER CONCESSIONAIRE! attract a quality concessionaire..check financial commitment to meet standards of park. Follow NPS guidelines. Prioritize what concessionaire needs..dry storage, restaurant..a place for equestrian, and rentals. Jerry Saunders felt horse rental not profitable..uninsurable..just doesn't work..only as a sideline supported by other services.

BOB: gross sales for master concession..over a million at Blue Mesa in Colorado? Had two buildings..got water, sewer, parking and road from NPS..fish cleaning station on porch of restaurant..really had improved subdivision lot...90 ft. drawdown..lateral movement was 500 to 600 feet. Did ERA get this info..to fit Jordanelle. Blue Mesa in middle of nowhere..takes getting to get there! We have better location, but more competition for activity. ERA thins physical limitations of site are greater than demand..everything will be completely used (JEFF). State provide major landscaping, showers, roads, sewer, to encourage upscale, first-class development. AUDIENCE: Lake Powell has suffered because of one concessionaire.

BOB PETERSON: established his nativity. THE DAM WONT HOLD..READ THE HANSEN REPORT...TO MANY FAULTS..WILL PRESSURE FLOOD MINES..SHALE FORMATIONS ARE CHALKED AT FAULT LINE..AND WATCH THEM MOVE...HE WORKED BUREAU OF ECONOMIC AND BUSINESS RESEARCH, UofU. Should have been built on North Fork of Provo. Should have provided access to Provo, rather than flood out this fabulous river.

Better ways to store water. Bangladesh: manage water in ditches to help aquifers..much more effective..11 times the water of Utah Lake under the lake. Control the aquifers..run water into these aquifers..don't lose 15,000 potential home-served by evaporation!.. in Jordanelle Lake. Environmental Rape!! Cut is terrible for highway..can see it from anywhere in basin! Lots of punches..found volcanic voids. Teton Dam was built with EIAs..Quail Creek..both failed..inadequate EIAs..this is a problem here. Jordanelle can wreck havoc!..3 volumes of Deer Creek will hit Orem and Provo. Putting population at risk for recreation is a stupid thing to do!!

-6-

JEFF: He hopes Mr. Peterson is wrong. This has been a very studied reservoir. AUDIENCE: over 2/3s of lands not aquired..will be a big mess..

Thanks for coming.

MEETING ADJOURNED AT 9:55 P.M.

SEASONAL RANGER: TODD BOONER VIDEO TAPED THE PROCEEDINGS

\*67 Persons attended. About 38 remained at 9:55 P.M.

(Minutes by T.E. Green, Jr., DPR)

H. **September 6 Public Hearing Summary**

**JORDANELLE RECREATION MASTER PLAN PUBLIC HEARING**  
**Final Public Hearing--Wasatch Mountain State Park**  
**6 September 1989, 7 P.M., Visitors Center**

**Welcome:** T.E. Green, Jr., and introductions of board, DPR staff and others. Thanks for all the help by task force. (38 present at outset). Blair Francis and LaVorn Sparks, Board Members, were present, along with Jerry Hover, Associate Director, Dennis Weaver, Salt Lake Regional Manager, and Superintendent Van Roosendaal, and Superintendent Al Clayburn from Deer Creek State Park.

**Jeff Winston:** reviewed the plan alternatives, and the final alternative or number 2. Major issue: the sewer system..important for water quality. Other issue: water access and potential conflicts between park users; thus a zoning or water area designation for various uses has been identified. Central area would be identified for active or higher speed power boating.

Quiet water areas were designated--for passive and low speed uses.

**Next Issue:** additional mitigation land may be required. Areas for time of use, or use area designation can wait for experience with actual management of the resource. More activity being proposed, therefore area for wildlife may have to be mitigated--with some impacts. Additional Environmental study may be necessary with activity expansion under Alternative Number Two. Expansion could be expanded up to the county road, or in some other configuration.

There were comments regarding concessions: tennis courts, RV, camping, boat ramps, jet ski ramp, and associated parking.. a recreation village in affect. Hopefully, some private capital will be attracted to the site. A single concessionaire could lease certain functions..unappropriate or unprofitable for state park operation. The RV area on the Provo could wait until demand has been demonstrated on other sites (?).

**Question regarding a golf course:** park area is not large enough for championship 18, but a 9 hole could fit. Bingham suggests a public private partnership put in the full 18--better quality golf course.

**Old county road question:** should it be taken over by DPR for OHVs? Should the division supervise this? It is beyond the bounds of park..difficult to manage this area. Perhaps OHV funds

could help manage it..some limited management or minor development/supervision? This is still a separate management issue.

No OHVs within the park itself. UP&L will cut across the Crandall Point area..could it be relocated? With BOR, UP&L would have to be compensated. Marina may best be administered by division..or those significant uses...not a private club..first come, first served. Hearings and the phone survey indicated a preference against OHVs in the park boundary.

Want trail access to Rail/Trail, and to Charcoal Canyon, then tied to Wasatch Mountain State Park. Also important to have a view point on the Hwy 40. Private development on Miller Point..off Miller Canyon (old Sorenson area). This area recommended by the task forces to identify the area for future private development..a future recreation site..without specific uses (lodge, camping, non-typical of the state park facilities). Selection by prospectus and competitive bid..not an exclusive or BOR lease..an open selection process, as required by state law. Analysis will have to be reviewed, EIA, public participation, and more detailed analysis. Possibly other replacement land would have to be acquired to replace taken lands.

While the board and director not completely in consensus, Bingham feels it necessary to faithfully report their findings and documented public input.

Rangers could provide limited fire protection and police protection. County wants to minimize fiscal impacts.

Trash collection: Wasatch County has franchise for single provider of trash service. But the costs to the state were too high relative to other state parks. The Division wants negotiation and discussion with the county prior to county decisions that may affect costs and operations at Wasatch Mountain State Park. Regarding fire and police protection, DPR will try to be self-sufficient within reason. Bingham recommends an INTERLOCAL AGREEMENT with local governments to resolve issues..

Shoreline camping: boat-access-only-areas only to attractive areas. However, DPR finds management of these areas extremely expensive and maintenance-intensive. Bingham suggests that the DPR not provide comfort services..otherwise, litter will be there..they recommend that it be built into the management plan for the park to minimize impact on these areas.

Bingham recommended that Jordanelle be a high quality park..rather atypical--approaching a higher degree of finish and phased completion?. This is a problem: should the park be a new example of state park? or must we assure parity or equity among and between all state parks in the system? Should be flagship of a state park..a new standard for state parks--helps other park get upgraded. Recommend that it be fully developed to high standard, regardless of parity, or internal consistency. All managed as a single unit--BOR and consultant concur. Now, in face of historical single site management, DPR should manage the entire area. DPR uncomfortable with this situation because of lack of funding, and recent interagency problems where division has no expertise. This must be determined for the plan--which way? Maybe DNR should be manager, rather than DPR, alone. This would handle jurisdictional problems.

Bingham has done an "order of magnitude" cost estimate or budget for the park. Not all funds will come from BOR. It may be phased. The whole development, as noted, may be \$20 million....well over the \$12 million budget.

For \$12 million: about \$5+ million for sewer, unless other private entities participate, as they should, would reduce this cost for sewer facilities. Cooperative is the best way to go.

JEFF THEN ASKED FOR PUBLIC COMMENTS: there is still room for public participation. This proposal is a new concept for DPR..new concepts. Not easily accepted without study..BOR objective was water development, but recreation important..this plan is a change from BOR earlier perspective. A lot of work to be done.

Terry made lengthy comments...Marty too..good quality needed to reduce maintenance costs, maximize revenues, and attract the public. Hover commented on fee structure--Les Jones on kayaking and Olympic potentials for kayaking...Provo a great training water.

Tom Clyde: coordinate managment with other state parks, rails to trails..all tied in as a system. Please have management consistency so that the public knows what to expect. Noted a recreation system..Utah Lake to Echo..to Ogden: all tied in with trails and staging areas. No revenue study needed..thinks park will generate a good income..but wants high enough quality to match fees.

Jan Peterson: Park City..task force member..represents fishing interests. Endorses this good conscious effort to help



fishermen..will be lots of fishermen. Thinks Jordanelle will draw as many (800,000)!

**Bob Mathis, Wasatch Co. Planner:** also on task force. Been fun to be involved in a park such as this..some of the Colorado River water...an important state resource. It has great responsibility potential, and problems. This only part of the CUP..wants it to be complete. Much to be done in terms of "policies"..concerned that this park, like Deer Creek and Strawberry, must sit down and determine how the land must be used. Rainbow Bay should have been developed..lets do this park properly..in mountains from SLC only a few miles..should be adequately funded so we can care for it. What resources are necessary. We have a land use plan...we need sound policies..and some sort of TRANSITION TEAM..so that we can work together on problems of mutual concern...a regional or area approach to an area that is the backyard of the Wasatch Front..for recreation. Mathis wants policies in place with priorities. With a transition team formed, with membership from Board and local government. In his opinion, it is not fair that the Director of DPR waits for 5 months into the planning process to comment that he favors restricting DPR participation to three nodes or areas within the large +8,000 acre park (5,000 acres of land).

Mathis wants concession policies laid out now..otherwise everything is too vague..he wants to clarify land uses around the park, and how they impinge on trails and other park land uses. Miller Point has potential (Sorensen property).. a way to recognize the potential. We must conceive of the policies now..WE WILL NEVER CATCH UP IF WE DON'T DO IT NOW..NOW IS THE TIME TO PLAN! Good forethought needed now..planning. Don't want DPR and DNR to go directly into engineering now without policy items included now.

**Mr. & Mrs. Byrd:** Lake Powell a farce..needs more people to operate and maintain that beautiful area. Miller point has great potential..let private enterprise participate. Keep it competitive. No monopoly..not in one guy's hands. Open competition will assure the best results!

**Moroni (Wasatch Co. Commissioner):** you've recognized our concerns. Want the county helped with the impacts. Max (\_\_\_\_): all roads should be a state roads (new county road to Francis on south side of reservoir)..county can't pay for it..he agrees.

**From the Floor:** Question: is there a buffer zone..zoned by county? Or zoned one at a time. **Bob Mathis:** private land zoned "grazing" on east side (G-1..only caretaker dwellings). Zoning changes will be requested. County will have a challenged. RF zone..for environmental control on the west side..mostly

Mayflower, Consolidated, should be high quality. Old East Park subdivision greatest problem..Mayflower owns it. Need to redo master plan. Don't want to destroy the quality of the resource, as happened at Strawberry..avoid this type of experience. Those who profit from the development of the state park should help defray some of the public costs (sewer, water, roads, utilities, etc.).

Jon Wilkie: don't like planning to least common denominator. We can do better. Trail system is greatly needed--high priority!

From the Floor: Is Provo River parkway included in the budget?  
Fred Liljebre: no, however public involvement will start in the next 6 months. Costs for the greenway or fisherman accessway are not in the \$12 or \$20 million is budgeted for reservoir recreation development.

CUP representative: water quality: we should phase park development to amount of park use anticipated. Fair to compare to Wasatch Mountain SP..plan in phases, do it well and right.  
From the Floor: how will we control the overwhelming use that is forthcoming from the Wasatch Front? Jeff Winston: it will be difficult. Floor: we saw boats everywhere at other reservoirs, it will a mess..don't put too many people on the lake and ruin everyone's experience.

McKay Edwards: Consolidated Mines--quality will be high. Wasatch county planning code the most responsible in the state..very good..very comprehensive..land planning conscientiously applied as anywhere. Commended Bob to be frank about the \$8 million shortfall in developing an ideal park! Isolated state parks management problems..up to now..but need to keep good management. Use of water resources is growing. A method of control would be more of user-pay system. We are subsidizing by non-users. Need user-pay system. Jack up.. or reevaluate fees...we can't afford this.."use of park not based on ability to pay (Jeff)"..a contradiction.

In Montana..a Land Reliance..conservation easements...land donations are often a good tax break. Bob suggests we work with Nature Conservancy..absent development, no way to accommodate those who want to donate..He thinks we need plan to evaluate them..and allow conservation easements.

Jennifer Harrington, Park City: wants to respond to Bob..both communities are grappling with forming a Land Trust..a vehicle to hold easements for open space or recreation/wildlife..maybe do a joint land trust to organize people to donate.

**Bruce Maw:** Regarding a budget...asked Liljegren how we could get this additional \$8..how? **Fred (BOR):** with plan, we have the first step. Must show cost benefit..then to Congressional support. The plan in place with this support is good. Fred will take it to his superiors. **Jennifer:** any plans to maintain public input to the next phase of design/development. **Fred:** wants task force review plans..refine...**Bob Mathis:**..how about the Transistion Plan to keep effort moving?

**Jeff Winston:** we salute you for your input and help. We're only at the beginning of the process. There will be many other areas and opportunities where public can have an effect. There are many issues that are unresolved..but we have identified them for analysis and future response. There are avenues available..park board, agency, others. Keep up the good fight. Have periodic updates...start a "Jordanelle Daily Gazette"?

**Blair Francis (State Parks Board Member):** The Utah Division of Parks and Recreation board doesn't want anything less than a quality state park..please understand this. Quail Creek was also an opportunity. We want the best. Brick and mortor are OK..but do have concerns on thge appropriate management entity..we want this resolved as much as possible. Public comes to parks first with ideas, compliments and complaints! The board wants the best for the park!!

\*adjourned at 10:20 P.M.  
TEG

I. **Jordanelle State Park Comment Sheet**

## COMMENTS

### JORDANELLE STATE PARK

#### Master Plan

This sheet can be used as an outline for your oral comments, or to give us input if you choose not to speak. Please leave it at the door, in either case.

1. Activities/facilities I would most like to see in the Jordanelle State Park are:

<u>Activity</u>	<u>Order of Importance</u>	<u>Good Examples I've Seen</u>

2. Potential problems and environmental issues I would like to see addressed in the Jordanelle State Park design are:

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3. Suggestions for addressing the problems and concerns for Jordanelle State Park listed above are:

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4. Please complete the following sentence if possible, use examples from other places you've seen. "I think the Jordanelle State Park should be a place (where, like, that).

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5. We welcome any other thoughts you may have about the Jordanelle State Park.

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6 Optional:

NAME 

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ORGANIZATION 

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STREET ADDRESS 

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MAILING ADDRESS 

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PHONE 

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 (If we may call you to follow up on your comments)

**J. Wasatch/Summit County Task Force Submittal and Map**

## **JORDANELLE STATE PARK**

### **JORDANELLE RESERVOIR**

Wasatch/Summit County  
Recreation Planning Task Force

The primary recommendations of the task force concerning facilities are shown on the map of the area. Day use of the Jordanelle facilities is inevitable, and desirable, but the facilities offer a greater economic potential for the adjoining communities if the primary design considerations are oriented towards development of multi-day, longer term uses. The Jordanelle can be the connection between a number of existing and proposed recreation facilities in Wasatch and Summit Counties, and should be planned as a part of an overall system of outdoor recreation facilities. In preparing final designs on facilities, and making other planning decisions, the Task Force believes that the following considerations and policies ought to apply:

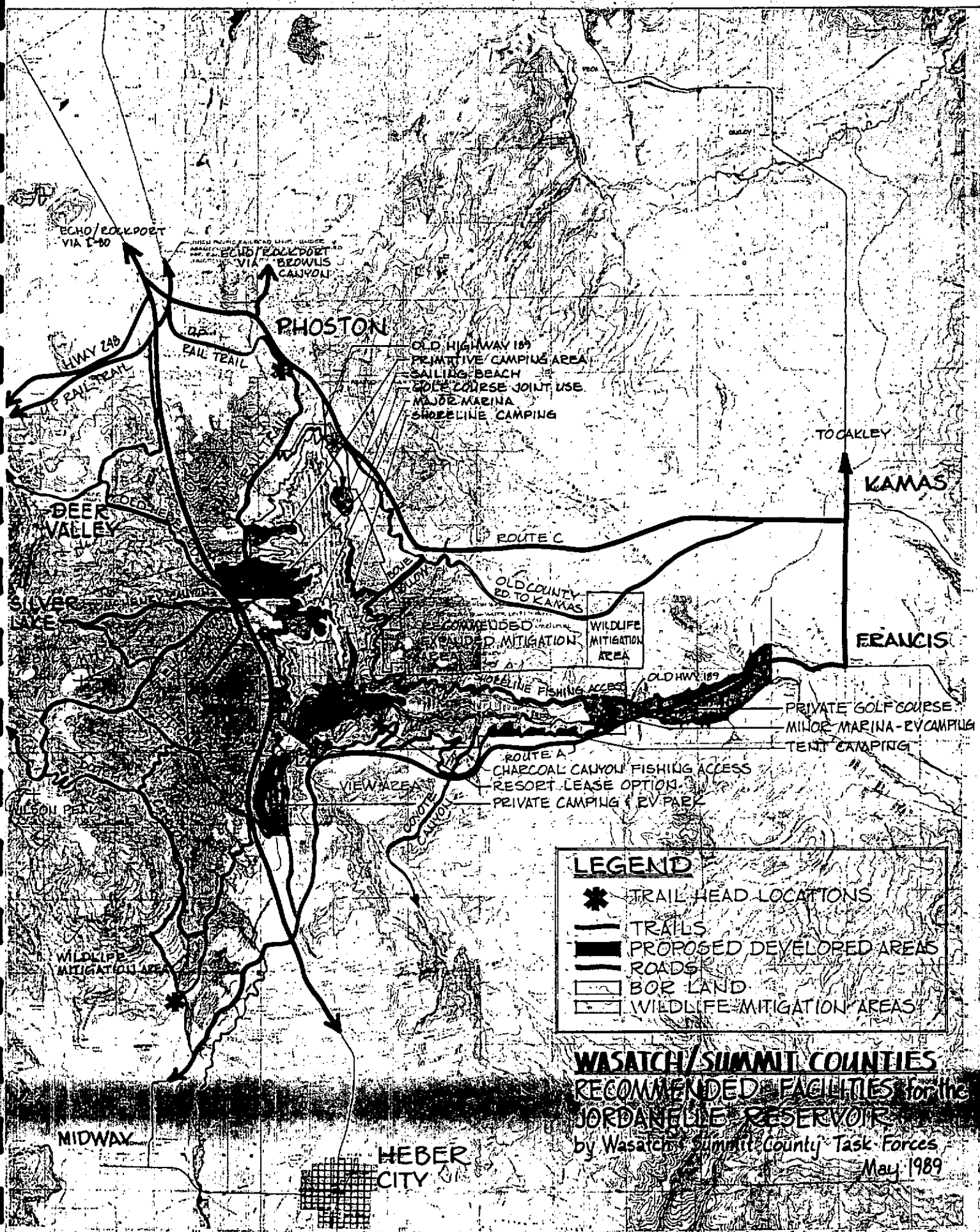
1. Linkage with other existing or proposed recreation facilities will enhance the potential for all of the connected facilities. Specific connections should be made with:
  - Wasatch Mountain State Park
  - Section 36 of T. 2 So. R. 4 East
  - Rails to trails parkway
  - Possible bike and equestrian trails on existing county roads adjoining the park.
  - Deer Valley/Mayflower trails
  - Old County Road to Kamas
2. All facilities built should be of a high quality that is compatible with, and complementary to, the proposed development on adjoining private land. To maintain that quality, the following should apply:
  - Major park facilities should have full utility services, including sewer service.
  - Local government planning and zoning should be involved to insure compatibility with existing plans and new proposals.
  - Concessions should be clustered to make them commercially viable, and should be located to take advantage of possible year-round opportunities.
3. The facilities planned should accommodate a large number of users and minimize user conflicts by zoning and lake and park areas for different activities. Zoning should allow for flexibility to adjust to water level and conditions, and user demands for various types of recreation activities.
  - Major marina facilities should be built on the west shore where there is good highway access, with minor marina facilities at other points where access to the shore line is practical.
  - A portion of the lake should be designated as "wake free" for sail powered users, while another area designated for power boat users.
  - Fisheries should be protected from boating activity inconsistent with quality fishing.
  - Motorized off-road vehicles should be prohibited within the take-line to prevent environmental damage and conflicts with other shore line activities. Off road vehicle use



may be appropriate on nearby county roads, and adequate staging facilities should be provided.

- Campground facilities should allow for segregation of tent campers from RV's and separation of campgrounds from hotel facilities.

4. Wildlife mitigation areas can be an additional amenity, provided that the concerns of nearby agricultural interests can be addressed. South facing slopes in Sections 26, 27, and 28 of Township 2 South Range 5 East have been proposed for wildlife mitigation areas. Other areas such as Dutch Canyon may also be appropriate for mitigation and winter habitat and/or feeding locations. Significant displacement of wildlife will result from the construction of the reservoir. Winter feeding programs may be necessary to avoid conflicts with adjoining agricultural interests.
5. Administration of the park needs to reflect the impacts on local government services such as law enforcement, fire protection, trash collection and disposal, and water and sewer services, and involve appropriate agencies, as called for in the Final Supplemental to the final Environmental Impact Statement. Administration also needs to be coordinated with the administration of Wasatch Mountain State Park, Deer Creek Reservoir, and other state park facilities joined to Jordanelle by the rail parkway to maximize the potential uses for each facility.
6. Winter recreation needs should be addressed in terms of maintained ski trails, winter use of campground facilities, and linkage with other winter recreation facilities. concession planning should consider winter uses as well as traditional marina facilities, given the short boating season.
7. To build quality facilities, full utility services are required. The costs of extending sewer, water, and other utility services should be shared between the public and private users in the area, and anticipate future demands. Sewer line extension is necessary to protect water quality, and should be paid for with project funds, not as a part of the recreation program.
8. The task force supports greater funding for state park facilities by the legislature.



**K. Wasatch County Task Force Policy Submittal**

## **JORDANELLE STATE PARK**

### **WASATCH COUNTY JORDANELLE POLICY COMMITTEE**

Wasatch County Jordanelle Task Force appreciates the opportunity to be heard with regard to Planning Recreational Facilities around the Jordanelle Reservoir.

The Jordanelle Reservoir is the largest Public Works Project undertaken in Wasatch County and involves some \$396,000,000 worth of expenditures. We spent over a five year period ending in October of 1992.

The final Environmental Statement for the Municipal and Industrial System of the Bonneville Units of the Central Utah Project on Page 18, states that there are two recreational sites to be developed on the Jordanelle Reservoir to accommodate up to five thousand one hundred and sixty people. It is anticipated that both would have camping and picnicking units, fish cleaning stations, launching ramps, car and trailer parking, electrical hookups, restrooms, and drinking water from the nearby wells. There is an additional one hundred acres reserved for Recreation Development on the upper end of the north arm of the lake if the need should arise.

The Wasatch County Task Force feels that this project gives an important opportunity for the Utah Division of Parks and Recreation to expand its influence in the area and develop a relationship between the Jordanelle, Wasatch Mountain State Park and Deer Creek Reservoir to provide a rich and varied recreation experience for the park user.

Specifically the Task Force finds:

1. A trail system between the Heber Valley Wasatch Mountain State Park, the new Great Western Trail system and Jordanelle should be developed on the south and east sides of the Jordanelle Reservoir Project, utilizing trail heads already existing and being developed in Wasatch Mountain State Park, Mayflower Recreation area and the Park City Rails to Trails proposals.
2. Many opportunities are present on the east side of the Jordanelle Reservoir for trails suitable to not only muscle power, but small recreation vehicles by using the old county road to Kamas, which is being replaced by the new Route C.
3. On the south side opportunities for trail linkages with the new State Park exist using facilities along the newly reconstructed Route A and through several private property owners at Little Pole and Big Pole Canyons and Coyote Hollow which connect to Heber Valley. Frontage roads along the new Highway 40, make nice connection to the Cottonwood Canyon Loop, of Wasatch Mountain State Park.

We suggest that advice and counsel be sought from the Utah Muscle Power Advisory Council about the development of these trails and a policy brought forward, which would suggest how to manage and maintain these trail systems for benefit of the public.

4. Areas south of the old county road, Kamas proposed in the original 1979 EIS for wildlife

mitigation should be again considered for wildlife mitigation and enhancement as a part of the State Parks system, incorporating all existing State owned property in the area and property proposed for State owned property in the area and property proposed be acquired for wildlife mitigation by the project itself

Big game winter range on south facing slopes is becoming an increasing rare commodity in the State of Utah and while this area is now undeveloped, potential for development due to the proximity of the new Jordanelle Reservoir cannot be ignored at this point.

5. Apparently the big game herds of the State of Utah can be sustained in the spring, summer and winter in their natural habitat, because the herds are viable and healthy. In fact there are plans to increase the elk herds in the area. During the winter; however, the deer must search in the valleys for food and there become a nuisance as much as novelty and a thing of beauty. The Jordanelle interrupts several important migration routes with the new highways and the reservoir itself. This has forced the game down into Heber Valley with greater pressure than ever before.

We therefore feel consideration should be given to establishing a winter game feeding plan in Dutch Canyon during the winter months. If done in conjunction with the State Park System this would be an important winter tourist attraction as well.

6. Several developers have been working with Wasatch County to develop projects to the west and south of the new Jordanelle. It is important that, policies be developed which clarify the relationship of these abutting property owners to the State Park facilities. Some of these properties will utilize common road systems and sewer systems. All of them will be part of the Wasatch County's Fire and Garbage District, it is therefore important, that a Management Policy for the new state park facilities are to be used and maintained.
7. Patterns of use on the reservoirs in Utah are continually changing. The proximity of the Jordanelle Reservoir to the Wasatch front would suggest that one of the primary users in the reservoir site would be day users, who will come to the area to recreate, then return to their own homes. This is different from many other reservoirs in the state where the primary users have been campers who wanted a spot on the other reservoirs for easy access to fishing facilities.

While the Task Force expects there will be a strong demand for fishing along the reservoir shores and in the reservoir itself. We do not expect that the majority of users of the park on peak days will be fishermen. Therefore, it is important that the reservoir plan have adequate facilities for group activity on the west side of the reservoir at the sites recommended in the 1979 Environmental Impact Statement.

It is important that the sites planned for recreation be supplied with adequate water and sewer facilities and ample parking to allow the area to change and respond over time to the various needs of the market.

8. Paragraph 3 a on page 12 of the Final Supplement to the Final Environmental Statement for the Jordanelle says (that any development within the takeline must) adhere to county

plan approval processes whereby any public development (Federal, or local, including any recreation development (federal, or local, including any recreation developments or facilities built around Deer Creek or Jordanelle Reservoirs) will comply with the same requirements as specified for private developments, (and) ensure that any lessee, manager, or operator abides these same requirements. A plan to show how this will be accomplished should be prepared as part of this study.

9. A fishery plan should be devised for the reservoir of which identifies the types of fish to be planted in the reservoir and where; their most promising habitats will be. Consideration should be given to the compatibility of the competing uses on the reservoir itself and the fishery.

This will allow the State Park to set aside areas which are best devoted to fisheries and protect them from disturbance.

10. The Jordanelle has more than fifteen miles of shoreline, some for fishing, some is valuable for wildlife and fisheries and some of it is dangerous. The Wasatch County Task force proposes that a plan be developed which classifies which of the areas along the take-line can be safely occupied and which is to be protected, while leaving the rest open for the recreation plan.
11. The Jordanelle Reservoir is supposed to have, rich water which could rapidly lead to eutrophication if not properly protected. To this end Wasatch County, Summit county, The Provo river Water Users and the water districts taking water from the Jordanelle have been involved in a watershed protection plan, known as the Jordanelle and Deer Creek reservoir Management Plan. This plan recognizes the various sources of pollutants to the reservoir and seeks to isolate them from the reservoir through a vigorous testing plan which has been imposed on the owners of property around the Jordanelle.

It is important that the same sort of policy be developed for facilities within the take-line around the Jordanelle and that the State Park be made a part of the Water Quality Management Plan for the Jordanelle.

12. The Jordanelle State Park is part of an elaborate overlapping governmental systeming. Administrative Master Plan should be proposed for the State Park which recognizes the interrelationship of municipal services provided to the park by local governments around the park and states which agencies are responsible for permit approvals for:
  - A. State Park owned, operated and built facilities.
  - B. Water Conservancy District owned, operated and built facilities.
  - C. Concessionaire owned, operated and built facilities.
13. Many maps have been compiled to explain the Jordanelle project. These maps should be digitized and stored on the State's Geographic Information system, with the State Planning Coordinators office for future reference. This material would then be available to all agencies seeking to make decisions around the Jordanelle within the take-line.

**L. Muscle Powered Activities Advisory Council Submittal**

## JORDANELLE RESERVOIR

### RECREATION DEVELOPMENT RECOMMENDATIONS

#### MUSCLE POWERED ACTIVITIES ADVISORY COUNCIL

The Muscle Powered Activities Advisory Council represents the following user groups as an advisory council to the Division of Natural Resources Department of Parks and Recreation:

Bicycling

Quiet Water Activities

Running

Hiking

Mountaineering

Cross-country Skiing

Equestrian

The council has one member appointed to represent each of these activities and two at large members.

The following are our recommendation in regards to development of recreation opportunities on and around the Jordanelle Reservoir.

We feel it is important to develop both day and multi-day opportunities at the Jordanelle Reservoir. Because of its location it will also have the ability to tie together a number of other recreation facilities. We believe the following are of primary importance to best utilize the area.

1. Linking with other existing or proposed recreation facilities will enhance the potential for all connected facilities, specific connections should be made with:
  - \* Wasatch Mountain State Park, specifically through a hiking trail connecting at Cotton Canyon (at section 36 of T. 2 So. R. 4 East) and at Big Dutch Pete Hollow Trail System. This will include making access across Highway 40.
  - \* Connection with the proposed trail systems in the Deer Valley and Mayflower Developments.
  - \* Use of the old country road to Kamas.
  - \* Muscle powered use on existing country roads adjoining



the Park.

2. We feel all facilities should maintain a high standard of quality that supports environmental concerns as the highest priority. Including the following:

- \* Major Park Facilities should have full utility service including :

- The use of Solar composting toilets and high quality septic system.

- Concessions should be clustered into one main area to make them commercial viable and to limited impact on the environment. They should be located near steep shoreline to assure easy water accessing the lowest of water years. Facilities should consider both summer and winter utilization.

3. Facilities planned should accommodate a large number of users and minimize user conflict by zoning the lake and the park areas for different activities. Zoning needs to take into account water levels to assure that no users are left "high and dry" during dry seasons.

- \* The major marine facility should be built on the west shore where there is good highway access. No other marinas should be built on the lake.

- \* The East Arm of the reservoir section 33, 34, 35, and half of the section of 32 should be reserved for quiet water activities such as swimming, rowing, canoes, kayaks and sailing crafts. This needs to be non-motorized area for the safety of the users. A "wake-free" area stipulation is not satisfactory designation, especially where swimmers are involved, as it requires additional man power to enforce and is often not enforceable. On the North Arm Section 18 and half of Section 19 should be designated quiet water or 'wake-free" since this will be the area most used by the windsurfing and sailing communities. These designations create an equal area allotment for both quiet water users and motor powered users.

Fisheries should be protected from any boating or other activit'y that would be detrimental to the quality of fishing.

Campground facilities should allow for segregation of tent campers from RV's, and separation of campgrounds from hotel facilities. The Eastern Arm of Jordanelle should sbe reserved for primitive camping facilities, there is no need for a marina, RV campground facilities or hotel development in this area.

4. Wildlife mitigation are a necessity around Jordanelle, of course local agricultural concerns must be addressed. South facing slopes in Sections 26,, 27 and 28 of Township 2 South range 5 East have been proposed for wildlife mitigation areas. Significant displacement of wildlife will result from the construction of the reservoir. The need for replacement areas is essential. We support the mitigation areas in Section 26, 27 and 28 and feel those sections should be acquired for that purpose.

5. Administration of the park needs to reflect the impacts on local government services such as law enforcement, fire protection, trash collection and disposal, and water and sanitation services, and involve appropriate agencies, as called for in the final supplement to the final environmental impact statement. Administration also needs to be coordinated with the administration of Wasatch Mountain State Park, Deer Creek Reservoir, and other State Park Facilities joined to Jordanelle by the Park City to Echo rails to trails project, the Jordan River Parkway and the Dutch Hollow Trail System to maximize the potential uses for each facility.

6. Winter recreation needs should be addressed and all facilities need to be designed and built with this consideration. Concession planning should consider winter uses as well as traditional marina facilities. Trails should be designed to accommodate cross-country skiing during the winter months, however, our council is recommending a non-maintained ski trail for winter use. Ice skating is another potential use of the Jordanelle. We believe a maintained skating rink on the reservoir would be a good addition to the winter facilities.

7. Our council supports additional funding for the state park by the legislature.

8. We recommend that a tree planting program be implemented around the shoreline, within the take-line area, to enhance the aesthetic values of the park and improve the overall environment.

9. The Jordanelle Reservoir should include a trail system that completely circumnavigates the reservoir. The trail system should be designed to accommodate all Muscle Powered uses, such as mountain biking, hiking, running, equestrian, skiing etc. It should be for muscle powered recreation only. The trail should include an access across the dam to make it a complete loop trail. The trail should connect to all campground facilities and include some short loop trails and nature trails. All trail heads should consider handicap users and trails should be developed appropriately.

10. We believe the take-line should be extended on the western shore to include the old union Pacific Railway Bed from Cranmer at the base of Big Dutch Pete Hollow to the proposed takeline on the north boundary of Section 18. The railway bed could be used as

part of the trail system around the lake and would allow access to the Dutch Hollow Trail System in Wasatch State Park, via a trail up Big Dutch Pete Hollow. This would require an access across Highway 40.

11. Our council believes that a variety of facilities will best accommodate the users of the Jordanelle Reservoir. A full service facility needs to be developed on the western shore to meet the needs of marina users and RV campers. Facilities on the Eastern Arm of the reservoir should be kept basic and serve the needs of the people desiring undeveloped recreational experiences. Quiet water areas are essential to preserve satisfactory and safe recreation for participants of those activities. Water and sanitation facilities need to be developed in all areas of the park to maintain water and environmental quality. Such developments should be the responsibility of the state and should be developed for use within the park. If development is to occur on adjacent lands that create a demand for additional services, such as sewage treatment, those developments should pay for those services. Water, sanitation and other utilities needed within the park should be developed with project funds or additional state or federal monies and not as part of the recreation program.

M. Interim Report

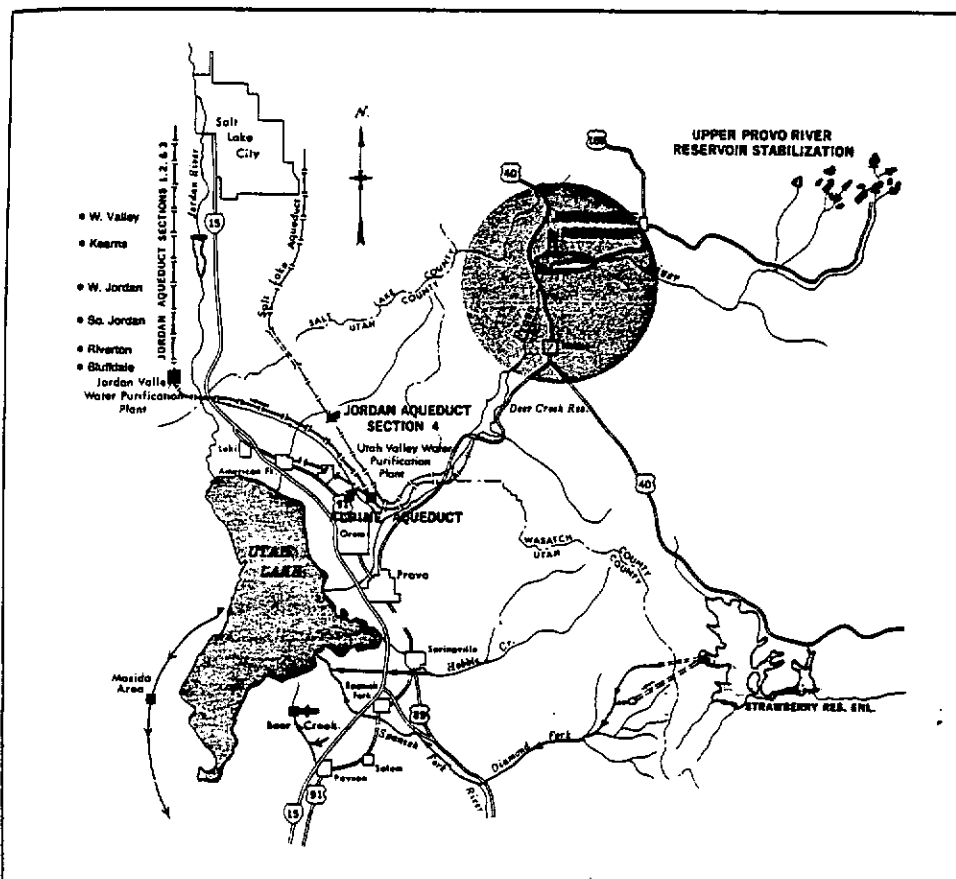
# JORDANELLE RESERVOIR STATE PARK

U.S. BUREAU OF RECLAMATION

UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF PARKS AND RECREATION

## INTERIM REPORT

AUGUST 15, 1989



Regional Location Map

## A BRIEF OVERVIEW

Two alternative plans have been developed at this point. Alternative 1 is a basic recreation plan that is consistent with the early planning and EIS for the Jordanelle dam and reservoir. It includes a wide range of recreation activities, both water- and non-water-related. In Alternative 1 all of the recreation facilities are concentrated in three recreation areas: Hallstone, Rock Cliff and Ross Creek.

Alternative 2 includes all of the facilities in Alternative 1, but adds several additional elements: a hike-in camping area on Crandall Point, a hike-in camping area on the east shore (above Keesley), a trail system around the reservoir, and the proposed Sorenson recreation site on the southern shoreline near the dam.

Both of the alternative Master Plans propose a wide variety of uses within the boundary of the reservoir.

From the extensive input that has been received, the master planning process has tried to meet several objectives:

- provide high quality recreation facilities that are of interest to the public;
- preserve wildlife habitat values in the area;
- be responsive to water quality and hydrologic conditions of the reservoir.

In the course of developing the plans a number of concerns and competing issues have been identified. They include trail development versus wildlife habitat and critical winter range, convenient waterfront recreation facilities versus water fluctuations inherent in the operation of the reservoir, privacy and separation of uses versus concentration for efficient management.

The public has strongly suggested that all recreation facilities at the Jordanelle should be of high quality, one that improves the image of State parks in Utah. It should also be compatible with, and complementary to, private developments on adjoining property around the Jordanelle State Park. To maintain that quality it is recommended that local government planning and public representation be involved in plans and development proposals.

Approximately \$12 million has been budgeted for construction of the Park. This budget must provide for all recreation related costs, including internal roads, buildings, trails, and utilities which are within the reservoir boundary.

## INTRODUCTION

In conjunction with the new Jordanelle Reservoir, the U.S. Bureau of Reclamation and Utah Division of Parks and Recreation (Utah Parks) are developing plans for a State Park within the area around the reservoir. The Bureau of Reclamation and Utah Parks earnestly seek public input regarding the type, quality and location of facilities within the Park.

The planning process is now at about the midpoint. Three public meetings and many small meetings with interest groups have been held to solicit ideas for the State Park. A design team has developed a conceptual master plan based on those ideas.

On August 16 and 17, a second round of public meetings will be held in Heber City and Park City for the public review of the preliminary plans.

This report is to provide information about the preliminary master plans and land use decisions as they have developed to date. It is also a request for further input and ideas, either through attendance at the public meetings, or written comments to Utah Parks.

## BACKGROUND

The Jordanelle Reservoir has been in the planning stages for nearly 25 years. It is part of the much larger Central Utah Project which was developed to provide water storage for agriculture and increased municipal water needs in the Salt Lake Valley.

The Jordanelle Reservoir is located in Wasatch County, about 8 miles north of Heber City. It will store water (from the Provo River, Ross Creek, Drain Tunnel Creek and other small tributaries) which was previously stored in Utah Lake. It is also intended to improve the water quality of Deer Creek Reservoir by reducing the amount of phosphorus in the water, which causes algae blooms.

The construction of the reservoir is requiring the relocation of U.S. 40 and Alt. U.S. Route 189 to Francis. The reconstruction of those roads is underway. The dam construction is also underway and will be completed in 1993. Once the dam is completed, the filling of the reservoir is expected to take up to 8 years. However, it will not be necessary to wait until the reservoir is filled to begin using it for recreation.

The Bureau of Reclamation is acquiring the land for the reservoir as well as a buffer zone above the high water level to protect the reservoir from the impacts of adjacent development, to protect wildlife values and to provide recreation. In all, at high water the reservoir will have

approximately 3,000 acres of water surface, and 4,000 acres of land area.

Prior to approval of the Jordanelle Reservoir an extensive Environmental Impact Statement (EIS) was completed. In partial compensation for the impacts of the reservoir the land within the reservoir boundary will be managed for recreation, wildlife habitat, and wetlands. Approximately 720 acres north of the reservoir is being acquired and preserved for wildlife, and additional land in other parts of the region are being set aside for wildlife.

The Jordanelle EIS proposed a level of recreation development for up to 5,000 people at one time in three recreation areas: Hailstone, the primary recreation area, on the west shore of the north arm; Rock Cliff on the east end of the east arm; and a third area on the northeast shore of the north arm, which is referred to as Ross Creek. Because of Federal EIS regulations, any recreation development beyond that described in the EIS may result in greater impacts, require additional environmental assessments, and possibly additional mitigation measures.

## A PUBLIC PLANNING PROCESS

The Bureau of Reclamation and Utah Parks have retained a design team, headed by Bingham Engineering (of Salt Lake City), to help develop a master plan for the park. Included on the team are specialists in recreation land planning, engineering, architecture, economics, marina design, law and risk management.

Under the direction of the Bureau of Reclamation and Utah Parks public input has been strongly encouraged during the planning process. There have been many meetings with committees, and over 35 interest groups have been contacted (e.g. Muscle Power, Stone Fly Society, Utah Boating Association, etc.)

A coalition of interests in Park City/Heber Valley area formed a joint Wasatch/Summit County Task Force which has made extensive and substantive recommendations and input into the Preliminary Master Plan.

Six public meetings are scheduled throughout the plan-

ning process. Three were held in June (in Salt Lake, Heber City, and Park City) to solicit ideas and issues at the beginning of the planning process.

Two interim public review meetings will be held on August 16 and 17th in Heber City and Park City to solicit reactions to the preliminary plans developed by the design team. The Bureau of Reclamation and Utah Parks sincerely desire comments, criticism and suggestions throughout this process. Naturally, comments received now while the plan is still in its formative stages, can more easily be incorporated than later in the process when significant changes are more difficult to make.

A final public review will be held on September 6th at the Wasatch Mountain State Park visitors center near Heber City, to critique the refined master plan just prior to it being finalized for presentation to the Bureau of Reclamation and Utah Parks Board in October.

The planning process is being guided by a Steering Committee of representatives of the Bureau of Reclamation, Utah Parks, Park City, and Wasatch and Summit Counties.

Feedback over a broad range of issues is provided by the Jordanelle Recreation Advisory Committee (JRAC), which is composed of representatives from wildlife agencies, recreation groups, and other State and area agencies.

Other technical input, especially on water quality issues, has been sought from the Jordanelle Technical Advisory Committee (JTAC). This is a standing committee of State and local agencies which was created to provide input to the design of the reservoir itself.

Many of the ideas which emerged from the public input have been incorporated into the Preliminary Master Plan. Much credit is to be given to the extensive work

and interest that has been provided by many volunteer groups.

## THE PHYSICAL SETTING

The Jordanelle Reservoir is located in two intersecting valleys that form an "L". The North Arm of the reservoir will be about 4 1/2 miles long and the East Arm will be about 5 miles long.

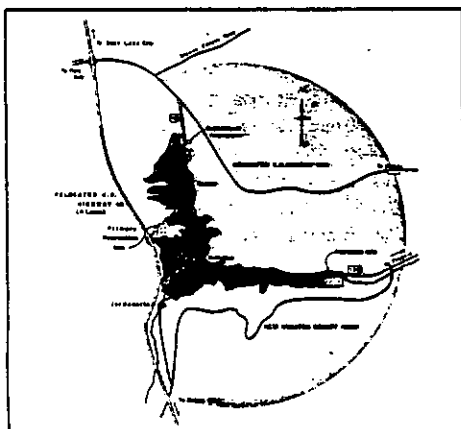
The valleys that form the Jordanelle are, for the most part, deeper and steeper than those of other reservoirs in the area. This means that the Jordanelle will have more water volume for its size than other reservoirs. For example, the Jordanelle will be only 1/4 larger in surface area than Deer Creek Reservoir, and yet will hold almost 2 times as much water.

### NORTH ARM

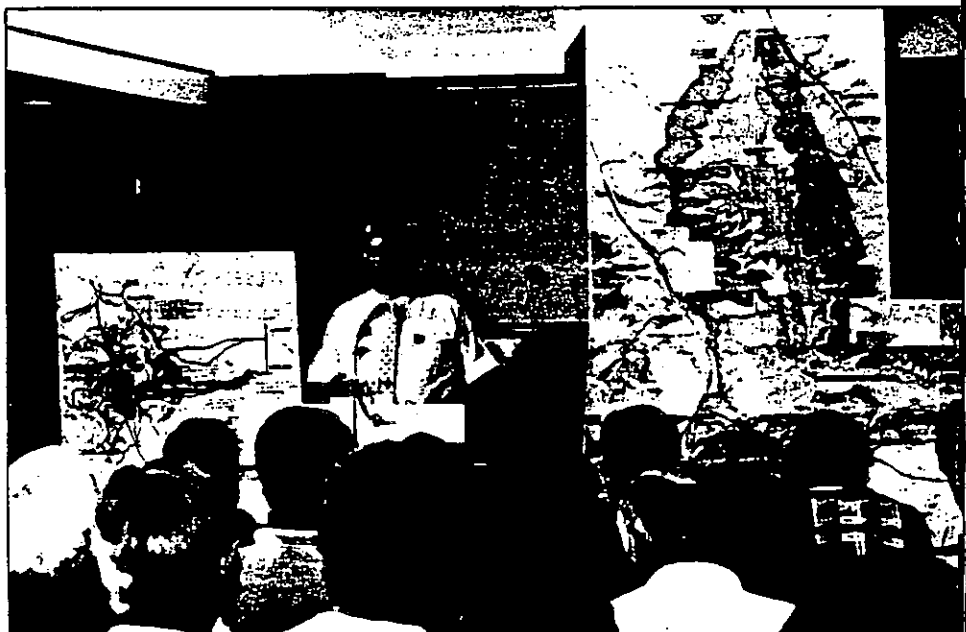
On the west side of the reservoir, the gently rolling terrain creates fingers, or peninsulas which will extend into the reservoir. These peninsulas have relatively steep sides, but their crowns are gently sloping enough to be usable for recreation. The northern portion of the Hailstone area and the Crandall Point area are located on these peninsular forms.

The vegetation of this area is primarily sagebrush, with aspens, maples and scrub oak in widely separated clumps along the drainage ways leading to the reservoir. In order to prevent recreation uses from impacting each other separation between uses or physical screening needs to be created - such as irrigated planting of trees and shrubs and landforms.

The south side of the Hailstone area slopes gently southward into a broad basin which currently contains



Local Context Map



Park City Public Meeting

the Olson/Neilhart Pond (prior to the reservoir being filled). The gentle slope and south orientation of this area make it the best location for a beach.

The shoreline from Hailstone to the dam is steeper, but doesn't have the rolling character. Much of this area has been impacted by the large fill slopes created by the construction of new U.S. 40. A trail and highway-accessible view area are the only recreation facilities proposed in this area.

At the north end of the North Arm of the reservoir (Ross Creek area) the valley flattens out dramatically, creating a broad, flat, gently sloping shoreline. The proposed Ross Creek recreation area (on the northeast shore of the North Arm), takes advantage of this terrain to create a beach for windsurfing and sailing.

The east shore of the North Arm of the reservoir is steeper than the west shore (many slopes over 40%), and more deeply etched by the streams that flow into the reservoir. The vegetation of the east shore is predominantly scrub oak, which would provide a much more enclosed feeling for trails and campgrounds. The east shore has dramatic views of mountains.

By virtue of its steep slopes however, the east shore is much more difficult to access. The east shoreline is also an important wildlife habitat. Its numerous springs create moist microclimates for a wide diversity of animal life.

## EAST ARM

The north shore of the east arm is known as the West Hills. It is comprised of broad, rolling, south-facing terrain with sagebrush and pockets of scrub oak. Along the north shoreline of the East Arm there are several irregularly-shaped terraces with weathered rock pinacles which will be interesting viewing from the reservoir.

The north side of the East Arm is an especially important wildlife habitat. Snow on the south-facing slopes melts more rapidly, making this a critical winter range for mule deer. There are also eagle nesting sites along the East Arm.

The east end of the East Arm is a broad, flat river bottomland. This area has numerous groves of tall cottonwoods and willows interspersed in riparian grassland meadows. It has been designated the Rock Cliff recreation area and has great potential to be a traditional wooded, shady camping area. The Provo River flows through the area and is expected to remain a popular fishing spot even after the reservoir is filled.

The south shore of the East Arm is a high, rolling plateau, elevated above the reservoir by steep cliffs. As a result, the upper area is virtually inaccessible from the reservoir itself. Narrow, steep Charcoal Canyon divides the plateau, making east to west travel difficult.

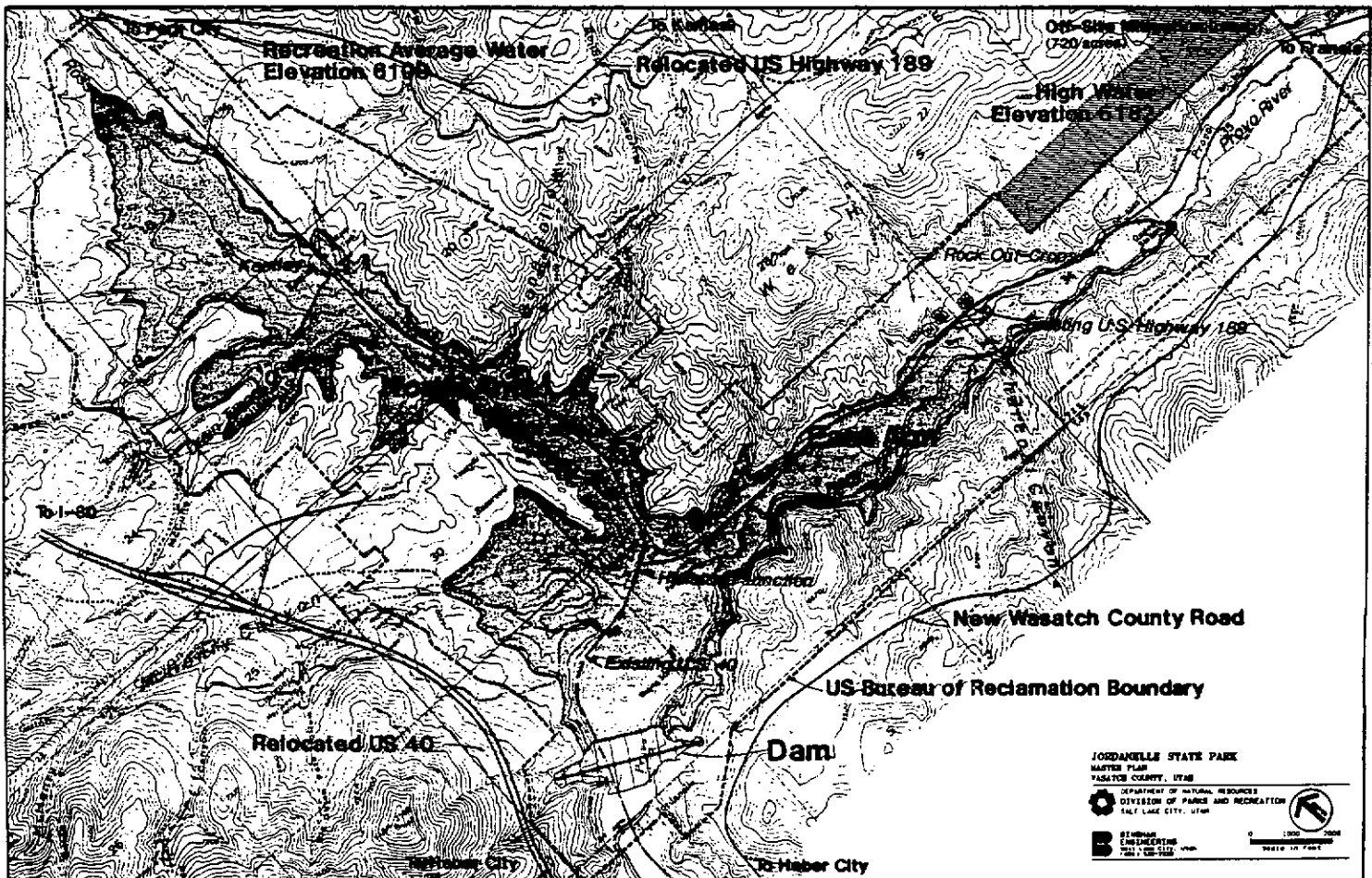
## PLANNING CONSIDERATIONS FOR RECREATION AT THE JORDANELLE

### PRESERVING WILDLIFE HABITAT IS A KEY OBJECTIVE

Prior to construction of the reservoir the Jordanelle area was a regionally important deer and elk migration route. With the loss of the migration route, the area between the two arms of the reservoir (the West Hills) becomes increasingly important as a winter range for mule deer.

The Jordanelle EIS acknowledged that one impact of the reservoir will be a significant reduction in the mule deer herd in this area. As part of the mitigation measures, an additional 720 acres of land adjacent to the reservoir project area has been purchased and dedicated as a wildlife preserve. In the course of meeting wildlife needs, the additional mitigation land is intended to reduce wildlife forage impacts on private land in the area.

(Note: As further (offsite) mitigation approximately 9,500 acres of Federal land near Strawberry and 970 acres of Federal land near Deer Creek Reservoir will be transferred to the Forest Service or State Division of Wildlife Resources to be managed for wildlife.)



Other wildlife habitats in the area include bald eagle nesting along the north shore of the Rock Cliff area, Sage Grouse strutting areas northwest of the North Arm. It is not expected that recreational development will adversely affect these habitats significantly. Several snake dens in the area will be relocated as a part of the project. As additional mitigation for wildlife impacts, the EIS prescribed that the entire Jordanella area outside of the three recreation sites be managed for the benefit of wildlife habitat.

This suggests that recreation development should be concentrated in well-defined centers, with large areas left undeveloped and protected for wildlife. Federal and State wildlife agencies have expressed concern that, even within recreation development areas, design should be sensitive to any natural wetlands or stands of vegetation which may be of benefit to the wildlife.

The concern for wildlife is not just with wildlife agencies. The general public also places a high value on wildlife considerations. In the public meetings held to date a sentiment has been expressed for wildlife preservation.

At the same time, there is strong public interest in a trail system, and access to camping, on the west and north sides of the reservoir - impacting the important wildlife area between the two arms.

These two potentially conflicting objectives need to be carefully addressed.

There is concern from wildlife officials that human encroachment into the area between the two arms, without significant controls, will create an additional adverse impact on wildlife, especially the mule deer, elk and non-game populations. Alternative 2 proposes a trail in this area, for non-motorized use - with significant restrictions on the period the trail is open for use. If such a proposal is accepted, it may require that additional mitigation land be set aside, or other on-site mitigation practices implemented.

### SOILS ARE ONLY A MODERATE

## CONSTRAINT

The soils around the reservoir are cobbly clay loams with greater and lesser amounts of clay. The chief constraints for recreation development are related to the steepness of the terrain and the resulting potential for erosion. There are numerous construction practices that can significantly reduce erosion on moderately steep slopes. Roads, active facilities or campgrounds should be avoided on steep slopes. Trails can be developed on steep slopes, but only with great care and increased construction cost.

It should also be noted that along the shoreline of the reservoir wave action and water currents will tend to wash away the fine loam and clay particles in the soil, which will leave a cobbly shoreline. This is not unlike other reservoirs in the area, but the result is not particularly attractive visually, and beaches must be man-made.

## WATER QUALITY CONCERNS WILL REQUIRE TOTAL CONTAINMENT AND OFF-SITE SEWAGE TREATMENT FOR MAJOR RECREATION AREAS

A great concern has been expressed by the JTAC and the Central Utah Water Conservancy District to maintain the highest possible water quality standards in the region's reservoirs. Strict development standards have been implemented in the region to prevent nutrients from reaching the water in order to avoid the cycle of algae blooms and other problems that result from general and point discharges of nutrients (e.g. sewer outfalls and runoff from feedlots or fertilized lawns).

The closeness of recreation facilities to the reservoir precludes the use of septic systems. As a result, the highest use areas (Hailstone and Rock Cliff) will require sewage treatment. The two nearest sewage treatment connections are in Heber City six miles to the south, and 2 miles east in the small town of Francis. The sanitary

facilities at trail heads and smaller use areas (Rose Creek, Crandall Point) will require self-contained composting toilets.

## THE LAKE SURFACE WILL FLUCTUATE SIGNIFICANTLY

The primary purpose of the Jordanella Reservoir is water supply. It will store water during wet years and wet seasons for release during dry ones. It is also designed to retain water during flood periods for later release. As a part of a much larger system of reservoirs, Jordanella is intended to function so as to reduce the fluctuations in other reservoirs in the system. Twelve reservoirs in the headwaters of the Provo River will be stabilized as a result of Jordanella, improving the recreation, fishing and aesthetic qualities of those reservoirs.

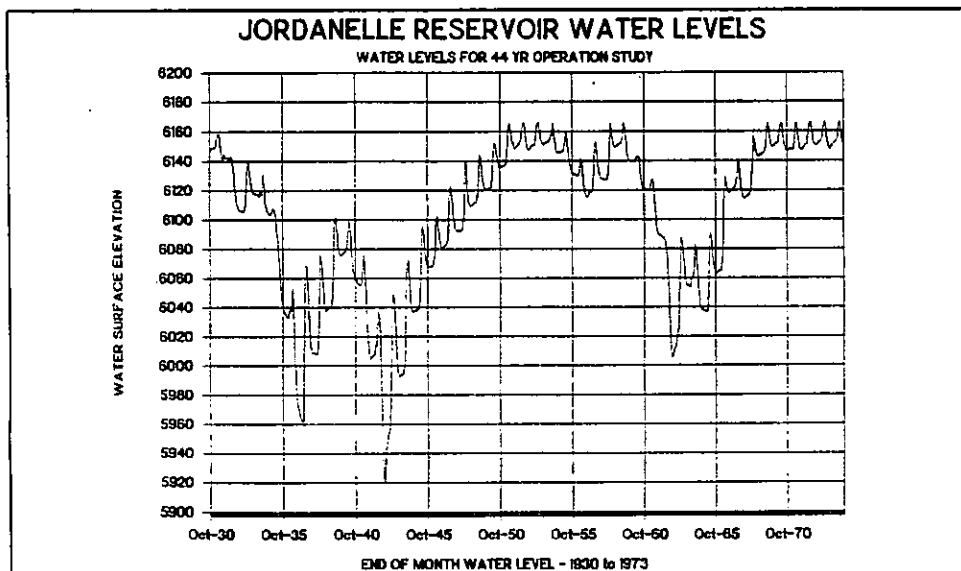
As a result, the Jordanella has been designed to fluctuate. How much will the Jordanella fluctuate? Since it is difficult to predict very long-range climatic conditions, to answer this question the Bureau of Reclamation engineers have projected backward 44 years, calculating reservoir water usage had the Jordanella been in existence. The following chart shows the reservoir water levels that would have existed over that period of time.

The average annual fluctuation is approximately 30 feet, more than for most other reservoirs in the area. The maximum water level change expected is approximately 260 feet the height of a 26 story building. Notwithstanding, the chart indicates that the lake will be relatively stable at or above its average level for periods of 15 to 20 years. There will likely be shorter periods when the lake will experience great fluctuations.

The obvious design challenge is to provide facilities that can remain functional through the majority of these annual and cyclic fluctuations. For example, to accommodate a possible 100-foot change in water level, the marina proposed for the Hailstone area must be designed to move laterally about 700' (longer than 2 football fields). There will be additional design considerations to accommodate monthly and yearly fluctuations. Boat ramps on the Jordanella will be significantly longer (and more expensive) than on other reservoirs.

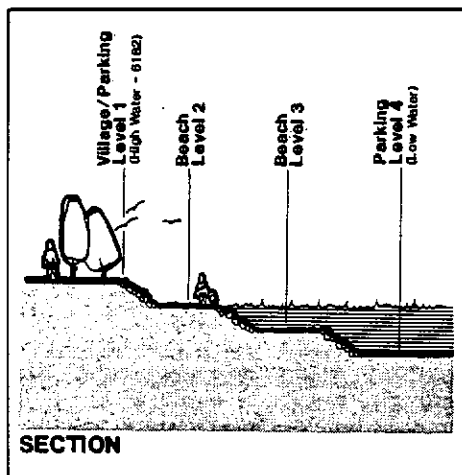
Rather than a single beach, in order to provide reasonable walking distances, a number of beach terraces will be required, perhaps each with its own parking area. At any point in time, there may be several beach/parking terraces above the water level, and some may be inundated. Siltation on those terraces below water will require additional maintenance to clear them when they emerge. Given the soil conditions and examples from other reservoirs in the area, the shoreline fluctuation may cause an unsightly band of cobble to appear any time the water level drops below optimum. These will not be suitable beaches, and sand will have to be imported.

Not only do facilities need to accommodate a significant change in shoreline, but the actual size and shape of the lake itself will vary greatly under different water level conditions. With a severe drop in water level the large open water area in the north end of the North Arm will disappear altogether, and the peninsula extending south



Jordanella Water Level Fluctuations (Projected)





Beach Terraces to Accommodate Water Fluctuations

east from Hailstone will emerge and create a division of the reservoir active water area.

At Rock Cliff Recreation site, at the end of the east arm and because of its flatter valley, the shoreline could move over a mile horizontally. This will make water-related facilities extremely difficult in this area.

As a result, it will be important to also provide significant non-water-based recreational amenities as alternatives and complementary attractions to the water-based facilities on the Jordanelle. To be successful in all seasons and all years, the Jordanelle must have a balance of water- and non-water-based facilities.

## CONFLICTING USES NEED TO BE REGULATED

A significant concern identified by the public is to minimize user conflicts at the Jordanelle. Below are listed potential conflicts that have been identified. Also noted are ways the Alternative Plans propose to resolve those conflicts (see Master Plan section following for more detail). Some of the issues are also addressed in the policy section of this report.

### Conflicts between water users:

- power boat/water ski
- sail
- fishing
- sailboarders
- jet skis
- pleasure boating
- swimming
- quiet water boating (canoe / kayak)

Both alternatives propose that various kinds of boat uses will be given priority in designated areas of the reservoir. For example, one area of the reservoir would be given priority for wakeless boating, another would be designated as an active area for all kinds (and speeds) of boating. Perhaps more than other reservoirs, the irregular shape of the Jordanelle allows a fairly distinct demarcation of use areas.

### Conflicts between camping types:

- RV (recreational vehicle)
- car campers
- group camp areas
- primitive (hike-in) tent camping

Separate, specifically-designated campgrounds are proposed. In the three primary areas, separation will be provided by land forms and vegetation (existing and/or introduced).

### Conflicts between trail users:

- hiking/jogging
- equestrian
- mountain bikes
- OHV (off-highway vehicle)
- wildlife (sage grouse, raptors, big game)

Only non-motorized trails are proposed within the Jordanelle State Park. OHV uses will be referred to OHV areas near Francis and in the region. The non-motorized trails within wildlife areas will be open only during seasons posing the least conflict with wildlife.

## PARK MANAGEMENT

It was originally anticipated that Utah Parks would manage the entire State Park, but which was to include only three recreation sites. Prior to the development of the Preliminary Master Plans Utah Parks and the Bureau of Reclamation entered into such a management agreement.

The expanded recreation facilities envisioned under Alternative 2 will require a much larger management commitment. Ideally the entire area, including the 720-acre wildlife preserve, should be managed as a single entity. Under this scenario Utah Parks is still the appropriate agency to manage the whole reservoir area, but this expanded responsibility will likely require a reassessment of their agreement with the Bureau of Reclamation.

## A DETAILED LOOK AT THE MASTER PLAN ALTERNATIVES

### ALTERNATIVE 1 - RECREATION RESTRICTED TO THREE SITES

Alternative 1 would include recreation development within the three areas originally designated in the EIS: Hailstone, Rock Cliff and Ross Creek. Shoreline day use areas and shoreline camp sites are also proposed because they are confined to areas below the high water level and will not have a significant impact on wildlife. A trail system, approximately 10 miles in length, is proposed to link Ross Creek to Hailstone and to the area below the Jordanelle Dam. This trail system is felt to be within the commitments of the original EIS. The only wildlife mitigation land in this alternative is the 720 acres that will be set aside north of Rock Cliff area.

### ALTERNATIVE 2 - EXPANDED RECREATION DEVELOPMENT

Alternative 2 would include all of the facilities proposed in Alternative 1, and adds the Crandall Point hike-in camping area, a recreation development on the Sorensen Property, a hike-in camp area on the west side of the North Arm, and additional trail linkages between Ross Creek and Rock Cliff and between Rock Cliff and the area below the Jordanelle Dam (completing an approximate 27 mile loop trail system around the reservoir).

Additional rights-of-way are proposed to be acquired for access from nearby roads to the north/east and south shorelines. Additional wildlife mitigation lands north of the Jordanelle East ARM are also proposed in this alternative.

Because it exceeds the scope of the original Jordanelle EIS, Alternate 2 will require at a minimum that an Environmental Analysis be conducted (which could take 6 to 9 months) to determine the impacts of additional recreational development on wildlife and wetlands within the Jordanelle project area. If there is a finding of significant impact, an EIS would be required, which could take 1 1/2 to 3 years to complete.

## HAILSTONE

### The Central Recreation Village

The Hailstone recreation site is located on the west shore of the North Arm. Due to its relatively flat terrain and proximity to the major highway interchange on U.S. 40, this site lends itself to easy vehicular access and the highest concentration of use.

As the primary recreation area of the park, the Hailstone area is envisioned to have a wide variety of recreation opportunities - to appeal to both Utahns and out-of-state visitors to spend multiple-day vacations in the area. Both water- and non-water-related activities are proposed. All facilities are proposed to be of a higher quality than currently typical of other state parks in Utah. The restaurant, convenience store, bait shops, etc. would be clustered into a village (with consistent architectural character) that orients toward a marina as the focal point. Large irrigated turf areas, and extensive tree planting are also envisioned.

The marina would be located on the north side of the Hailstone, in a protected cove. Experience at other reservoirs suggests that a membership club approach to the marina appears to have the best potential to attract a strong demand and a provide quality facility.

The south side of the major peninsula would be devoted to terraced beaches. A park would be developed to take advantage of, and protect, the wooded area of McHenry Canyon at the west end of the beach area.

Although a buffer is proposed to separate Hailstone from adjacent private development, with appropriate planning an interconnection with the Mayflower and/or Royal Street developments could be realized. Private companies would likely be allowed to run many of the facilities under a concessionaire agreement with Utah Parks.

The following list identifies the activities and uses being proposed at Hailstone:

- Single Point of Entry (gate)
- Entry Feature/Consistent Design Theme
- Restaurant
- Concessions / Bait Supplies
- Convenience Store
- Marina (75 slips - 50 for potential membership club, 18 short term public, 8 Park staff)
- Boat Rental (All Kinds)
- Boat Ramp (10 Lanes)
- Jet Ski Ramp Access Only (1 Lane)
- Dry Boat Storage
- Fish Cleaning Stations
- Interpretive Areas
- Trail Head/Showers and Linkage to Regional Trails
- Picnic/Camp Areas
- Golf Course (9-hole exec.)
- Outdoor Amphitheater
- Open Space (Irrigated)/Field Sports
- Beach/Swimming (multiple-level beaches)
- Shade (trees, shade, structures)
- Tennis
- Horse Stables
- Bicycle Rentals
- Ice Skating
- Tubing
- Ice Fishing (non-motorized access only)
- Cross-Country Ski Trails
- State Park Management Offices/Ranger Station

- Maintenance Yard
  - Sanitary Dump Station
  - Grading to expand Land Surface Area
  - Sewer Line connection to Hober (pending EPA and New US 40 ROW availability)
  - Water Line connection to available Springs
- Note: \* = Possible Concession Option

## ROCK CLIFF

### A Campground/Boating Facility on the East Arm

This secondary recreation site is located on the east end of the East Arm. It is proposed for fish boat access with parking areas and ramps that are exposed along the roadway as the water level fluctuates. Due to the public interest in camping, a large number of campsites will be developed in this area. The shady cottonwood groves of this site lends itself to separation of different camping uses and easy access to the river. Care must be taken to avoid development in wetland areas. The following list identifies the proposed uses for Rock Cliff.

- Single Entry Point - Ranger Station
- Trailhead/Showers
- 40 RV and 40 Tent Camping Sites
- Fish Cleaning Station
- Parking Areas
- Boat Ramp (existing roadway)
- Floating Dock/Shop\* (moveable on spud piers as

water fluctuates)

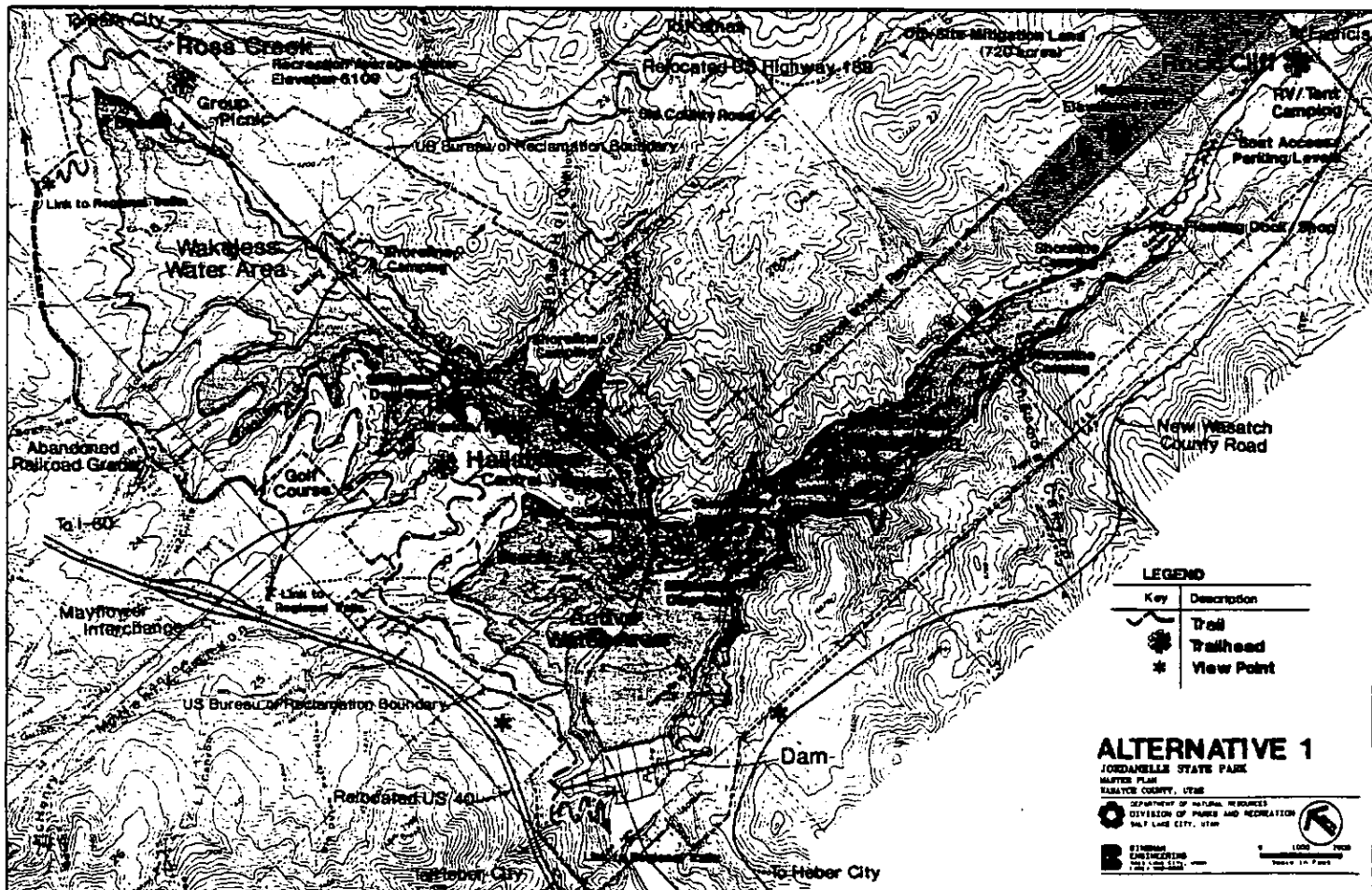
- Sewer Line connection to Francis (pending EPA)
- Water Line connection to Francis

## ROSS CREEK

### A Sailing Beach/Trailhead on the North Arm

This secondary recreation site is located on the east shore of the North Arm. It is proposed for wind boating activities, and group picnic areas. It will also serve as a staging area for recreational users to trails, hike-in camping, beaches and the unpaved old county road east of this area. The following list identifies the proposed uses for Ross Creek.

- Single Access Point - Ranger Station
- Trailhead
- Shower Facility (Gravel Drain Sumps)
- Access to Hike-In Camping
- Boat Ramp (existing road)
- Beach and Windsurf Prepping Area (multiple terraces)
- Group Picnic Area
- Parking
- Moveable Landbase Concession Stand
- Equestrian Staging Area
- Composting Toilets (no sewer connection)



- Water Line ties to abandoned line to upper Springs

## CRANDALL POINT A Hike-in Primitive Camping Area

This is a tertiary recreation site located above Hailstone on the west shore of the North Arm. It is proposed for limited access to the wakeless water area and primitive camping opportunities. Utilities could eventually be provided contingent on future private land development west of the Jordanelle. The following list identifies the proposed uses for the Crandall Point.

- Tent Camping 5 acres (not directly related to water edge)
- Limited Access Point
- Shade (tree planting)
- Water
- Composting Toilets

## SORENSEN A Possible Private Lease Recreation Area

As a part of the acquisition of the buffer zone around the reservoir, the Department of the Interior is presently considering a negotiated first-right-of-refusal lease for a recreation development with the owners of the Sorensen Property on the south boundary of the reservoir. The lease being contemplated would be for a period not to

exceed 50 years, with renewal.

The owners have only made a very general proposal to date - a lodge with support service facilities. The Bureau of Reclamation and Utah Parks have requested more detailed proposal in order to determine whether such a lease would be compatible with the purposes for which the Jordanelle State Park is being developed. The Utah Parks Board has indicated that it will also insist that any proposed development be assessed in an adequate NEPA (National Environmental Policy Act) document - an Environmental Assessment or an Environmental Impact Statement.

## TRAILS An Integrated Regional System Is Possible

Alternative 2 proposes a 27 mile trail system around the entire reservoir. The trail would be constructed with a rough finish grade to accommodate non-motorized/muscle power recreationalists such as mountain bikers, joggers, hikers and equestrian users.

The portion of the trail system that connects Rock Cliff to Ross Creek passes through a mule deer critical winter range area. As a result, in order to protect wildlife values, this trail section would be only open from June through October, and then only at the ranger's discretion. For most of the year the trail will be closed to public access.

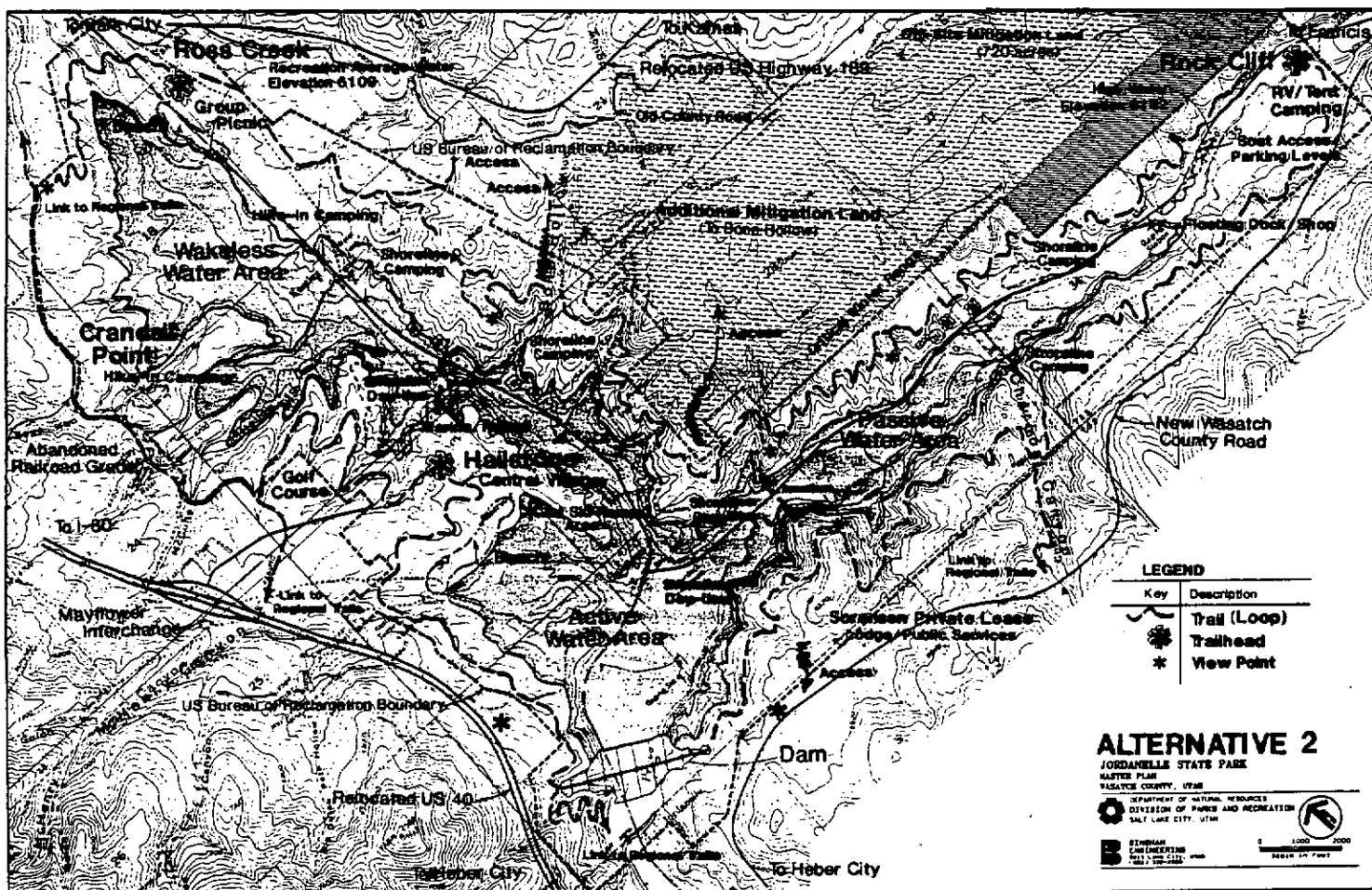
Along the trails in either Alternative will be view points, educational interpretive signs at appropriate locations, and water and restroom facilities at trailheads. The trail system will cross the Jordanelle Dam and also connect with the Rails-to-Trails system (on the Union Pacific right-of-way), with regional trails to other reservoirs, the old road to Kamas for (ORV's), the Mayflower Development and Wasatch Mountain State Park.

## SHORELINE CAMPING Camping Areas Accessible by Trail or Boat

Unique camping areas are proposed on the east and north shorelines of the reservoir. They will be accessible by boat (boat rental available at the marina) or by trail if the east side trail system is approved. Water supply may be available from nearby springs. Composting toilets are envisioned. Service and supervision would be provided via boat by Parks staff.

## WATER USE DESIGNATIONS Priorities on Designated Areas

The 3,000-acre surface area of the Jordanelle is proposed to be separated into three water-use designations. All water users will have access to any water area but with an understanding that the designated use has



priority. This management approach is in response to public water use conflicts which are experienced on other reservoirs. The configuration of Jordanelle creates areas separated by natural physical gateways. There are day-use beaches and shoreline camping areas within each water use area.

### Wakeless Water (North Arm)

The north arm of Jordanelle has characteristics which cause it to be suitable for windsurfing, sailing, swimming, fishing and motorboat (wakeless speed). Due to the limited inflows of tributary streams the water in this area will remain more stagnant and less desirable for flushing of motorboat gas/oil deposits. The shoreline slopes are gentle and relatively flat, creating desirable areas for deep beaches and warmer water temperatures. This area is in alignment and open to the directional winds created by Provo Canyon which are desirable for sailing and surfing. This section of the reservoir will also provide a warm-water fish habitat.

### Active Water (Center)

The center (elbow) area of the Jordanelle is felt to be suitable for motorboats (regulation speed), water skiing, jet skiing (course), swimming and fishing. This area provides wide areas for turning and racing at higher speeds as well as higher noise levels. The steep slopes will maintain opportunities for deep waters as water levels fluctuate. A 3,000-foot wide gentle south-facing slope at the Hailstone site will create a major beach area (no boat access). It would be anticipated that as the water levels lower, the fish habitat will move to this central active water area which is the deepest part of the reservoir.

### Passive Water (East Arm)

The east arm of Jordanelle has characteristics which lend themselves to motorboat pleasure-cruising (minimum speed), rowing, canoeing, kayaking, swimming and fishing. The in-flow of the Provo River will create significant cold fresh-water habitat for fish as well as a natural flushing of boat gas/oil deposits. The steep slopes the canyon and scenic terrain will require a sensitivity to noise levels, yet provide dynamic opportunities for pleasure-boating.

## POLICIES

A part of the master planning process is to begin to establish policies for its development and ongoing operation. These policies will provide limits and clear understanding of the goals and objectives of the State Park. The following policies are proposed for further discussion and determination in the next phase of development of the Jordanelle Master Plan.

- 1 - The detail design, development and management of the Park will be subject to the Wasatch County review process (including review by the JTAC and JRAC) to ensure compliance with regional environmental and water quality standards as well as commitments which have evolved out of the master planning process.

- 2 - Public education and awareness of wildlife values and protection of environmentally sensitive lands (public and private) will be an integral part of the mission of Jordanelle State Park staff. It will be fostered through brochures, presentations and graphics throughout the Park. It will be coordinated with cooperating State agencies, and volunteer groups. This educational effort would also extend to awareness of how those values influence park use and operating procedures (trails in wildlife areas, designated water areas, etc.).
- 3 - Wherever possible, private enterprise be encouraged to provide services within the Park, on a concessionaire basis, which cannot be provided efficiently by Utah Parks.
- 4 - As managers of the Park, Utah Parks is charged with the responsibility to assure that a wide range of quality recreation facilities and activities are available to the public in the most cost-effective manner possible.
- 5 - To assure the highest possible success, the design of facilities built with public funds shall be closely coordinated between Utah Parks and potential concessionaires.
- 6 - In accordance with the EIS the reservoir boundary will be fenced in a manner which will allow safe crossing for large game wildlife.
- 6 - Additional mitigation will be provided for significant impacts beyond those identified in the Jordanelle Environmental Impact Statement.
- 7 - No OHV's use or related activity will be allowed within the Jordanelle State Park.
- 8 - Water-related facilities will be designed for a low water of elevation 6075 and high water elevation

6182.

- 9 - A fishery plan should be devised for Jordanelle which identifies the types of fish to be planted in the reservoir and where there most promising habitats will be located.

## HOW MUCH WILL IT COST?

The purpose of this master plan was to identify the full range of desired and possible recreation uses for the Jordanelle Reservoir State Park, to see which of them can be accommodated physically and environmentally within the constraints of the site, and then to develop a program for implementation. Balancing cost and budget are obviously an essential part of implementing the plan.

Very preliminary order-of-magnitude estimates of the plan described above suggest costs in the range of \$15 million to \$20 million. This assumes that a number of the commercial facilities are built by private concessionaires.

The current Bureau of Reclamation budget is approximately \$12 million. Among the important decisions that must now be made are whether to reduce the scope of the project to meet the budget, to seek additional funding sources, or to build the project in phases as future funding may permit.

As you attend the public meetings, or send in written comments (such as the form below), we would appreciate knowing your thoughts and feelings on this and any other issues you think should be considered in the final Master Plan for the Jordanell State Park.

### WE NEED YOUR HELP

The Bureau of Reclamation and Utah Division of Parks and Recreation have the ultimate responsibility to make final decisions about the Master Plan. They earnestly seek your suggestions and insights in making these decisions. If you are unable to attend the public meetings, your are invited to fill out the form below or send in any other comments.

Elements that I think should be given the highest priority in the final Master Plan (please give priorities):

Priority	Elements
_____	_____
_____	_____
_____	_____
_____	_____

Elements that I think should be given the highest priority in the final Master Plan (please give priorities):

Priority	Elements
_____	_____
_____	_____
_____	_____
_____	_____

Please Return by Sept. 1 To: Department of Natural Resources  
Division of Parks and Recreation  
1636 West North Temple, Suite 116  
Salt Lake City, Utah 84116-3156

N.

## Soils Summary

# JORDANELLE STATE PARK MASTER PLAN

## Soil Types Summary

The information for the soil summary is taken from the Soil Survey of Heber Valley Area, Utah - Parts of Wasatch and Utah Counties (Issued April 1976). Additional information regarding suitability for roads, etc. are available in the survey document.

Note: Soil type information for camp, picnic areas, paths and trails is taken from Table 6 of the Heber Valley Area survey document. This information indicates the limitations of soils for these land uses. (Soils that have slopes of more than 25 percent have severe limitations for camp, picnic areas, paths and trails and are not listed)

### Soil Type and Description

#### Broadhead Series

Loam with some sandy clay  
Broadhead in the concave slopes  
Little Pole soils on the ridges

(BPC) Broadhead-Little Pole Association, moderately steep  
Location: Rolling mountain areas mantled with glacial drift  
6 to 15 percent slope  
Runoff is medium  
Erosion is slight  
Wildlife Group 4343

Soil Type(BPC)	Camps and Picnic Areas	Paths and Trails
Broadhead soil	Moderate: slope	Slight.
Littlepole soil	Severe: cobbles	Severe: cobbles

(BPD) Broadhead-Little Pole Association, hilly  
Location: Mountain areas mantled with glacial drift  
6 to 25 percent slope  
Runoff is slow to medium  
Erosion is slight to moderate  
Wildlife Group 4343

Soil Type(BPD)	Camps and Picnic Areas	Paths and Trails
Broadhead soil	Severe: slope	Moderate: slope
Littlepole soil	Severe: cobbles	Severe: cobbles

(BPE) Broadhead-Little Pole Association, steep  
 Location: Mountainsides mantled with glacial drift  
 25 to 40 percent slope  
 Runoff is medium to rapid  
 Erosion is moderate to high  
 Wildlife Group 4343

(BPF) Broadhead-Little Pole Association, very steep  
 Location: Mountainsides mantled with glacial drift  
 40 to 60 percent slope  
 Runoff is rapid  
 Erosion is high  
 Wildlife Group 4343

(BTC) Broadhead soils  
 Location: Alluvial fans and rolling terminal moraines  
 6 to 15 percent slope  
 Runoff is slow to medium  
 Erosion is slight  
 Wildlife Group 2141

Soil Type(BTC)	Camps and Picnic Areas	Paths and Trails
Broadhead soil	Moderate: slope	Slight.

(BTD) Broadhead soils  
 Location: Terminal moraines and alluvial fans  
 15 to 25 percent slope  
 Runoff is medium  
 Erosion is moderate  
 Wild Group 2141

Soil Type(BTD)	Camps and Picnic Areas	Paths and Trails
Broadhead soil	Severe: slope	Moderate: slope

## Soil Type and Description

### Fluventic Haploborolls

Loamy surface with gravel/cobbly subsurface

(FA) Fluventic Haploborolls

Location: Along stream bottoms

1 to 10 percent slope

Runoff is slow to medium

Erosion is slight

Wildlife Group 2131-I

Soil Type(FA)	Camps and Picnic Areas	Paths and Trails
Fluventic Haploborolls	Severe: shallow water table	Severe: shallow water table

## Soil Type and Description

### Henefer Series

Silt loam

(HHF) Henefer-Wallsburg Association, very steep

Location: Lower mountainsides

25 to 50 percent slope

Runoff is rapid

Erosion is high

Wildlife Group 4343

(HJC) Henefer soils

Location: Alluvial fans

6 to 10 percent slope

Runoff is slow

Erosion is high if irrigated

Wildlife Group 2141

Soil Type(HJC)	Camps and Picnic Areas	Paths and Trails
Henefer soil	Moderate: slope	Slight.

(HJD) Henefer soils

Location: Alluvial fans and toe of slopes

10 to 25 percent slope



Runoff is medium  
 Erosion is moderate  
 Wildlife Group 2141

Soil Type(HJD)	Camps and Picnic Areas	Paths and Trails
Henefer soils	Severe: slope	Moderate: slope

(HJE) Henefer soils  
 Location: Lower mountain sides  
 25 to 50 percent slope  
 Runoff is rapid  
 Erosion is high  
 Wildlife Group 3141

### Soil Type and Description

#### Horrocks Series

Cobbly sandy clay loam

(HWC) Horrocks-Broadhead Association, moderately steep  
 Location: Sloping or rolling terminal moraines of mountains  
 6 to 15 percent slope  
 Runoff is slow  
 Erosion is slight  
 Wildlife Group 2141

Soil Type(HWC)	Camps and Picnic Areas	Paths and Trails
Horrocks very cobbly sandy clay loam	Severe: cobbles	Severe: cobbles
Broadhead loam	Moderate: slope	Slight.

(HWE) Horrocks-Broadhead Association, steep  
 Location: Hilly to steep terminal moraines of mountains  
 25 to 40 percent slope, southern exposures  
 Runoff is rapid  
 Erosion is high  
 Wildlife Group 2141

## Soil Type and Description

### Little Pole Series

Very cobbly sandy clay loam

(LPD) Little-Pole Association

Location: Southerly mountainsides

6 to 25 percent slope

Runoff is medium

Erosion is moderate

Wildlife Group 4343

Soil Type(LP)	Camps and Picnic Areas	Paths and Trails
Little Pole very cobbly sandy clay loam	Severe: cobbles	Severe: cobbles

(LPF) Little-Pole Association

Location: Steep mountainsides

40 to 60 percent slope

Runoff is rapid

Erosion is high

Wildlife Group 4343

## Soil Type and Description

### Rasband Series

Coarse sandy loam

(RCC) Rasband Association

Location: Alluvial fans adjacent to irrigated valley

6 to 15 percent slope

Runoff is medium

Erosion is slight in non-irrigated, high in irrigated areas

Wildlife Group 2141 and 2141-I

Soil Type(RCC)	Camps and Picnic Areas	Paths and Trails
Rasband coarse sandy loam	Slight.	Slight.

### Wildlife Groups

Group Summaries: (see Soil Survey - Heber Valley Area, Utah , Table 5 for potential, by wildlife groups or elements and kinds of habitats)

2131-I	FA, RCC
2141	BTC, BTD, HJC, HJD, HWC, HWE, RCC
3141	HJE
4343	BPC, BPD, BPE, BPF, HHF, LPD, LPF

### Wildlife Group

### Potential for habitat elements

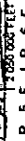
Wildlife Suitability Group	Grass Legumes Crops	Wild Plants	Hardwood Herb.	Conifer Trees	Shrubs
2131-I	poor	good	good	-	good
2141	fair	good	good	-	good
3141	v-poor	good	-	good	good
4343	v-poor	-	poor	poor	poor

HEBER VALLEY AREA, UTAH - SHEET NUMBER 2

R.4.E. | R.3.E.

(Joining sheet 1)





HEBER VALLEY AREA, UTAH — SHEET NUMBER 5  
R. & E. 18.5 E

5

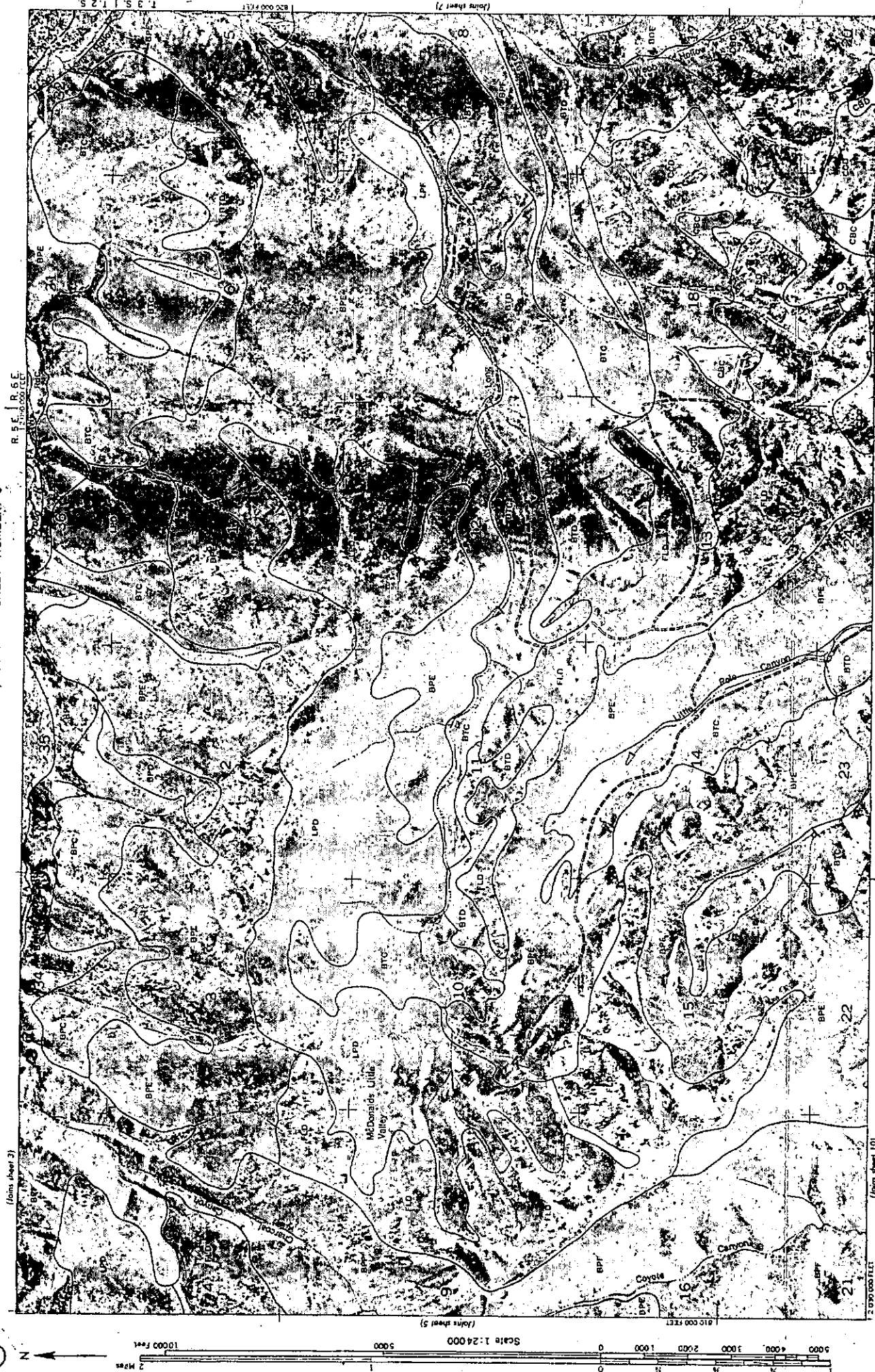


(Join sheet 2)

(Join sheet 4)

(Join sheet 9)





O. **Planning Process Charts and Public Displays**



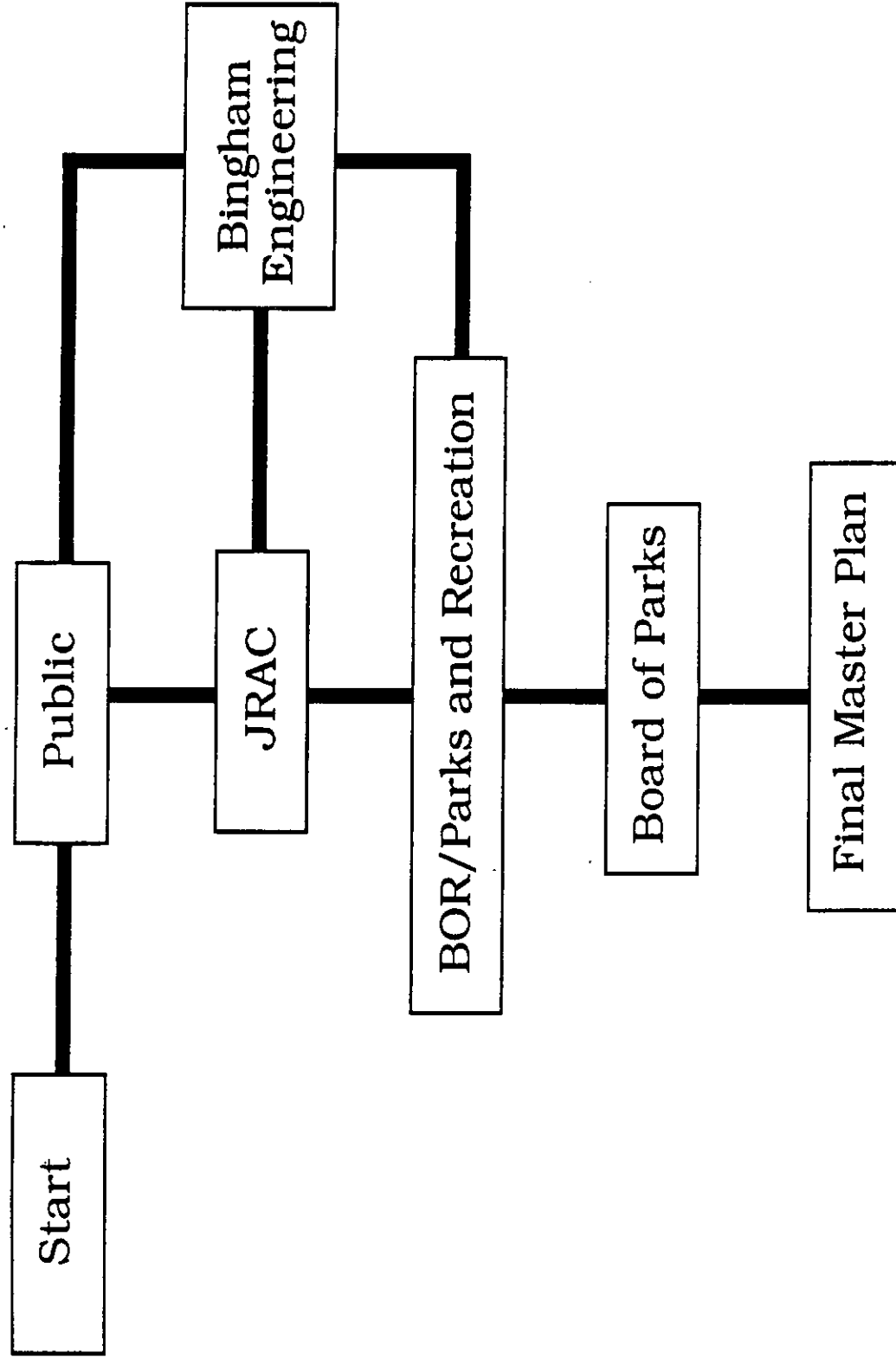
# Jordanelle Master Plan



Bingham Engineering

## Flow Chart

Jordanelle State Park Master Plan



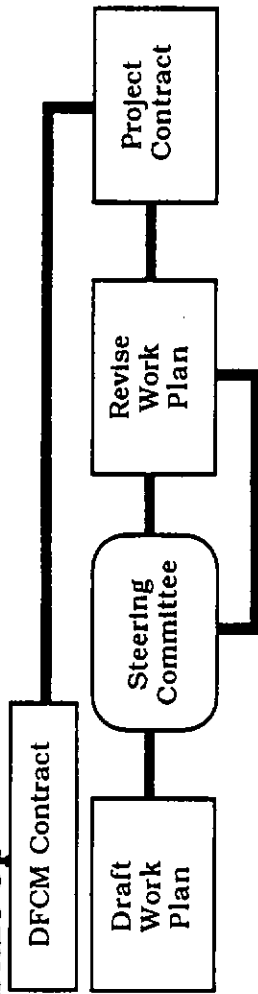
# Scope of Work

## Bingham Engineering

Jordanelle State Park Master Plan

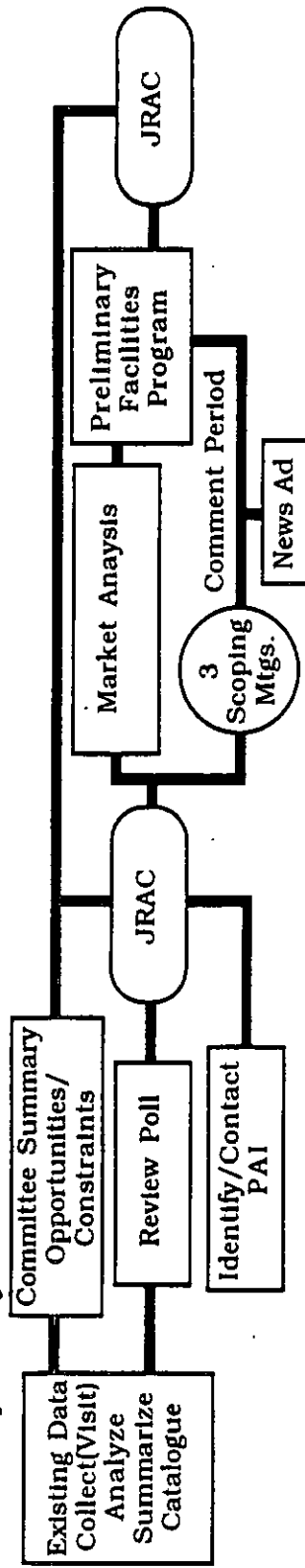
### Start Up

(15 April)



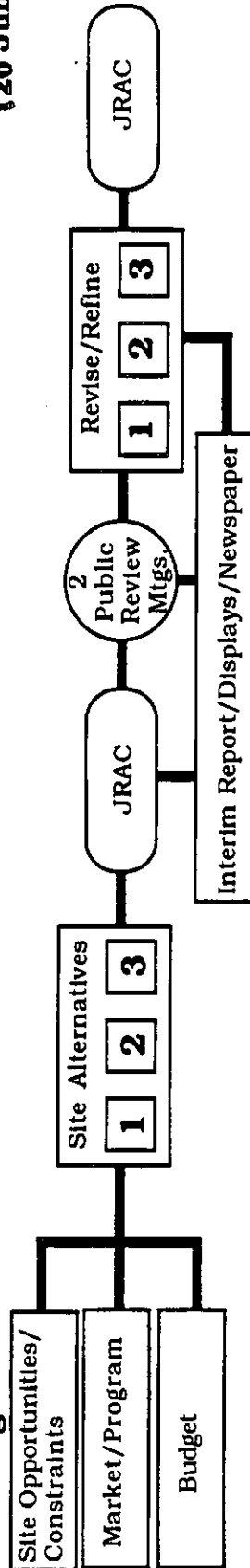
### Inventory Analysis

(5 May)



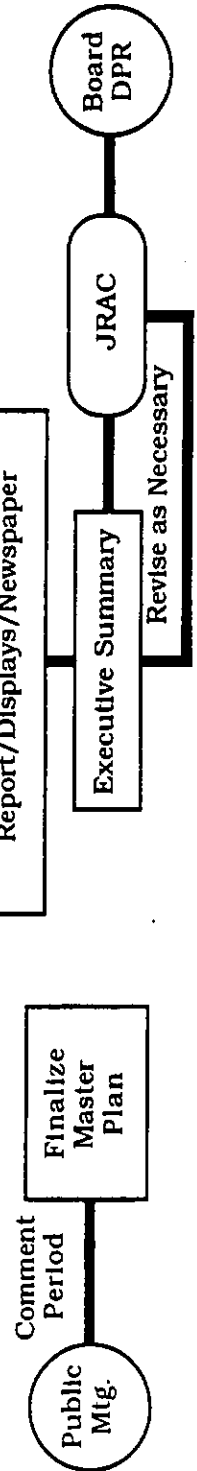
### Planning

(26 June)



### Final Report

(5 September)



(1 October)

### Agency

### Representative

Bureau of Reclamation ————— Fred Liljegen

Division of Parks and Recreation ——— Terry Green

Wasatch County ————— Bob Mathis

Summit County ————— Jennifer Harrington

Bingham Engineering ————— Bruce Maw/Dan Matta

# Interest Group Contacts



Jordanelle State Park Master Plan

- Heber City
- Heber City Chamber of Commerce
- Heber Valley Special Services District
- Snyderville Sewer District
- Wasatch County
- Wasatch County Soils Conservation District
- Park City
- Park City Chamber of Commerce
- Park City Lodging Association
- Summit County
- Wasatch Mountain Club
- Bicycle Utah
- Mountain Bikers
- Windsurfers of Utah
- Rowing Club
- Golfers Association
- Norwegian School of Nature Life

- Mountainlands Association of Governments
- Salt Lake Regional Trails Council
- Utah Horse Industry United
- Utah Travel Council
- Muscle Power Advisory Council
- Utah Boating Advisory Council
- Off Highway Vehicle Advisory Council
- Stone Fly Society
- Sorensen Development
- Mayflower Development
- Royal Street/Deer Valley Development
- Bureau of Water Pollution Control
- Central Utah Water Conservancy District
- Division of Wildlife Resources
- United Association of Community Councils
- Jordanelle Technical Advisory Committee

# Jordanelle Recreation Advisory Committee



**Bingham Engineering**

Jordanelle State Park Master Plan

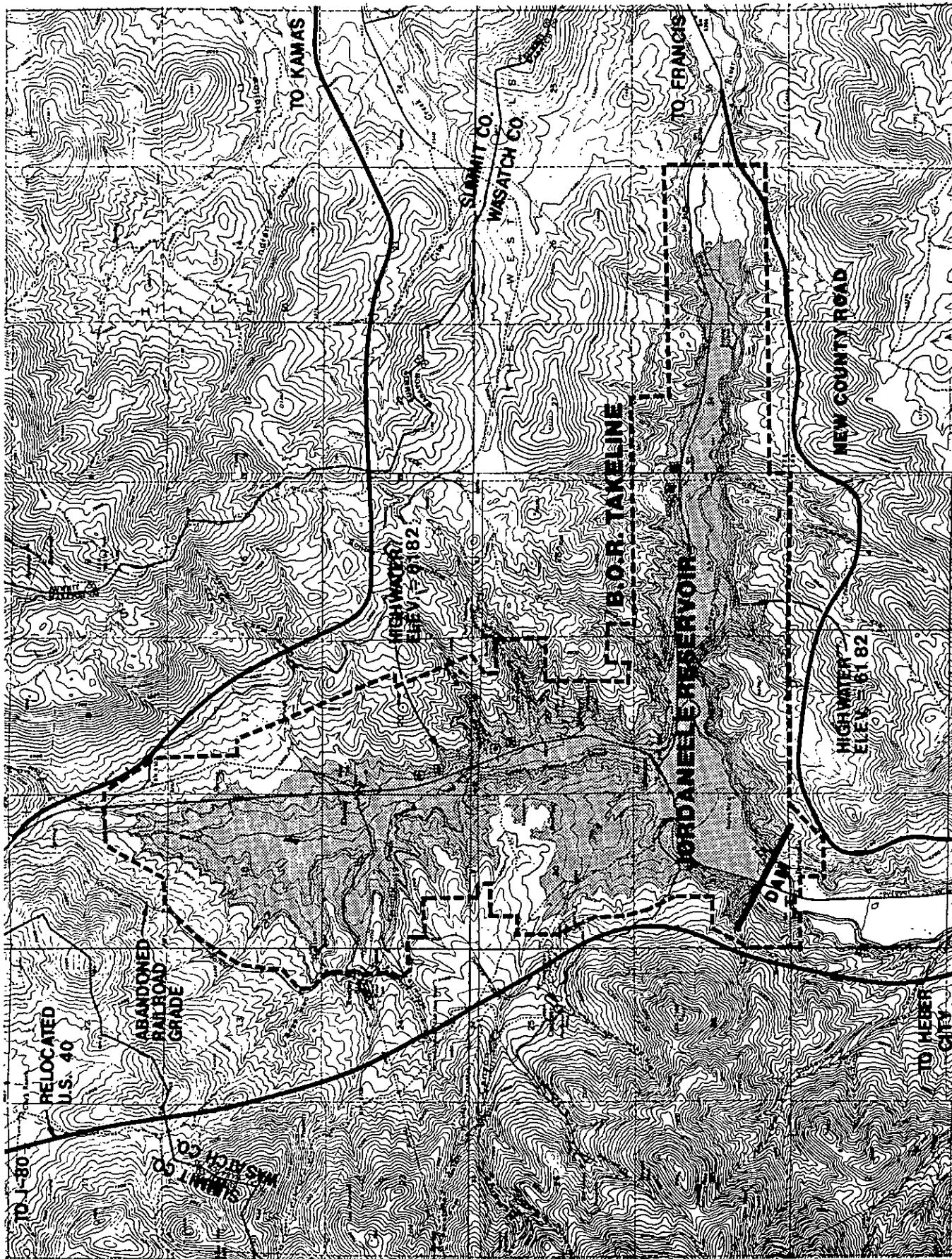
## **Interest Group Representation on JRAC**

- Heber City/Wasatch County
- Heber Valley Special Services District
- Wasatch County Soils Conservation District
- Park City/Summit County
- Bicycle Utah
- Golfers Association
- Mountainlands Association of Governments
- Salt Lake Regional Trails Council
- Utah Horse Industry United
- Utah Travel Council
- Muscle Power Advisory Council
- Utah Boating Advisory Council
- Off Highway Vehicle Advisory Council
- Stone Fly Society
- Sorensen Development
- Mayflower Development
- Bureau of Water Pollution Control
- Central Utah Water Conservancy District
- Division of Wildlife Resources
- United Association of Community Councils
- Jordanelle Technical Advisory Committee

- **Alternative 2 (preferred)**
- **Sewer Connection to Ross Creek**
- **Water Use Designation Expansion**
- **Additional Mitigation Land  
to be Acquired**
- **Single Concessionaire**
- **Delete RV Camping Use  
in Rock Cliff**
- **18 Hole Golf Course**
- **OHV Use on Old County Road**
- **UP&L Power Line Location**

- **Boat Ramp/Private Club Marina**
- **Regional Trail Connections**
- **US 40 View Area**
- **\*Private Development at Miller Point**
- **\*Services: Fire, Police, Garbage**
- **\*Shoreline Camping**
- **\*High Quality Development**
- **\*Management Entity**
- **Budget**

**\* = Issues Unresolved**



North

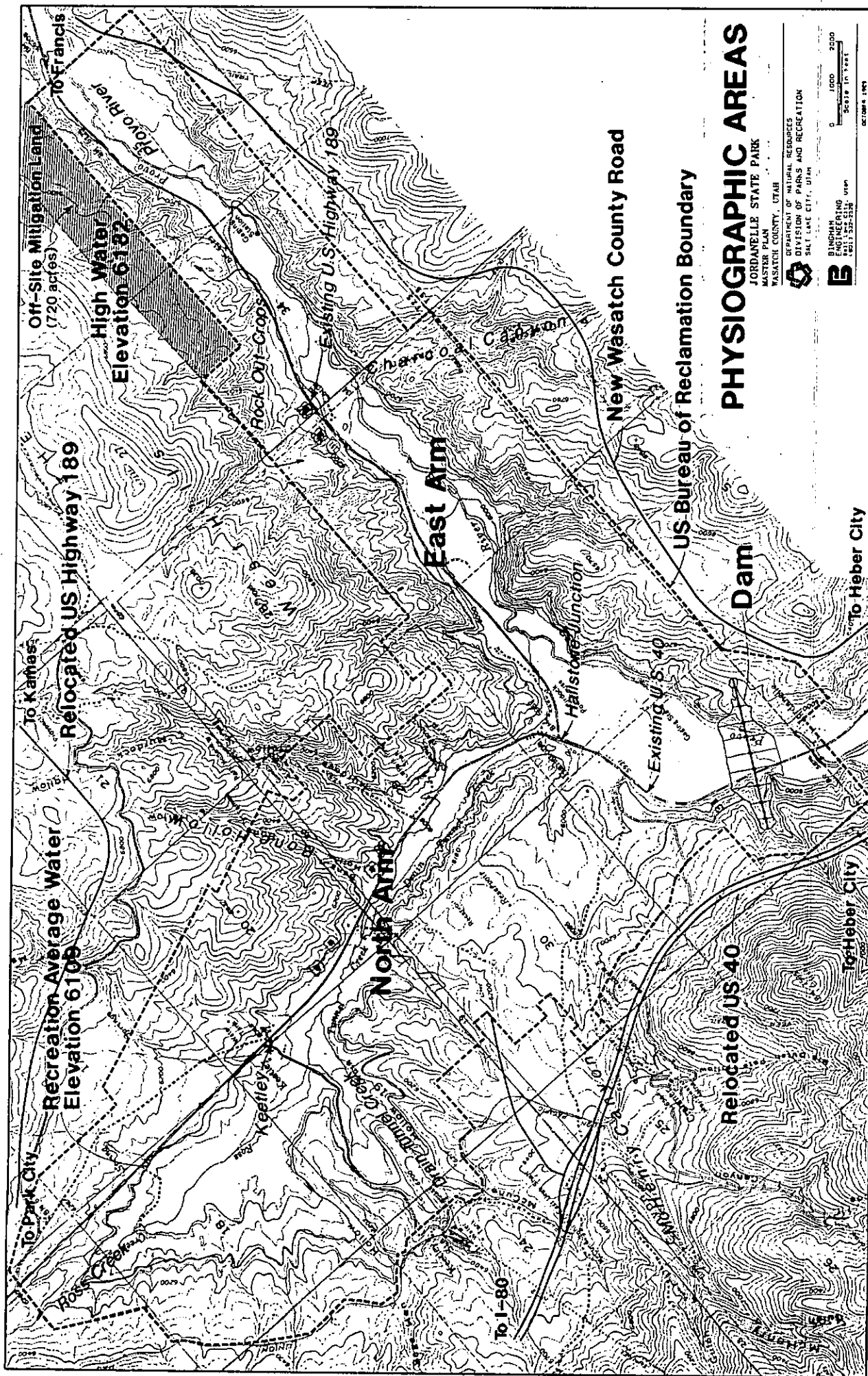
Scale (approx.) 1" = 4000'

# JORDANELLE STATE PARK

BINGHAM ENGINEERING

5/15/89





# PHYSIOGRAPHIC AREAS

JORDANVILLE STATE PARK

MASTER PLAN

DEPARTMENT OF NATURAL RESOURCES

DIVISION OF PARKS AND RECREATION

SALT LAKE CITY, UTAH

0 1000 2000

Scale in Feet

10/20/84, 1984

#1182

B BINGHAM

ENGINEERING

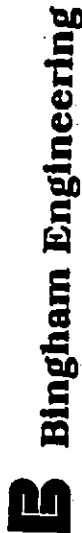
UTAH

TEL: 532-2528

FAX: 532-2528

P. Water Level Charts and Section

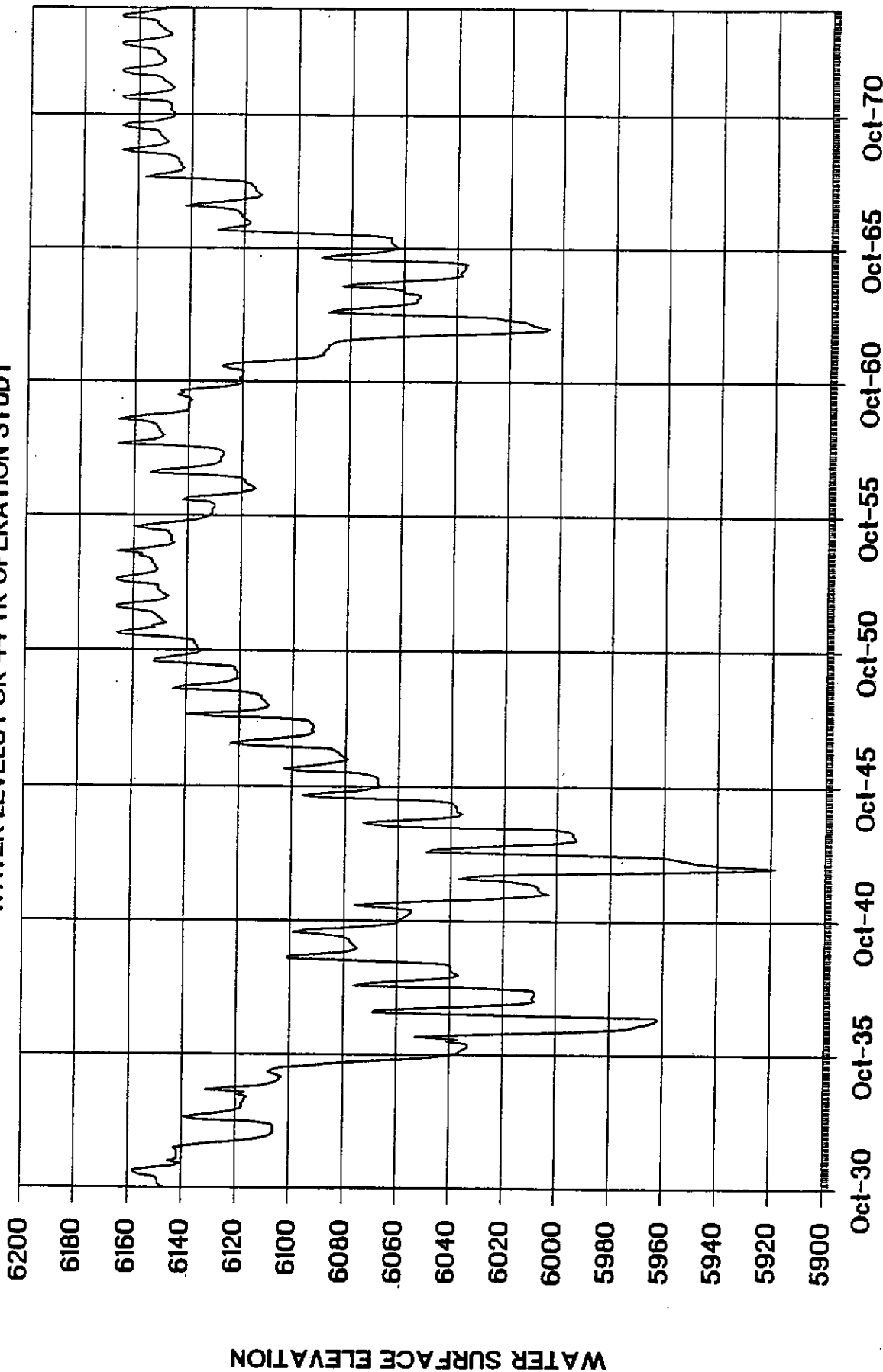
# Reservoir Water Levels



Bingham Engineering

Jordanelle State Park Master Plan

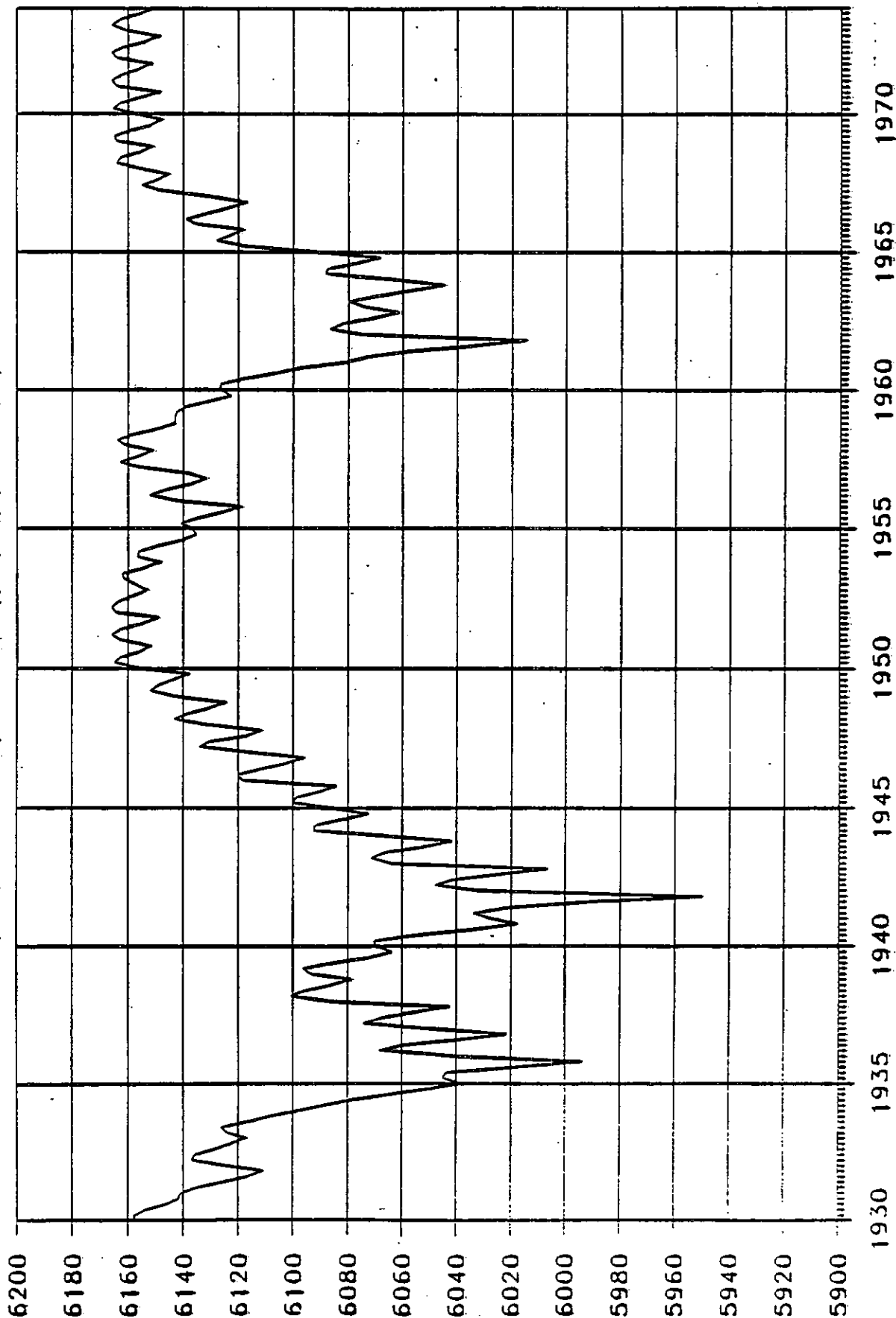
## WATER LEVELS FOR 44 YR OPERATION STUDY



END OF MONTH WATER LEVEL - 1930 to 1973

# JORDANELLE RESERVOIR WATER LEVELS

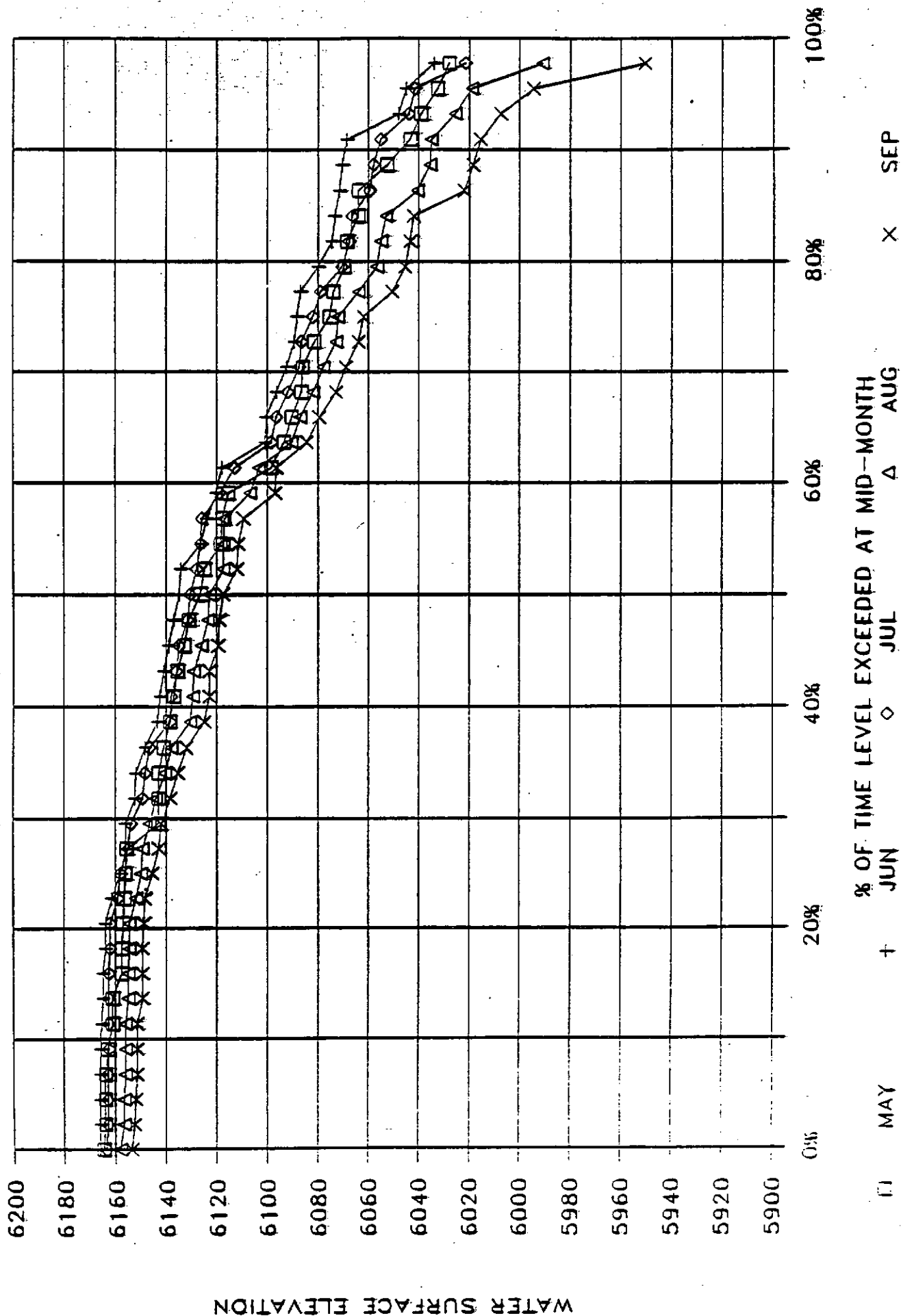
WATER LEVEL FLUCTUATIONS FOR REC. PER.



MAY 15 TO SEP 15 RECREATION PERIOD

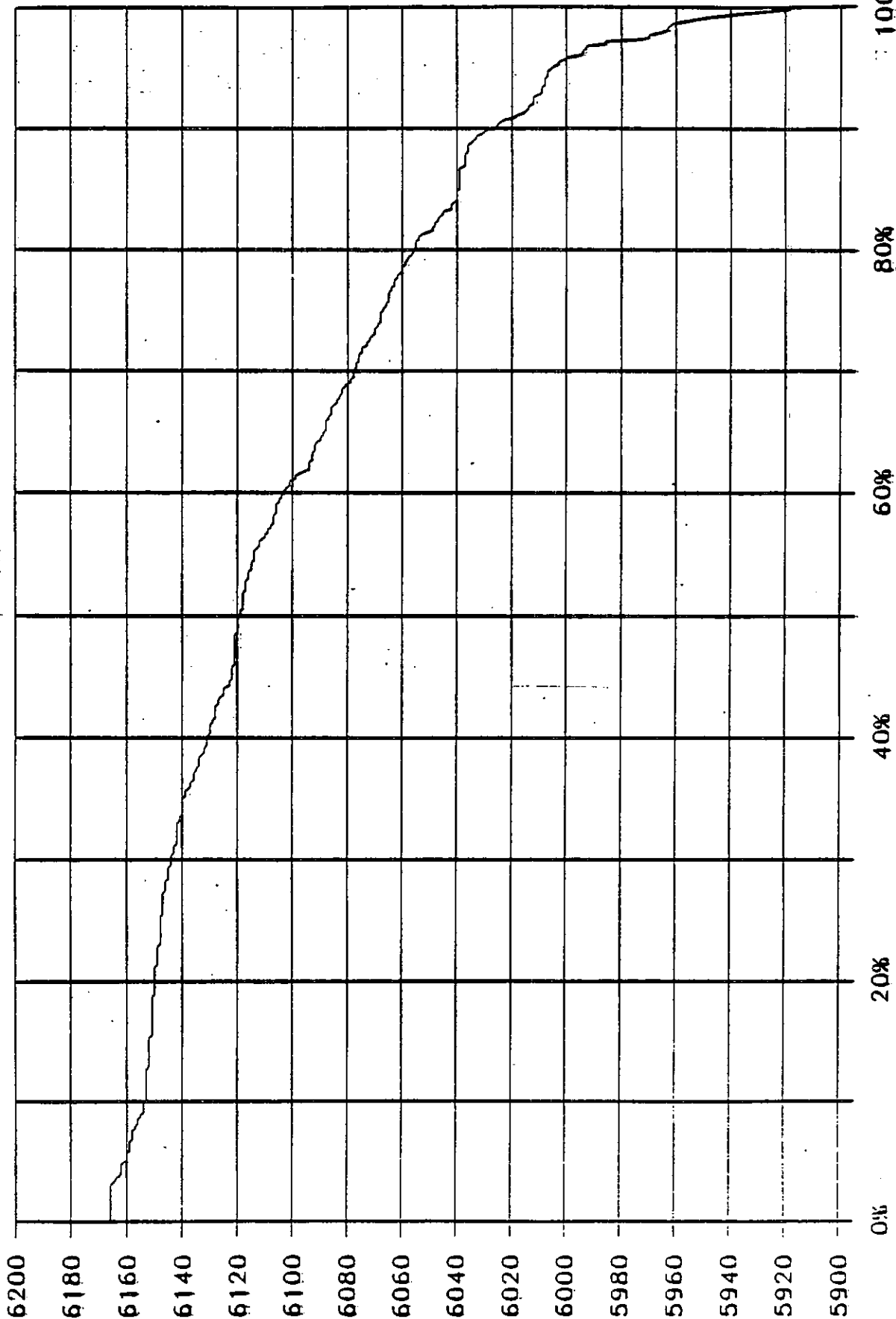
# JORDANELLE RESERVOIR WATER LEVELS

% OF TIME EXCEEDED - 44 YR OPER. STUDY



# JORDANELLE RESERVOIR WATER LEVELS

% OF TIME EXCEEDED - 44 YR OPER. STUDY



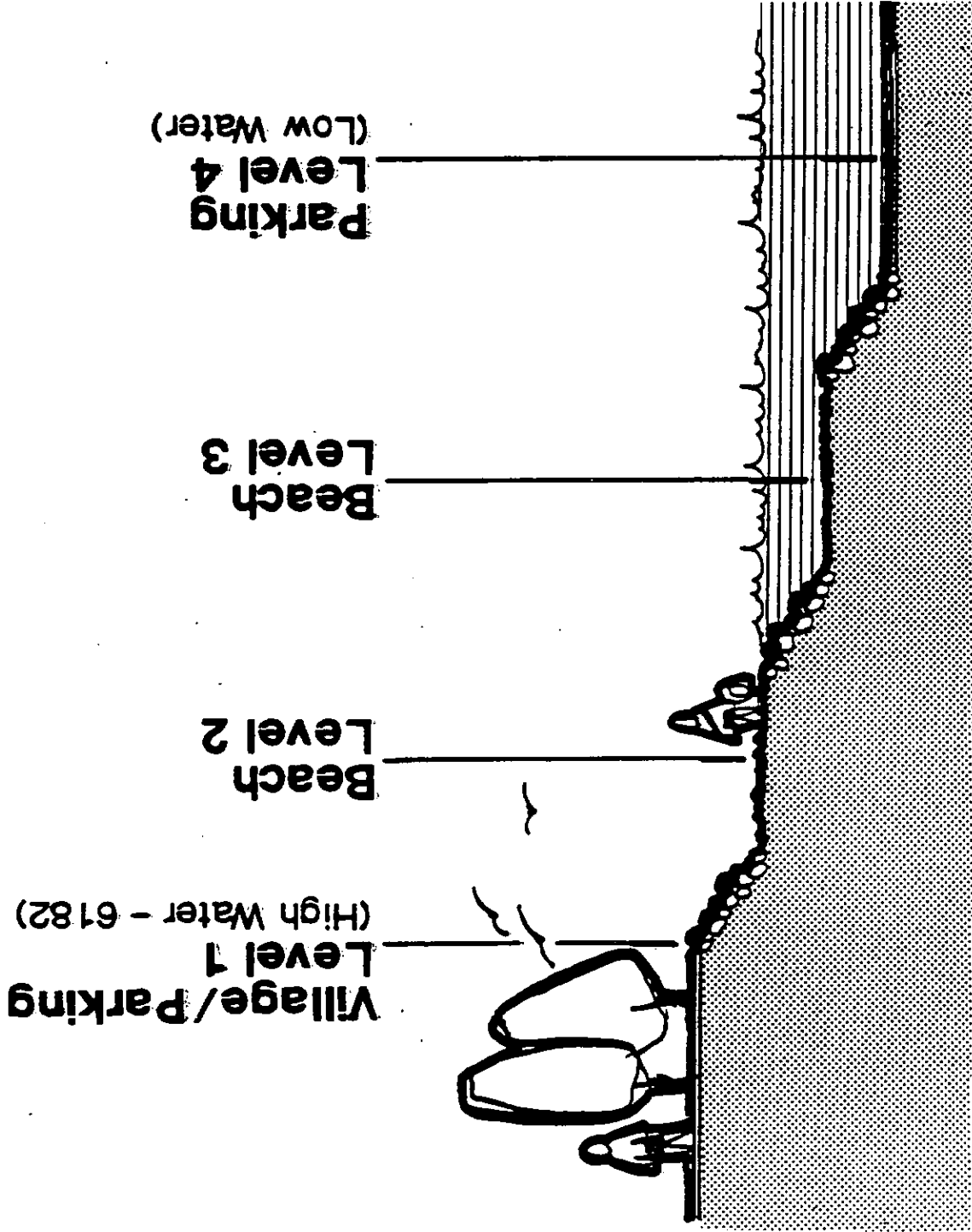
% OF TIME LEVEL EXCEEDED 44 YR PERIOD

WATER SURFACE ELEVATION

# Beach Terraces

**B** Bingham Engineering

Jordanelle State Park Master Plan



**SECTION** Beach Terraces to Accommodate Water Fluctuations

Q. **Letters/Correspondence - Public and Agencies**





Norman H. Bangert  
Governor  
Neal P. Stowe, A.L.A.  
Director

Department of Administrative Services  
DIVISION OF FACILITIES CONSTRUCTION & MANAGEMENT

4110 State Office Building  
Salt Lake City, Utah 84114  
(801) 538-3018

October 5, 1989

Mr. Bruce Maw, ASLA  
Bingham Engineering  
100 Lindbergh Plaza 2  
5160 Wiley Post Way  
Salt Lake City, Utah 84116

Dear Bruce:

Subject: Jordanelle State Park Master Plan  
DFCM Project No. NP:89-011

This is written to confirm our comments and suggestions made on the above plan during our meeting on Wednesday, 4 October 1989.

1. Cover Sheet. Include the Division of Facilities Construction and Management as one of the participants to the plan.
2. Title Sheet. Include Bingham Engineering address and telephone number.
3. Acknowledgments Page. Insert a page giving credit to personnel who assisted in the plan.
4. Insert Executive Summary after acknowledgement page.
5. Page 2. Third paragraph, change "Utah Parks" to "State Parks".
6. Page 3. Delete first paragraph. Include vehicle gates in fence where required.
7. Page 4. Last paragraph, change "Utah Parks" to "Division of Parks and Recreation".
8. Page 5. Delete 8th and 9th paragraphs. In 10th paragraph, change "is being" to "has been" and "Utah Parks" to "State Parks".
9. Move interim report to rear of plan under attachments.
10. Page 6. Under physical setting, mention Wasatch County.
11. Page 7. Delete last paragraph.

Bruce Maw, Bingham Engineering  
October 5, 1989  
Page 2

12. Page 8. Under adjacent land uses, clarify these developments as being on private land.
13. Page 9. Delete last paragraph.
14. Soil information. Move to rear of plan under attachments.
15. Page 10. Lake surface fluctuation. Change 4th sentence to read "twelve stabilized reservoirs in the headwaters of the Provo River will benefit Jordanelle by improving . . . ."
16. Page 11. Add "above mean sea level" to 6182.0 elevation.
17. Page 12. Move F-5 and F-6 to page No. 4.
18. Page 15. 4th paragraph. Clarify who is to control park.
19. Page 20. How will management control shoreline camping on east side of north arm?
20. Page 23. Delete 6th paragraph.
21. Board Policies. Delete unless requested by Parks and Recreation Board. Mention that policies are available in P & R office.
22. Page 26. Delete all but first paragraph.
23. Visitor print outs. Summarize totals and delete computer print out sheets.
24. Float dockage system. Page 02488-2 paragraph A-4. Change 100 boat slips to 75 as called for in plan. Good information included in this section.
25. Hearings section. Insert Title Page. Have hand-written illegible notes typed.

I understand the completed plan will not be published until after the approval of the Parks and Recreation Board during their meeting on 17 November 1989. The Department of Natural Resources is currently scheduled to give their presentation to the State Building Board on Friday, 3 November 1989. Sufficient copies marked "Final Draft" should be ready for that hearing. I suggest you print on both sides of the page to shorten the volume of the report.

Bruce Maw, Bingham Engineering  
October 5, 1989  
Page 3

The "Draft Copy" is very well done and you are to be complimented in a fine result of a difficult problem. Your handling of the hearings with the public was outstanding.

Sincerely,

A handwritten signature in cursive script, appearing to read "Dal".

Dal C. Allred AIA, Architectural Planner

jw

cc: Patrick Hayes  
Jim Soderberg  
Terry Green



Norman H. Bangerter  
Governor  
Dee C. Hansen  
Executive Director  
Timothy H. Provan  
Division Director

State of Utah  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF WILDLIFE RESOURCES

Northern Region  
515 East 5300 South  
Ogden, Utah 84405-4599  
801-479-5143

July 20, 1989

Mr. Bruce Maw  
Bingham Engineering  
100 Lindberg, Plaza 2  
5160 Wiley Post Way  
Salt Lake City, Utah 84116

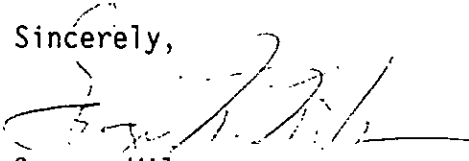
Dear Bruce:

As per our telephone conversation on July 19, 1989, I have briefly outlined our concerns with the existing wildlife mitigation plan for Jordanelle Reservoir. As we discussed in our meeting on July 17, 1989, our original mitigation plan was based on the assumption that recreational use within the project boundary would not reduce existing wildlife habitat values. However, the project currently proposed provides significantly more access for more activities. Given the reality that substantial secondary development will occur around the reservoir, additional access will create substantially more direct and indirect impacts to wildlife. In time, the only open spaces for wildlife will be those lands within the project boundary.

We see two options to create a mitigation plan which will provide for wildlife into the future. This would include (1) eliminating trail systems and activities which conflict with critical wildlife habitat areas, or (2) develop a managed trail system which would provide seasonal restrictions to minimize disturbance to wildlife during critical periods and provide additional mitigation lands to compensate for the impacts associated with the trail and/or activity areas. As for wildlife needs, option (2) would provide the best protection and security for maintaining wildlife as a component of the park system. The extent of additional lands needed should be evaluated by the U.S. Fish and Wildlife Services, Bureau of Reclamation, and the Utah Division of Wildlife Resources.

I hope this clarifies our concern with the project. If you need additional information, please contact me at 801-479-5143.

Sincerely,

  
George Wilson

GWW/ss



DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF PARKS AND RECREATION

Norman H. Bangerter

Governor

Dee C. Hansen

Executive Director

Jerry A. Miller

Division Director

1636 West North Temple, Suite 116

Salt Lake City, Utah 84116-3156

801-538-7220

4 August 1989

Mr. Dan Nelson, Director  
UDOT, District 6  
825 North 900 West  
Orem, UT 84057

Re: Modifications to current "non-access designation" for the new U.S. 40 near Jordanelle Reservoir (State Park, and Wasatch Mountain State Park), Wasatch County.

Dear Mr. Nelson:

As put forth by the Jordanelle Recreation Master Plan Steering Committee, and the Jordanelle Recreation Advisory Committee, we recommend several changes or modifications to the U.S. Highway 40 designation as a "non-access" highway. The current highway designation precludes needed access for pedestrian, bicycle, equestrian transportation, subsurface utilities, off-lane, but within the right-of-way. Master planning for private, commercial and public facilities may require multiple-uses of the highway corridor in this area.

Recent analysis of the proposed park and reservoir basin indicates the need for an overlook in the northwest quarter of Section 37 on the new U.S. Highway 40 near the dam. This may require the road, at least in this area, to be designated "limited access", if this is the proper nomenclature. There would only be access from the northbound lane, with appropriate acceleration and deceleration lanes, fencing, and signage.

BOR, State Parks, and Mayflower, et al, are in the process of assessing an alignment for the proposed sewer line that will service the western half of the basin. A slope stability study will be completed in the next three weeks to determine the feasibility and suitability of locating the sewer line below the highway (Bingham Engineering). A sewerline alignment upslope from U.S. 40 is economically prohibitive. If there is no feasible way to locate the line, we will request that the sewer line be located in the U.S. 40 right-of-way.

UP&L is also attempting to locate high wooden utility poles across the basin in the recreation area. Overhead utilities are prohibited in the recreation area. We are requesting that the lines be located underground (or relocated), and that the costs be borne by the BOR and private land owners in the area. The highway right-of-way would be an excellent alignment for the

power lines, reducing the amount of surface disturbance, visual intrusion, and location problems in the basin. Mayflower and others in the area, are recommending a similar location. UDOT has done an excellent job on the road coming into Park West and Park City from Kimball's Junction. The trail alignment will enhance the recreational and economical use of the area for years to come. Hopefully, this same design approach will be accommodated near the Jordanelle recreation complex.

Please advise us as to how we can expedite these design and locational recommendations. We expect full support from the counties, land owners, commercial developers, BOR, and other political entities.

Thank you for your consideration, and for providing assistance in this planning process. We appreciate the design consideration for the excavations in the dam site that will preserve natural amenities and make any near water-surface excavations useful for recreation and management of the state park. We agree that predesign of the material pits/excavations will preserve the recreational utility of the site, as well as the natural values.

Best Regards,

Tharold E. Green, Jr.,  
Coordinator  
Jordanelle Recreation Master Plan  
Steering Committee

cc: BOR, Utah Project Office  
Office of Planning and Budget  
George Wilson, DWR



DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF PARKS AND RECREATION

Norman H. Bangerter

Governor

Dee C. Hansen

Executive Director

Jerry A. Miller

Division Director

1636 West North Temple, Suite 116

Salt Lake City, Utah 84116-3156

801-538-7220

31 July 1989

Wasatch County Commission  
The Honorable Moroni Besendorfer, Chairman  
25 North Main  
Heber City, UT 84032

Dear Commissioner Besendorfer:

May we once again thank you for your support and participation in the Jordanelle Recreation Master Planning process? We also appreciate your fine staff, particularly Mr. Bob Mathis. He has been a great help in clarifying issues and making recommendations.

The purpose of this letter is to inquire about the status of the "Keetley Station Road"--a small road that appears to wind along the McCune Canyon from the "East Utah Shaft" near the new "Relocated U.S. 40," northeasterly to the boundary of the new state park. We understand that the road may be scheduled to be officially vacated in the near future. Our Steering Committee and consulting engineers recommend that the road should remain as a permanent access into the park (currently called Crandall Point on our preliminary plans--for camping and day-use beach use).

Therefore, we officially request that this portion of the Keetley Station road remain available for public travel to the State Park in the Crandall Point area for regular public access and emergency access to the park. The park boundaries south of Crandall Point are so restrictive and narrow that it would be impractical if not impossible to build a road north from the main Hailstone Recreation Area; i.e., due to physical restrictions and NEPA constraints. If this letter is not the proper channel or method of assuring that the Keetley Station Road be left available for public use and access to the park, please advise us. We appreciate any comment or direction.

In addition, our Steering Committee and consulting firm both feel that we must begin discussion and arrangements for the disposition of sewer effluent from the proposed state park site. We have been advised that the issue is very complex. There are also a number of key players--especially the Heber Valley Sewer District, Heber City, Mayflower, Wasatch County, State Parks and others. We wish to initiate dialogue regarding the sewer issues

as soon as possible. We will probably ask the State Environmental Health to help us with a design study to evaluate current sewerage treatment technology and options, as well as do some preliminary design of such a line in terms of size, location, and overall service. From rather incomplete or inconclusive study, we recognize that there are economies in sharing costs for a sewer line. It appears that if we were to build the line ourselves with federal funds, that no other party could use that line. With limited alignment possibilities available, such a line might preclude others from installing a similar line. This would not be in the best interest of the Hailstone basin, and the county.

We do not pretend to be experts on this subject. The BOR must still study the system and options for sewerage disposal that may be available. What Mayflower, Royal Street or other private land owners may do is in question. But the project master planning and design is proceeding. Certain options and costs must be clarified as soon as possible. All affected parties need to be talking and discussing options. We propose that this be initiated and continue. We hope that this does not appear to be presumptuous. Perhaps discussions and decisions are or have been made recently. We applaud this if it has been undertaken.

Please advise us as to what we can do to help. Please contact Mr. Terry Green, our planning coordinator, here in the Salt Lake Office, at 538-7346. Thank you again for your assistance.

Best Regards,

Jerry A Miller, Director  
Utah Division of Parks &  
Recreation

cc: Fred Liljegren, BOR  
Bob Mathis, Planning Director



# NICK NASS

SAILBOARDING

Jennifer Harrington,  
Planning Dept.  
Park City Municipal Corp  
Park City, Ut. 84060

March 6, 1989

Dear Jennifer,

I understand that you have been involve with the Jordanelle Dam recreational planning and may be looking for public input. The purpose of this letter is offer my concern and expertise for the sailing and the sailboard community in particular. As you may know (and may have witnessed at Deer Creek) Sailboarding is the fastest growing segment of all water sport activities. It would advantages to address the needs of the sailboard enthusiast (and sailors in general) before any final plans are made for the recreational facilities at Jordanelle State Park.

Jordanelle has the potential of becoming Utah's premier sailing lake because of its location between a low lying valley (Heber) and a high Mountain plain. There is a natural wind machine developed by warm valley air raising up from Heber over Foston Hill. Also with the North, South orientation of the Lake, the possiblity of very enhanced wind created by frontal passage ("Hatu" winds) could make Jordanelle the sailing capital of Utah.

I would like volunteer my time and energy to any input on the recreational development of Jordanelle. My back ground; I am 43 years of age, have a BFA, self employed as a professional photographer for 18 years, I was born in Utah and have lived in Park City for nearly 15 years. I have been a avid water skier and sailor, am now a sailboard enthusiast and I also been nationally certified to teach sailboarding.

Following are some thoughts of mine regarding the development of recreational use involving windsurfing.

It is my understanding that plans are being made only for the west side of the lake to be development. For the sailor, this could be a mistake. The best sailing wind is what we call a "clean wind", meaning, wind that is very steady and not been disturbed by any obstructions, i.e. islands, trees, hills or mountains. If you drive down Foston Hill you can see all the way to the far side of Heber Valley with only the Jordanelle "Gap" in the way. How ever if you drive down the new highway go out on the proposed peninsula You will see numerous obstructions which will cause the wind to become erratic in nature.

The idea of one area for all recreation is seriously flawed. Power boats don't mix with windsurfers and other sailing craft. While a power boat can maneuver at will, a sailor is confined to the parameters set by the wind and accessible launch sites. I am not suggesting that either sailors or power boats be banned from the lake. What I am suggesting is a beach be set aside on the East\* side of the lake for the day use by windsurfers and shared by other sail craft and a seperate general use area with a power boat launch be located on the west side of the lake. My reasons are two fold, first, the best winds should be found on the North East\* end of the lake, second by designating an area for wind craft you will cut down the possibility of watercraft related accidents.

Con't...

P.O. Box 127  
Park City,  
Utah 84060  
801/427-1205

# NICK NASS

PHOTOGRAPHY

Jordanelle windsurfing Con't..

Unfortunately most Utah boaters are unaware of the limitation of sail craft; they don't understand that sailor are at the mercy of the wind, (windsurfers can't turn right and left at will, sail up wind or go in reverse and that he can't see clearly to the lee side of his boat). The sailor's greatest danger is at the launch site. A windsurfer trying to get under way (waterstart) is at his most vulnerable position. His rig (sail) is down in the water where he can not be easily seen by power boats when they are backing off a beach or pulling a water skier.

At Deer Creek there is conflict of use because of the closeness of a popular sailing beach to a boat ramp, gas, boat storage, and a restaurant. The reason for this conflict is simple, everybody wants to use the same beach. The beach is close, convenient and although it has been traditionally been a windsurfing beach it is now being used by an increasing number of powerboater, and jetskiers. (Before the new resturant and powerboat facilities there was no conflict.) At Rockport the situation is a little better, the popular sailing beach (Hobie Beach) is located away from the boat launch. Unfortunately the beach is not a good windsurfing location be because of the wind shadow created by the surrounding terrain.

The needs of a sailboarder are simple: wind, water and a place to launch from. Windsurfers don't require very elaborate facilities: parking (doesn't need to be paved), a grassy area for rigging, (possibly with trees for a wind break), toilets and most important of all, a clear unobstructed beach for launching. Windsurfers don't want a sheltered bay from the wind. Windsurfers want what boaters don't want; wind and waves.

\*I don't want to restrict windsurfing to the East side of the lake, the nature of the sport is to seek out the best prevailing winds. It is quite possible that when the dam is completed that the air flow may be disrupted in a very unpredictable manor. It may take several years of sailing to define the optimum wind conditions. The suggestions I have made or only a start.

In closing I would once again offer my service or input for any plans of the recreational development of Jordanelle Dam.

Sincerely,

Nick 

May 3, 1989

Jordanelle Task Force  
P.O. Box 1480  
Park City, Ut 84060

Dear Task Force Members,

I am writing to you as the representative of the Park City Rowing Club about our interest in the development of the Jordanelle Reservoir. As a small but dedicated group of rowing enthusiasts, we seek out quiet lake waters for our training and lesson instruction. Smooth water is generally preferred for rowing in our types of boats, usually along shoreline areas. We row most often in the early morning or late evening when the wind is most calm and motorized vessel activity is creating no or a minimum of interfering traffic or waves.

The locally available waters are not ideally suited for our needs mainly because of motorized boat traffic. We would like you to consider reserving portions of the shore line along the Jordanelle Reservoir for rowing traffic on specific days of the week, in the morning and evening hours. This would give rowers the potentially best time and place for training but not interfere with other recreational usage. Such specific time and place designations are used in rowing waters elsewhere in the United States.

The Park City Rowing Club would like to be kept abreast of your progress and become involved with the taskforce itself. If at all reasonable, would you include us on your mailing list for future meetings?

Thank you for your time and consideration. I look forward to hearing from you.

Sincerely,



Herb Lepley  
Park City Rowing Club

HL/mo

CC: Jennifer Harrington  
Steve Erickson



DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF PARKS AND RECREATION

Norman H. Bangarter

Governor

Dee C. Hansen

Executive Director

Jerry A. Miller

Division Director

1636 West North Temple, Suite 116

Salt Lake City, Utah 84116-3156

801-538-7220

1 August 1989

Mr. Steve Noyes, Hydraulic Engineer  
U.S. Bureau of Reclamation  
Utah Projects Office, UPO-452  
P.O. Box 51338  
Provo, Utah 84605

Re: Preserving or acquiring springs and developed water around Jordanelle Reservoir; i.e., Keetley Springs/tank and line; the Glen Fuller (Mr. Bomb) springs near the dam, and United Park City Mines spring water to serve the new Jordanelle section of the rails to trail.

Dear Mr. Noyes:

Our Jordanelle Recreation Master Plan Steering Committee has asked me to contact you officially to request, or receive assurances that the three sources of water (and any others that may enhance the public recreation use of the reservoir) will be available to State Park users in the future. Trails and other recreation development are located near these three water sources.

We request that all necessary steps be taken to preserve those water sources for future use by the park patrons, wildlife, and others. We hereby extend our offer to assist in anyway possible to assure that these resources will be preserved and protected for park and recreational uses in the future. Please advise us how we may help. If acquisition, improvement, protection or development is required, we would like to recommend an allocation of park development monies for this purpose.

Thank you for your consideration. We look forward to hearing from you as soon as possible.

Best Regards,

Tharold E. Green, Jr., Chairman  
Jordanelle Recreation Master Plan  
Steering Committee

cc: Bob Mathis, Wasatch County  
Fred Liljegren, Tech. Rep. BOR



## HEBER VALLEY Chamber of Commerce

P.O. BOX 427, HEBER CITY, UTAH 84032 / (801)-654-3666

August 22, 1989

Bingham Engineering  
Attention: Bruce Maw  
5160 Wiley Post Way  
Salt Lake City, Utah 84116

Re: Jordanelle Reservoir State Park

Dear Mr. Maw:

Having attended several public hearings on the above project and having reviewed the Interim Report dated August 15, 1989 for the project, I offer the following suggestions.

I feel that Alternative Plan 2 is far superior to Alternative 1 for the following reasons:

1. the plan allows for a dispersal of recreation opportunities around the lake, and
2. the plan allows for an additional water connection from the lake to Route A in the area of the "Sorensen Private Lease, Lodges, Public Services."

Both of these points speak to the increased availability of recreation opportunities along the Jordanelle shoreline rather than the concentration of most major facilities in a luxury village at the Hailstone site.

There clearly needs to be a large variety of recreational experiences available to the public on the Jordanelle Reservoir - Alternate Plan 2 provides this greater diversity of recreation experiences.

There clearly needs to be additional commercial centers and water access points on the Jordanelle Reservoir - Alternate Plan 2 addresses this need in a positive fashion without additional expense to the public.

The Heber Valley Chamber of Commerce is concerned that all lands and properties in Wasatch County equally receive access to the reservoir, and benefit from its presence - not just the Mayflower properties. Whereas it may be highly beneficial to the Mayflower project to have as great a concentration of facilities as possible in the Hailstone Village, it is our position that other properties in Wasatch County should also benefit from the lake and be allowed access to it. The recent completion of Wasatch County Route A will

*Stay a Day - or a Lifetime*



## HEBER VALLEY *Chamber of Commerce*

P.O. BOX 427, HEBER CITY, UTAH 84032 / (801)-654-3666

allow for the development of many properties along this south shore line route. These properties have a natural connection to the Heber Valley business district, and hence a direct water connection from Route A to the south shore of east arm of the lake, together with an opportunity for another boat marina and commercial center would greatly benefit businesses in the Heber Valley.

I would now like to respond to several "less than positive" comments which were made by the chairman of the meeting in the Park City Public Hearing held August 17, 1989 with respect to Alternate Plan 2.

Comment was made in the meeting that the additional access point contemplated in Miller Canyon (first major canyon west of Charcoal Canyon) occurred in topography too steep for a boat ramp. The fact of the matter that steeper topography in this area is a benefit rather than a detriment since the large anticipated fluctuations in lake level will not require boat ramps 700+ feet long as at the Hailstone ramp.

Comment was made in the meeting that road access between Route A and the lake access point in Miller Canyon was not feasible or at best was very difficult. In reaction to this comment, I (as a civil engineer involved in land planning and preparation of street and highway plans) have made a preliminary road access study to determine the feasibility of this road connection, and find it quite feasible to construct a roadway down Miller Canyon from Route A to the lake surface at a maximum grade of 10%.

Comment was made in the meeting that there were not sufficient funds available to construct Alternate Plan 2. My reaction to this is that perhaps if some of the luxurious aspects of the Hailstone Village were cut back a bit, then the dispersed and increased recreation opportunities of Plan 2 could be achieved. With respect to the proposed lease-back developments on private land, these facilities, and road the access to them, could be accomplished totally at the landowners expense. The greater use of lease-back arrangements would in fact allow a much greater utilization of the lake by the public without any additional expense of public funds. The recreational planning of the lake which is now in progress should anticipate and allow for a reasonable number of private lease-back sites for development.

Comment was made in the meeting that Alternate Plan 2 may require additional environmental assessment and/or reports. If that is the case, this work should be done and it should be done now - not 10



## HEBER VALLEY *Chamber of Commerce*

P.O. BOX 427, HEBER CITY, UTAH 84032 / (801)-654-3666

years from now. The Final Environmental Statement for the Bonneville Unit of the Central Utah Project was approved in August of 1973 - it is hoped that the planning process for this reservoir will not totally be locked into older work and reports, and will be able to respond to today's needs.

In summary, the Heber Valley Chamber of Commerce strongly supports Alternate Plan 2, particularly the additional water access point to Route A properties, which will allow a greater opportunity for utilization of the lake by more people in the Heber Valley, and will allow a much greater economic benefit to accrue to landowners and businesses in our community. We have supported the Central Utah Project and the Jordanelle Reservoir for many years - it is now hoped that the planning of recreation uses and facilities on the reservoir be conducted in a manner which will benefit us all.

Thank you for allowing us the opportunity of providing input in this planning process.

Very truly yours,

Francis Smith, President

cc: Department of Natural Resources  
Division of Parks and Recreation

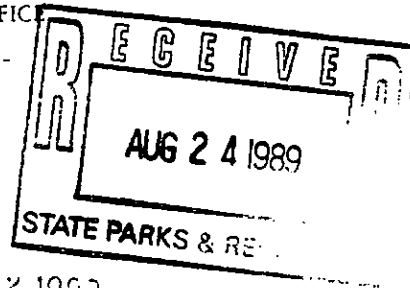


# United States Department of the Interior

BUREAU OF RECLAMATION  
UPPER COLORADO REGIONAL OFFICE  
P.O. BOX 11558  
SALT LAKE CITY, UTAH 84117

IN REPLY  
REFER TO:

UC-450



AUG 22 1989

Mr. Don Ostler  
Bureau Director  
Bureau of Water Pollution Control  
P.O. Box 1690  
Salt Lake City UT 84116-0690

Subject: Recreational Development Plan for Jordanelle Reservoir, Bonneville Unit, Central Utah Project, Utah (Your Letter Dated June 13, 1989) (Recreational Development)

Dear Mr. Ostler:

We appreciate your letter of June 13, 1989, expressing your concerns over reports that the Bureau of Reclamation (Reclamation) is considering onsite sewage disposal at the Hailstone Recreational Area on the west side of Jordanelle Reservoir. Though this solution has been mentioned it has never been considered by Reclamation to be a viable alternative.

We apologize for not responding earlier to your letter but are pleased to report to you that discussions are presently under way with the State Parks consultant on the Jordanelle Recreation Master Plan to examine and recommend an acceptable solution as part of that planning process. It is our understanding that the planning team has had and will continue to have discussions with the Jordanelle Technical Advisory Committee (JTAC), county planners, and other interested parties in the area. Reclamation is seeking a solution that will benefit all users in the area and will cooperate to the extent of its proportionate share in a joint venture to build an expanded sewer system and treatment facility providing it can be accomplished in a timely manner.

If for some reason an equitable and timely solution involving the major users and the sewer district cannot be reached, Reclamation may have to look at other environmentally acceptable alternatives to meet the needs of the public recreation facilities.

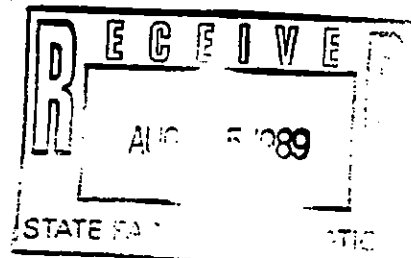
In the meantime, we assure you that any plan that is eventually selected will be subject to National Environmental Policy Act approval as well as comply with the recommendations of JTAC, and meet State and county regulations.





UTAH ROCK ART  
RESEARCH  
ASSOCIATION

August 23, 1989



Department of Natural Resources  
Division of Parks and Recreation  
1636 West North Temple, Suite 116  
Salt Lake City, Utah 84116-3156

Re: Jordanelle recreational development

Gentlemen:

Pursuant to your request for input by interested citizens regarding the type, quality and location of facilities for recreation development within the areas around Jordanelle Reservoir, The Utah Rock Art Research Association wishes to offer our recommendation concerning prehistoric rock art and archaeological sites within close proximity of the proposed ROCK CLIFF development area.

We have attempted to obtain a copy of the archaeological survey report dated December, 1987 to determine if the rock art sites were taken into consideration as required by federal E.I.S. requirements. The environmental specialist of the Provo office of the Bureau of Reclamation indicated one such site was found and noted in the report. The other major site with which we are familiar received no mention. Incidentally, archaeological lithic scatter is also in evidence along the bench above this area. In contacting the Salt Lake Bureau of Reclamation office, we received no cooperation regarding the survey report and were informed we had no entitlement to such information.

Co-incidentally, both major sites contain raptor nesting areas, which are also susceptible to impact and destruction.

While we feel all citizens are entitled to enjoy such valuable and non-renewable resources, we recognize uncontrolled access can be disastrous. Our primary concern is that of protection from the few uncaring individuals who display a complete lack of self-control, knowledge, or any consideration for our cultural heritage or wildlife resources. We feel high priority should be given such protection.

Specifically, we feel consideration should be given to fencing such areas in view of the proposed perimeter trail, possibly requiring ranger approval for access. Certainly signs could be installed making hikers aware of these areas. Both locations presently show marked erosion of the steep slopes due to foot traffic by hikers.

We would be happy to discuss our ideas or assist you in any way you might feel we could be of benefit.

Sincerely,

Ray Bailey  
Vice President  
3890 West Lewisport Drive  
Salt Lake City, Utah 84084

Max W. Parry  
P.O. Box 543  
Riverton, Ut. 84065  
Phone 254-3867

September 20, 1989

Utah Parks & Recreation Div.  
1636 W. South Temple  
Salt Lake City, Ut. 84116  
Mr. Terry Green

R.V. Park, Jordanelle Dam

Dear Terry:

I am representing " The Good Sams Club " of the State of Utah of which we have 38 Chapters State wide and a total membership of approximately 5000. Many members are not attached to a Chapter.

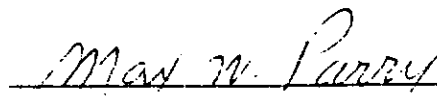
We understand the State is requesting input as to Recreation facilities the public would like or need at the Jordanelle Dam site. We are in need of group R.V. Parks that would hold up to two or three hundred Rigs. The R.V's are getting longer and higher. Many of the parks in the State are becoming to small . A 30 ft. trailer and a Suburban will reach up to 50 ft. in length.

During the summer months each of our 38 chapters have an outing consisting of up to 30 to 40 rigs per chapter. In June of this year we had 350 rigs at Logan one week end, and in September we 250 at Brigham City.

Attached is a drawing with some ideas and suggestions of our needs this sketch will fill a three acre tract. Recreation, Long term parking and boat & trailer parking would use extra.

Other items we a concerned about are, Fire Protection, Electricity 50 Amps to each camp site and 30 Amps to each rig, Trees should furnish good shade and of a type that would not branch out close to the ground a few of our Motorhomes are 11 or 12 feet high.

We would appreciate your consideration of this project in your plans for the Jordanelle project. If I can be of any assistance please give me a call.

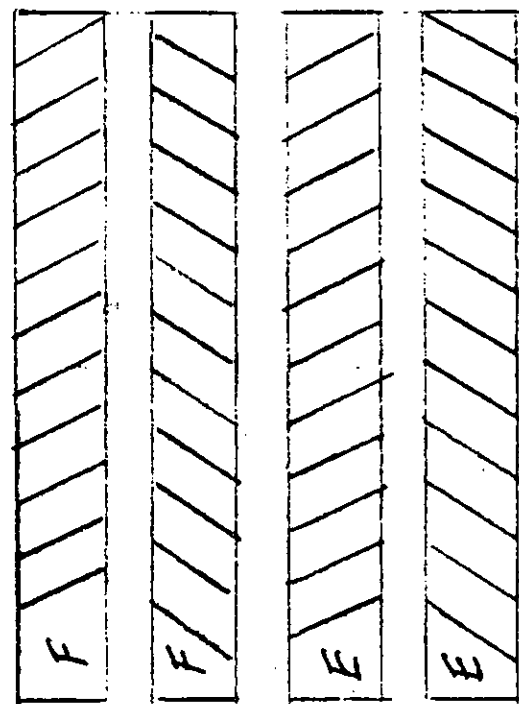
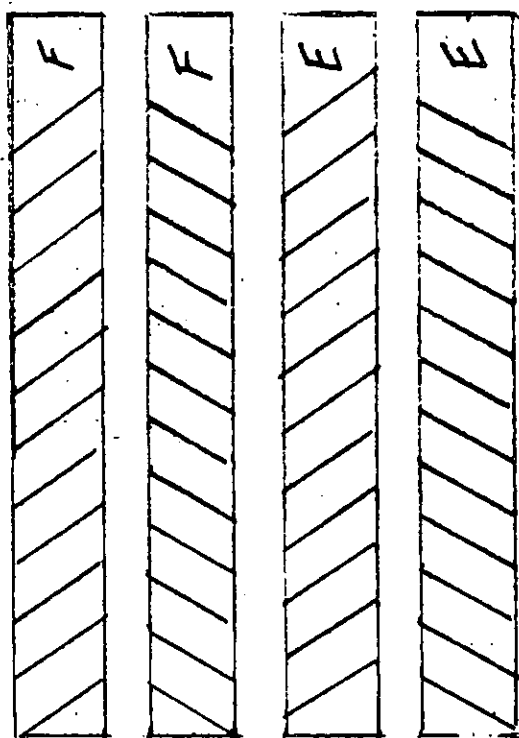
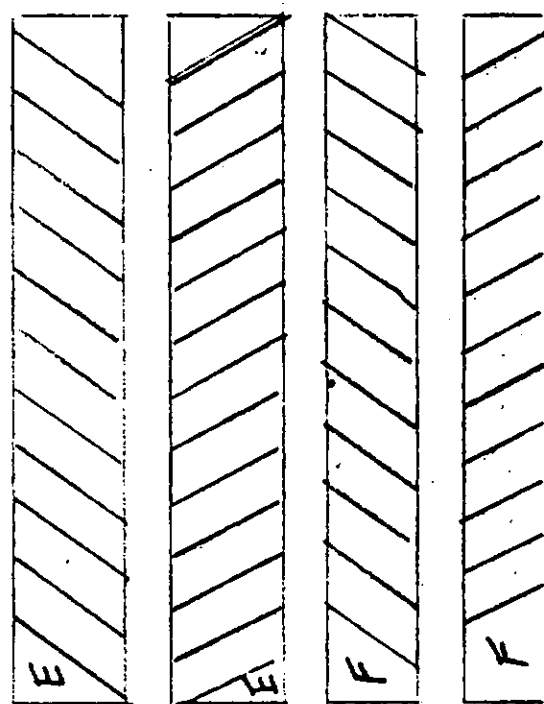
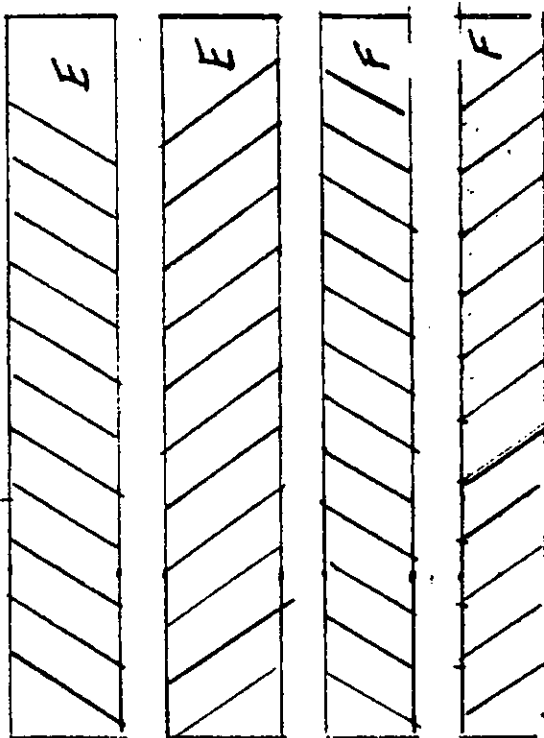
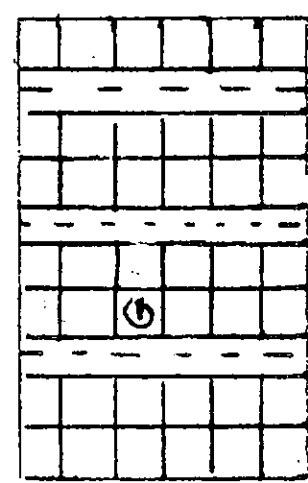
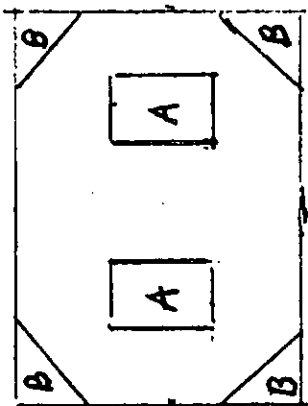
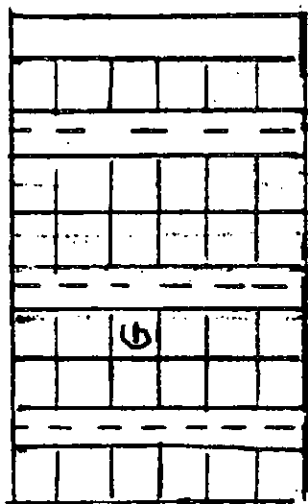
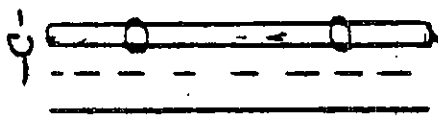
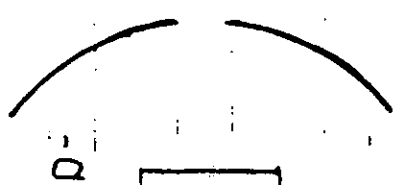
  
Max W. Parry

Enclosures:

Good Sams Club

R.V. Sketch References

- (A) Bowery
- (B) Rest Rooms & Showers: Emphasis on Showers
- (C) Sewer Dumping Station: Able to handle four units at a time.
- (D) Amphitheater & Chapter meeting facilities.
- (E) R.V. Parking: 55' X 32' Each site large enough to park two units in opposite directions.
- (F) R.V. Parking: 45' X 32' Each site large enough to park two units in opposite directions.
- (G) Camping Sites: 30' X 30' Tents, Tent Trailers & etc.
- (H) Long Term parking: Leave unit here at reduced price.
- (I) Parking for Boats & Trailers: During stay at camp site.





# WASATCH COUNTY, STATE OF UTAH

25 North Main Heber City, Utah 84032 • Phone (801) 654-3211

## BOARD OF COUNTY COMMISSIONERS

PETE A. COLEMAN

J. MORONI BESENDORFER, CHAIRMAN

T. LAREN PROVOST

September 15, 1989

Terry Green  
Utah Div. of Parks & Rec.  
1636 W. North Temple  
Salt Lake City, Utah 84116

Dear Terry:

This letter and attached map is enclosed to inform you, that UP&L intends to place lines within the take-line of the reservoir and the Jordanelle basin. These are areas which have been proposed for management by the Utah Division of Parks & Recreation.

The lines are to be over head transmission and distribution lines. The right-of-ways have already been acquired from private property owners and the Bureau has yet to acquire the fee title to the property, which the park will manage, so the park will take this property subject to the lines.

This is inconsistent with page A-10 and A-12, of the 1979 Environmental Impact Statement; however, after reviewing the matter the County has excepted the line virtually as is, with the recommendation that the Power Company consider moving the line along the railroad grade a little to the west to get it below the line of site from the rails to trails corridor to the reservoir.

The copy of the County's Certificate of Zoning Compliance is hereby enclosed for your reference. If you have any objections to the above, please consult the B.O.R. immediately.

Sincerely,

*Robert A. Mathis*  
Robert A. Mathis, A.I.C.P.  
Wasatch County Planner

RAM/bjr  
ENC:

September 12, 1989

# Certificate of Zoning Compliance

Utah Power & Light

WASATCH COUNTY, UTAH

This Certificate issued pursuant to the Revised Zoning Ordinance of Wasatch County, Utah, for the building or use:

Located at Jordanelle Basin in Wasatch County Zone RF-1 & G-1  
(Symbol)

Approved by the Planning Commission September 12, 1989

This is to certify that the building or use of land has been inspected and has been found to comply with the requirements of the Revised Zoning Ordinance of Wasatch County, Utah. This Certificate of zoning compliance authorizes only the following uses and no others. Any change of building or use, or any extension of a non-conforming use, must be approved by the Board of Adjustment of Wasatch County, Utah.

AUTHORIZED USE: The relocation of Transimission lines  
and distribution lines around the proposed Jordanelle  
Reservoir begining immediately, subject to:

1. Inspection of the Kamas Tie Transmission Route  
by the County Planner.
2. Written notification being provided to the County  
prior to construction actually being started.

Signed

Robert A. Mutt  
Zoning Administrator

I (we) have examined this completed certificate of zoning compliance and hereby certify that it sets forth the uses of land and buildings for which a building permit has been issued, that no other use of the land or buildings will be made, other than those specifically authorized and that I (we) will continue to occupy the land and buildings in accordance with the laws and ordinances of Wasatch County, Utah.

Signed

Builder

Signed

Owner

Date



# State of Utah

DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF WILDLIFE RESOURCES

Norman H. Bangert  
Governor

Dee C. Hansen  
Executive Director

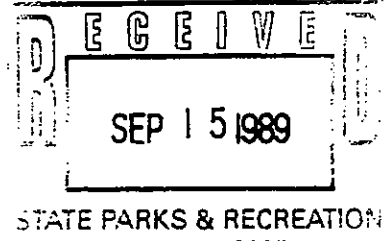
Timothy H. Provan  
Division Director

Central Region

1115 North Main Street

Springville, Utah 84663-1055

801-489-5678



August 21, 1989

Terry Green  
Division of Parks and Recreation  
Utah Department of Natural Resources  
1636 North West Temple  
Salt Lake City, Utah 84116

Dear Terry:

In conjunction with our management of the sport fisheries associated with Jordanelle, Deer Creek and Strawberry reservoirs, we have been renting office space in Heber City since 1987. We see the need for this field station to continue operation for a period of at least 10 years. As a result, we are investigating the possibilities of improving and upgrading this long term facility in the Heber Valley area. Our requirements for the facility include:

- |                                      |           |
|--------------------------------------|-----------|
| 1. Office space:                     | 400 sq ft |
| 2. Workshop                          |           |
| A. work area:                        | 300 sq ft |
| B. heated wet lab                    | 200 sq ft |
| C. equipment storage                 | 200 sq ft |
| 3. Covered boat storage (pole barn)  | 600 sq ft |
| 4. Compound area for vehicle parking |           |

Could such a facility be incorporated into your request to the Bureau of Reclamation for the state park management offices at the proposed Hailstone Recreation Area on Jordanelle Reservoir? If so, what type of arrangements (MOU, rent, etc.) would need to be made? The specifications we listed above could probably be reduced, for both agencies with management responsibilities on the waters to have offices at the same location. Thank you for your consideration in this matter. I look forward to your reply.

Sincerely,

Rodney T. John  
Central Regional Supervisor

RTJ/CWT/ju

RECREATION PLAN AND WILDLIFE IMPACTS  
AT  
JORDANELLE RESERVOIR, WASATCH COUNTY

VEGETATION/WILDLIFE HABITAT IMPACT ANALYSIS ASSUMPTIONS  
(1979 FES, 1987 SUPPLEMENTAL FES, F&W COORDINATION ACT REPORT, ETC.)

1. 4,100 ACRES WITHIN RESERVOIR MANAGEMENT BOUNDARY
2. INCLUDES 968 ACRES FOR THREE RECREATION DEVELOPMENT SITES (SEE ATTACHED MAP).
3. RECREATION DEVELOPMENTS WOULD RESULT IN 137 ACRES OF DIRECT HABITAT LOSS AND 41 ACRES OF TEMPORARY VEGETATION REMOVAL.
4. NO MAJOR RECREATION USES WITHIN RESERVOIR MANAGEMENT AREA FROM LATE FALL TO EARLY SPRING.
5. ONLY LIGHT TO MODERATE RECREATION USES OF LAND OUTSIDE THE THREE DEVELOPED RECREATION AREAS WITH NO SPECIFIC FACILITIES ASSUMED.
6. WETLAND LOSSES CONFINED TO AREA WITHIN RESERVOIR HIGHWATER LINE, DAM SITE AND HIGHWAY CONSTRUCTION RIGHTS-OF-WAY.

ENVIRONMENTAL/MITIGATION COMMITMENTS  
(1979 FES, 1987 SUPPLEMENTAL FES, F&W COORDINATION ACT REPORTS,  
404 PERMIT, 1987 WILDLIFE MITIGATION PLAN)

1. MANAGE LANDS WITHIN THE RESERVOIR MANAGEMENT BOUNDARY TO PRESERVE EXISTING WILDLIFE HABITATS AND PREVENT FURTHER IMPACTS.
2. FENCE MANAGEMENT BOUNDARY AND EXCLUDE PRIVATE DEVELOPMENTS, LIVESTOCK GRAZING, ORV AND OTHER DESTRUCTIVE PRACTICES WITHIN MANAGEMENT BOUNDARY. DESIGN FENCE TO ALLOW SAFE CROSSING BY DEER AND ELK.
3. NO RECREATION FACILITIES WOULD BE CONSTRUCTED WITHIN WETLAND AREAS (404 PERMIT REQUIREMENT)
4. RECREATION MANAGEMENT PLAN TO BE DEVELOPED BY UDPR AND COORDINATED WITH AND APPROVED BY RECLAMATION, UDWR, FWS, CORPS OF ENGINEERS, AND EPA (404 PERMIT REQUIREMENT).
5. MANAGE RECREATIONAL USES TO AVOID DISTURBANCES OF BREEDING, NESTING AND BROODING SAGE GROUSE AND GOLDEN EAGLES (MARCH 1-JUNE 30) AND MIGRATING AND WINTERING MULE DEER AND ELK (DECEMBER 1-APRIL 15). PUBLIC ACCESS AND CONSTRUCTION ACTIVITIES TO BE RESTRICTED FROM DESIGNATED AREAS DURING THESE PERIODS.
6. LIMIT HAILSTONE RECREATION AREA TO THE AREA SOUTH OF DRAIN TUNNEL CREEK.



7. ACQUISITION/TRANSFER OF WILDLIFE MITIGATION LANDS AS FOLLOWS:
  - 720 ACRES AT JORDANELLE RESERVOIR TO PROTECT AND MANAGE HABITATS FOR SAGE GROUSE AND GOLDEN EAGLES.
  - 9,461 ACRES IN EASTERN WASATCH AND WESTERN DUCHESNE COUNTIES TO PROTECT AND ENHANCE HABITATS FOR BIG GAME, UPLAND GAME AND FURBEARERS.
  - 970 ACRES AT DEER CREEK RESERVOIR TO PROTECT AND ENHANCE BIG GAME WINTER RANGE.

RECLAMATION'S GOALS  
(RE: RECREATION PLAN AND WILDLIFE COMMITMENTS)

1. DEVELOP A RECREATION PLAN ACCEPTABLE TO THE PUBLIC AND CONSISTENT WITH 1979 AND 1987 FES'S.
2. DEVELOP COORDINATED RECREATION MANAGEMENT PLAN WITH BUYOFF FROM COOPERATING AGENCIES.
3. AVOID ANY ADDITIONAL NEPA PROCESS (EA OR FES)
4. AVOID ANY ADDITIONAL MITIGATION REQUIREMENTS. OFFSITE WILDLIFE PLAN IS 85% COMPLETE.

PRELIMINARY EVALUATION OF JORDANELLE RECREATION PLAN  
IN RELATIONSHIP TO  
WILDLIFE IMPACT ANALYSIS AND ENVIRONMENTAL/MITIGATION COMMITMENTS

RECREATIONAL DEVELOPMENTS WITHIN THE THREE FES DESIGNATED RECREATION SITES CAN BE DESIGNED, CONSTRUCTED AND MANAGED TO BE COMPATIBLE WITH WILDLIFE AND OTHER ENVIRONMENTAL COMMITMENTS. THESE SITES ARE (1) HAILSTONE, (2) ROCK CLIFF AND (3) FUTURE SITE ON NORTHEAST SHORELINE.

SHORELINE BOAT/DAY CAMP SITES CAN BE MADE COMPATIBLE WITH COMMITMENTS IF THERE ARE NO SIGNIFICANT FACILITIES CONSTRUCTED AND IMPACTS ARE MOSTLY CONFINED TO AREAS BELOW THE HIGHWATER LINE. CARE WOULD HAVE TO BE TAKEN TO AVOID FACILITIES AND CAMPS IN POTENTIAL SHORELINE WETLAND AREAS.

ADDITIONAL CAMPING SITES REQUIRING OVERLAND ACCESS ARE NOT COMPATIBLE WITH WILDLIFE AND OTHER ENVIRONMENTAL COMMITMENTS. SPECIFIC SITES IN THE CURRENT PLAN WHICH FIT IN THIS CATEGORY WOULD BE THE SITES (1) SOUTH OF THE EAST ARM, (2) ON THE PENINSULA ON THE WEST SIDE, NORTH OF HAILSTONE CAMPGROUND AND (3) THE HIKE-IN CAMP ON THE NORTHEAST SIDE.

THE TRAIL SYSTEM PROPOSED IS NOT FULLY COMPATIBLE WITH WILDLIFE COMMITMENTS. THE TRAIL SYSTEM LOCATED ON THE (1) EAST SIDE OF THE NORTH ARM, (2) NORTH OF THE PROVO RIVER ARM AND (3) SOUTH OF THE PROVO RIVER ARM ARE NOT COMPATIBLE WITH THE IMPACT ANALYSIS.

IF THE ADDITIONAL CAMPGROUNDS AND THE SPECIFIED TRAILS THAT DO NOT MEET ENVIRONMENTAL/WILDLIFE IMPACT ANALYSIS AND MITIGATION COMMITMENTS ARE INCLUDED IN THE RECREATION PLAN, ADDITIONAL COMPLIANCE WITH THE NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) WILL BE REQUIRED AND ADDITIONAL WILDLIFE IMPACT ANALYSIS AND MITIGATION NEEDS WOULD HAVE TO BE ASSESSED.

S. **Preliminary Cost Estimate**

# JORDANELLE STATE PARK

PRELIMINARY COST ESTIMATE

08-Sep-88

Bingham Engineering

#	ITEM	#	UNITS	\$/UNIT	TOTAL
<b>Utilities</b>					
	Sewer Line to Heber				3,000,000
	Sewer Line to Francis				850,000
	Sewer Line to Ross Creek				1,000,000
	Water Supply				
	Hallstone - well, lg. tank				200,000
	Ross Creek - well, sm. tank				100,000
	Rock Cliff - well, sm. tank				100,000
	Crandall Pt. - well, sm. tank				100,000
	Sewer/water Internal dist.	2.5	miles	120,000	300,000
	Restrooms				
	Brick - 4/unit	4	each	58,000	232,000
	Brick - 8/unit w/shower	6	each	75,000	450,000
	Clivus - 4/unit	6	each	50,000	300,000
	Fish cleaning stations	3	each	16,000	48,000
	Electrical				
	Lines (under grnd)	2.5	miles	52,800	132,000
	Transformers	4	each	30,000	120,000
<b>Recreation Amenities</b>					
<b>Camping Units</b>					
	Tables	100	each	600	60,000
	Grills	100	each	125	12,500
	Unit posts	100	each	55	5,500
	Gravel pad	100	each	300	30,000
	Group Picnic Pavilion	5	each	45,000	225,000
<b>Boating</b>					
	Marina - 75 slips, brkwater, ship's store.	1	i.s.		1,800,000
	Ramp - 10 lanes x 750'	90,000	s.f.	5	450,000
	Parking - asphalt	250	spaces	650	162,500
<b>Beach</b>					
	Terrace 3,000' x 100' sand	2	terr.	100,000	200,000
	Parking - gravel	300	spaces	325	97,500
	Walks, paths	1500	l.f.	10	15,000
	Trails	27	miles	42,000	1,134,000
	Tennis	10	courts	30,000	300,000

Roads/General Parking					
Roads - asphalt	3	miles			370,000
Parking - asphalt	800	spaces			650
Parking - grass	500	spaces			325
					182,500
<b>Administration</b>					
Ranger station, res., office	4500	s.f.			225,000
Equipment					
Boats	1	boat			85,000
	2	boat			50,000
Trucks 4wdr	6	truck			120,000
Misc.		lump			60,000
Entrance Features	3	lump			98,000
Landscaping	35	acres			1,995,000
<b>Subtotal</b>					<b>15,822,500</b>
Contingency					
Design, engr.	25	%			3,905,625
<b>TOTAL COST</b>					<b>1,874,700</b>
					<b>21,402,825</b>
<b>Amortization</b>					
Interest rate	3.5	%			
Amortization factor	0.033				
Sinking Fund factor	0.028				
Maintenance factor	3.0	%			
Management Factor	3.0	%			
Annual investment cost					706,283
Annual Replacement cost					558,473
Annual Maintenance cost					642,085
Operation cost	0.3	visitor/day			58,500

T.      **Significant Newspaper Articles**

## Hearing Discusses Master Plan

# Jordanelle Job May Create Recreational Problems

Special to The Tribune  
HEBER CITY — Construction crews on the Jordanelle Dam may be creating problems for the recreational part of the project being planned by engineers, task force members, and the State Department of Parks and Recreation.

During a public hearing to discuss the Jordanelle State Park Master Plan, Bob Mathis, Wasatch County planner, said there are some problems because of lack of communication between the U.S. Bureau of Reclamation and those planning recreational development.

He said road crews are digging up gravel on the east arm of the reservoir where boating facilities are being planned. He also said the old U.S. 40 and 189 can't be left on the bottom of the reservoir because petroleum is a poison. He said the bureau plans to store the material in the Hailstone area, the site for the main boat marina and beaches in the proposed park plan.

"That'll be a lot of pavement. I suppose they can build a nice little pad, take all the bushes and trees and soil out, and then pile all this pavement up there. And then we're going to use recreation dollars to clean it up again," he said.

## Weber Seeks To Dismiss Jail Lawsuit

OGDEN (AP) — Weber County is

He reported that 250,000 yards of material is already stored on the marina site, which may or may not be used in the construction of the dam. He said if the county had known about that ahead of time, it would never have been approved, in order to protect water quality.

A month ago he also requested the excavation plan from the contractors that are digging up the gravel and warned them about the recreational proposals. However, he said he still had not seen the plans.

He urged those planning recreation facilities to convince the bureau that it is important to tell them what they are going to do ahead of time.

"Their impacts have to be told to us so we don't end up with the kind of scars we've got below the Jordanelle Dam, all over that mountain — that we have to turn right around and spend recreation dollars to reseed, regrade — and put potentially toxic material right where we expect people to recreate," he said.

Mathis also emphasized that the main purpose for the reservoir is municipal and industrial water.

"Given the limited resources, what we need most are the basics to provide services. We want to be able to take care of people safely and cleanly, with good roads, good water, good sewer and other utilities — so they're there, in place, when they're needed," he said.

Bruce Maw, Bingham Engineering, the firm studying the Jordanelle area for the Parks Department, reported two alternatives for the parkway. The first is what was basically included in studies for the Environmental Impact Statement. The second

and adds recommendations by task forces and citizens and may require additional environmental studies.

Wasatch County representatives generally approved of the second alternative.

But David Wilson, speaking for the county's task force, objected that the scope is limited only to the shoreline within the bureau's takeline and said many opportunities will be created by Jordanelle that aren't within those boundaries. He described Jordanelle as being like the heart of a beast, with tentacles reaching out in every direction.

He said he thought too many activities are being squeezed into Jordanelle. He suggested it might be better to allocate some to other parks that are already developed, like Rockport and Deer Creek. For instance, he said, Jordanelle trails should expand into Wasatch Mountain State Park, drawing people to those campgrounds.

He said water quality must be the highest priority, and made the following additional recommendations:

- That the plans of private property owners in the area should be considered, that they want to fit into the plans, and, in most cases, can complement Jordanelle Park.

- That enough money should be allocated so that once a first class park is developed it can be maintained and managed as a first-class park.

- That composting toilets, suggested for some areas, are unacceptable substitutes for sewage disposal connections.

- That Wasatch County should get help with law enforcement. In

view of projections that an average 5,000 people will congregate at Jordanelle on an average day.

- That since many people leaving state parks leave their garbage in Wasatch County, rather than taking it home, there should be money to help with the county's garbage expenses.

- That everyone needs to work together and share costs to make sewage disposal available to all Jordanelle development, and forget their "turf battles."

He also brought up the problem of mitigating the lost Jordanelle wildlife habitat with habitat in the Strawberry Valley. The task force's recommendation that winter feeding stations should be set up, to keep deer herds from feeding on private property, still has not been considered. He said the increase in doe hunting licenses this fall will not solve the problem and the Division of Wildlife Resource (DWR) answer not to feed deer is not recognizing the problem. No matter how small the herd, deer will feed on private property, he said.

A DWR representative explained his department is against feeding programs because they artificially increase herd sizes, resulting in additional feeding and damage to the natural range.

Mathis responded that the plan is simply that the deer must die. But he said, "There is no plan for how those deer will die."

During the past winter, and previous winters, deer "die on your doorstep, in your haystacks, and they look at you pitifully as they expire. Then their carcasses rot. We need to

know how that is to be taken care of if that herd is to be reduced. . . . Don't wait until they're all suffering," he said.

He said the attitude is that "Wasatch County must learn to bear that impact," which is wrong. "If it happens in Salt Lake City, you couldn't survive. There wouldn't be an official left in that agency (DWR) by the time it was through," he said.

A major problem in developing recreation around the reservoir is that the water will fluctuate as much as 250 feet, the height of a 15-story building, according to Jeff Winston, Bingham Engineering. He said as a result, shorelines can be expected to vary as much as a mile. However, he said the reservoir will be extremely beautiful and visually exciting, with many inlets and bays, like "rooms with halls."

He said the team's contract limits study to the area within the boundaries of the park, but that they have tried to reflect some of the issues outside the park. He suggested that ideas outside of the immediate study should be incorporated into a large plan by the county.

# Summit and Wasatch Join Forces on Jordanelle Plans

Wasatch and Summit Counties will be proposing the same plan for Jordanelle Reservoir during the first public hearings this week.

Representatives from both groups began to attend one another's planning meetings several months ago, in order to exchange ideas. Although they formed their plans separately, the two final proposals were so similar that they decided to combine forces. The maps they use will be identically marked with their recommendations.

The Summit group added to their proposal some of Wasatch's ideas simply because they had no objections to them, in order to be totally unified. Because the Summit Task Force had no experience with wildlife, they also adopted Wasatch's stand on wildlife protection.

One difference that needed to be resolved was that the Wasatch plan allowed small motorized recreational vehicles on the old county road to Kamas, north of the reservoir, while Summit's plan allowed no motors at all. Tom Clyde and Harry Reed, representing Summit, told the Wasatch group they were optimistic that they could get their Task Force to go along with Wasatch on the issues.

The Wasatch Task Force policy statement is longer, with more specifics than the joint statement, because the entire project is in Wasatch County.

The joint proposal is oriented toward developing multi-day, long-term use of the State Park along the shoreline of the Jordanelle Reservoir. The recommendations include: 1) Linking Wasatch Mountain State Park, the rails-to-trails park way from Rockport, bike and equestrian trails around the reservoir.

2) High quality development, compatible with proposed private utility services, complying with Wasatch County planning and zoning;

3) Use of sewer lines, rather than alternative types of sewer systems, to protect water quality, with public and private developers sharing the costs of sewer and other utility extensions;

4) Zoning the lake and park areas, to accommodate a large number of users and minimize conflicts, like designating a portion of the lake "wake free," and another portion for power boats;

5) Designating south-facing slopes on the south arm of the reservoir for wildlife mitigation, as well as other appropriate areas on the west side of the lake, and providing winter feeding stations;

6) Including connected State Park administrations, particularly Wasatch Mountain State Park and Deer Creek, in the Jordanelle planning;

7) Considering the impacts on local government services, like law enforcement, fire protection, trash disposal, and utility services, in planning the administration of the park;

8) Planning for winter recreation, like maintaining ski trails and campgrounds, and linking with other winter recreation facilities, with clustered concessions that can take advantage of possible year-round opportunities; and

9) Increased funding for State Park facilities by the Legislature. Both Task Forces agree that there should be one administration, or at least coordinated administration, from Echo Junction to Bridal Veil Falls, in Provo Canyon, because the entire area will be linked.

According to Wasatch's separate statement, "The Jordanelle Reservoir is the largest Public Works Project undertaken in Wasatch

County and involves some \$396 million.

"...there are two recreational sites to be developed on the Jordanelle Reservoir to accommodate up to 5,160 people...both would have camping and picknicking units, fish cleaning stations, launching ramps, car and trailer parking, electrical hookups, restrooms, and drinking water from the nearby wells. There is an additional one hundred acres reserved for recreation development on the upper end of the north arm of the lake if the need should arise."

Additional Wasatch policies include: 1) Developing a plan to show how the following, quoted from the Final Environmental Impact Statement, will be accomplished:

"(Any development within the takeline must) adhere to County plan approval processes whereby any public development (Federal or local, including any recreation developments or facilities built around Deer Creek or Jordanelle Reservoirs) will comply with the same requirements as specified for private developments, (and) ensure that any lessee, manager, or operator abides by these same requirements.

2) Clarifying the relationship between the new State Park and abutting property owners, many of whom will utilize common road and sewer systems;

3) Devising a fishery plan for the reservoir which identifies the types of fish to be planted in the reservoir and where their most promising habitats will be, taking into account uses that compete with the fishery on the reservoir.

4) Delineating the responsibilities or overlapping governmental jurisdictions as they relate to the new park, like special service districts, the School District, Wasatch County, and the State of Utah.

**WASATCH.**

**WAVE**

Heber, Utah

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JUN 21 1983

# Wasatch-Summit Task Force Present Jordanelle Plans

The Wasatch and Summit County Jordanelle Task Forces presented their joint policy proposals for the Jordanelle State Park Master Plan during public meetings last week in Salt Lake City, Heber City, and Park City.

Task Force members, as well as other County officials and many private citizens, have generally described what they want to see around the reservoir as "quality" facilities and development. Their proposals have been published in previous issues of *The Wave*.

During the meeting in Heber City, Wednesday evening, Bob Mathis, Wasatch County Planner, added issues he will have to deal with, on behalf of the County, and what he considers to be some important, good policies for the State Park.

First, he said there must be good water systems, taking into account fire protection needs, that won't need to be changed or rebuilt for many years but can be expanded. Next, there must be access to public sewage treatment, which can accommodate the many different types of uses being projected. And, there must be good road access and parking facilities.

Force. David Wilson then completed the presentation with some additional comments, noting that he also represents Wasatch County on the Central Utah Water Conservancy District Board.

He urged participation and cooperation between everyone involved in planning the Jordanelle State Park and the surrounding private development. He pointed out that recreation from Echo to Deer Creek Reservoir will all be connected and that the planned trails even extend into Emigration Canyon and should be taken into consideration as the Jordanelle plans are formed.

He said some compromises would have to be made but that the parks, individuals, and developers also could form complementary relationships, and should contribute to the planning.

"It's important that people put out a hand of support and help instead of a hand to say 'I want this,' or 'I want that,' or 'I want money for this or that.' We don't think there's much room for a selfish turf battle anyplace along the line, or this thing will suffer as a result."

program and said the DWR avoids those types of programs because they create disease and other problems, especially when deer and elk become dependent on feeding.

Wilson pointed out that the deer already are dependent, returning to the same haystacks every year, and said the DWR should be at least indirectly responsible for the deer rather than the animals being dependent on local farmers.

Dick Baum, a member of the Task Force, described potential bicycle trails linking Jordanelle and Wasatch Mountain State Park, in some cases along existing roads, and west to the Great Western Trail. He said backpackers, horseback riders, and possibly cross-country skiers could share the trails. The only improvements required would be to clean the trails and take steps to prevent erosion.

Representing the Heber Valley Chamber of Commerce, Max Mawhinney described the potential commercial impact of Jordanelle recreational development, private and public, on Wasatch County, including:

- 2,020 housing units at the

Mayflower recreational project, compared to 3,600 units now in the County, a 54 percent increase;

- 500 of the Mayflower units will be motel-hotel rooms, compared to only 253 now in the County, a 200 percent increase;

- Probable shopping from Mayflower to the Heber Valley, only seven and one half miles away, rather than in Park City, which would more logically focus on motel-hotel development as skiing increases;

- 18 years of Mayflower construction, providing jobs;

- An additional 500 to 600 housing units on the Park City Consolidated Mines property, north of Mayflower.

He said further that visitors to Jordanelle will not be conscious of the Wasatch-Summit County lines.

Wilson also reported there is a preliminary arrangement between Heber Light and Power and the Conservancy District to put a power plant on the dam.

Max Miller, a Jordanelle property owner, objected to *The Wave* using "south arm" of the Jordanelle Reservoir when referring to what the consulting team calls the "east arm."



## Proposal Focuses on People, Wildlife

# State Presents Jordanelle Park Plan

MIDWAY, Wasatch County (UPI) — The proposed Jordanelle State Park would be designed to protect wildlife at the northern Utah site. Terry Green of the state Division of Parks and Recreation said Wednesday.

"We want to manage it so wildlife would be our first concern. The proposed development master plan calls for mostly open space surrounding the reservoir," said Green, the division's planning and policy coordinator.

The U.S. Bureau of Reclamation, which is supervising construction of

the Jordanelle Dam as part of the Central Utah Project, and the division held a public hearing Wednesday on the master plan.

Those public comments will be used to revise the proposal before it is presented Sept. 29 to the Utah Parks and Recreation Board, said Green.

One recreation feature at the reservoir, on the North Fork of the Provo River between Heber City and Park City, is a proposed 27-mile-long hiking and bicycling trail around the man-made lake.

"But we'll want to be able to close portions of the trail from time to

time, to protect wildlife," said Green.

"We'll want to keep people out of a golden eagle nesting area on the Provo River arm when the birds are rearing their young. And we have a 720-acre area on the same arm that is critical winter range for deer from January through March. The other critical habitat area is about 1,000 acres near the north arm that would be closed during the sage grouse strutting season."

The division also proposes setting up three zones on the Y-shaped lake, which will begin filling in the early 1990s.

The area near the dam would be open to speed boats for such activities as water skiing, while the Provo arm would be set aside primarily for fishing and sightseeing and the north arm primarily for sailing and windsurfing, he said.

The state agency proposes one major developed area, near Hailstone Junction, which will be submerged by the 250-foot-deep lake.

That site would include a marina to provide launching facilities for up to 10 boats at a time, docking slips for at least 75 boats, 3,500 feet of beach, a restaurant and restrooms, Green said.

The division proposes to let private concessionaires construct and run the marina and the restaurant, he said, "and possibly a hotel or motel."

Other proposals include a campground in the Rock Cliffs area on the Provo arm, to handle at least 40 campers or recreation vehicles and 40 tents, and a day-use area on the north arm for windsurfers.

# Parks division considers 27-mile trail around Jordanelle

## Engineer says path would cut through deer feeding grounds

By Lane Williams  
Deseret News staff writer

HEBER CITY — After the Jordanelle Dam is completed, the Utah Division of Parks and Recreation might build a 27-mile trail around the entire reservoir.

But such a trail would cut through important winter feeding grounds of deer herds and would exceed proposals laid out in the department's environmental impact statement, said Jeff Winston, an engineer with Bingham Engineering, which is helping the Parks Department.

One of two alternatives presented by the Parks Department at a public meeting at Wasatch Middle School recently would increase trails around the reservoir and add a hike-in camping area on the back side of the reservoir. The area is part of a critical deer winter range and might have significant impact on wildlife, Winston said.

The reservoir already sits in the path of big game migratory routes. After the reservoir is completed, many animals will die, officials said.

If the Parks Department decides to accept the added trail, either of two possible campsites near the lake or a proposed private concession on the lake's south shore, the Parks Department will need to complete a second environmental assessment, Winston and his associate Bruce Maw said.

The meeting was part of the Parks Department's ongoing process of designing a recreation area near Jordanelle. In June, three public meetings were held to solicit ideas and obtain input.

From those meetings and other planning sessions, two alternatives emerged. These were discussed in hearings this month in Heber City and Park City. A final public review of the chosen alternative will be Sept. 6 at the Wasatch Mountain State Park visitors center near Heber City.

The proposal will be presented to the Bureau of Reclamation and Utah Parks Board in October.

Jordanelle Dam, located north of Heber City and south of Park City, is slated for completion in 1993. Officials project that the reservoir will fill in the following eight years.

The two alternatives are similar in many respects. Each proposes heavy boating use near the dam for water skiing and fast boating. The reservoir's east arm would be for light boating like rowing and slow motor boating, and the north arm for windsurfing and sailing. The proposals do not specifically prohibit different water activities in different zones, but simply establish priorities.

The plans differ in number of trails and campsites, especially on the back side of the reservoir. The first alternative limits camping on the back side to shoreline camping that can only be reached by boat.

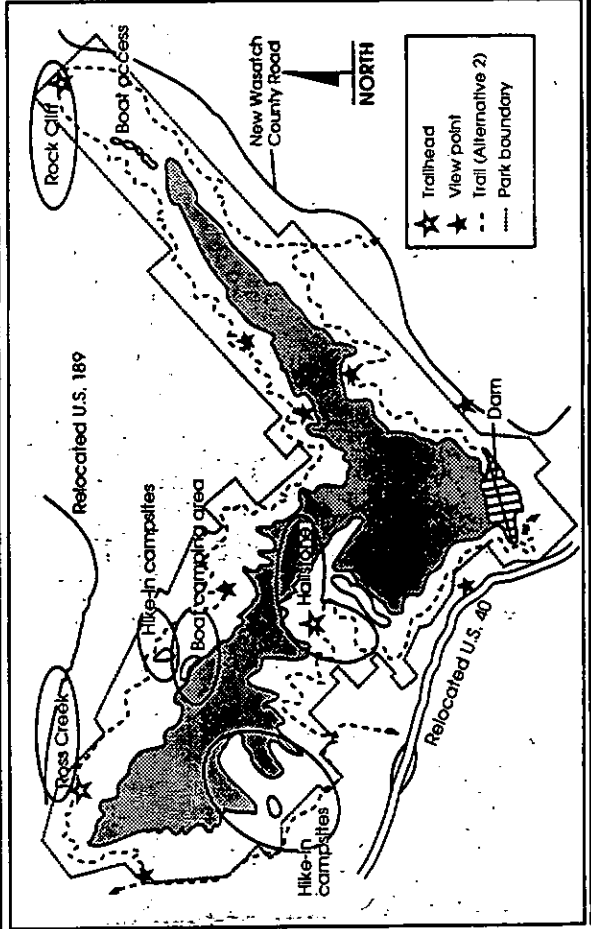
The second alternative includes a summer trail around the entire reservoir with one hike-in campground on the back side. Under the first alternative, the trail would not go around the back of the reservoir or much of the front.

The summer trail would be controlled by the park ranger who could limit access to hikers, horseback riders and mountain bikers. The trail would never allow motorized vehicles.

Both proposals would feature recreation facilities in three areas:

- Near the center of the reservoir would be the central village at Hailstone. It would have cross-country skiing, ice skating, tennis, a jet ski ramp, marina, restaurant, convenience store, bike rentals and horse stables.
- Near the tip of the north arm at Ross Creek would be group picnic facilities and a marina, included in both alternatives.
- At the east end of the east arm at Rock Cliff would be

Jordanelle State Park proposal



a boating ramp and camping facilities.

State fish and game officials think the north arm will have warm-water fishing and the east arm will feature cold-water fishing. The Provo River comes into the reservoir in the east arm. The best fishing will probably occur

during the first five to 10 years of the reservoir.

Because Jordanelle will help stabilize several reservoirs, it will fluctuate more than most. To solve that problem, Winston said, the parks department proposes terraced beaches and parking areas that would be covered and uncovered as the waters fluctuate.

# Local Officials Okay Jordanelle Plans So Far, But Funds are Short

Wasatch and Summit County representatives generally approved the proposed plans for the Jordanelle State Park. However, Bingham Engineering estimated the cost at up to \$20 million and only \$12 million has been budgeted.

Jeff Winston, Bingham Engineering, the consulting firm preparing the proposal for the State Division of Parks and Recreation, presented the final plans during a public hearing Sept. 6 at Wasatch Mountain State Park. He explained that the original plan, which was part of the Environmental Impact Study, included only three public recreational sites. Additional recommendations have been added, based on input during a series of public hearings to form the final plan his firm will recommend to the Parks and Recreation Commission by Oct. 1.

The proposal includes much more activity and development than the original plan and may require an environmental review, but not necessarily a complete impact study. Most people at the meeting agreed that visitation at Jordanelle can be expected to reach more than 900,000 per year.

After the hearing, Bruce Maw, a member of Bingham's Engineering team, said the group had decided earlier in the day that the most important construction on the park could be completed for the \$12

million, including sewer and water lines, restroom facilities and showers, fish cleaning stations, power, and some camping facilities. Boating facilities and the marina, beaches and other sports facilities could not also be built at that price, he said, but concessionaires could provide some of them.

One of the latest changes in the plan is to install a sewage collection system throughout the park, rather than using composting toilets, which had been previously planned for a sailing beach-head on the north arm of the reservoir. Winston recommended forming a sewage disposal district in the Jordanelle area and said a cooperative effort would free up about \$5 million for other things.

Wasatch officials have insisted on sewer connections, pointing out that the purpose for the reservoir is culinary water, so water quality should be a primary concern. A sewage connection system, with a trunk line along the west side of the reservoir that would be available to all users in the area, became more feasible when the Mayflower Resort, on the west shore of the reservoir, signed a contract last week for sewage treatment in Heber Valley.

The final park plan particularly protects wildlife, with both on-site and off-site mitigation, and recommends restricted use of wildlife

habitat during mating and winter feeding. It sections the lake into three territories, with sailing in the north arm, motor boats in the center, and wakeless use, primarily fishing, on the east arm. It includes 27 miles of trail, that can connect with other trails and form a system from the mouth of Provo Canyon to Echo Junction. So far, there are no plans for off-highway, motorized vehicles, but they could be developed as a separate project, using the taxes collected on licenses.

Bingham is proposing that one concessionaire be selected, who would subcontract to other concessionaires and be directly responsible to the Parks Department for management and construction of all private development within the park.

Although there is only enough space for a nine-hole golf course, on the west side, the Summit County Jordanelle Task Force wants 18 holes. Therefore, Winston said his firm is recommending a joint-venture by the Parks Department and adjacent landowners to develop the additional nine holes.

There had been suggestions that the main marina, on the west side, be a private club, to assure it would be maintained at a high level. But Winston said the final plan is for it to be a public marina, operated on a first-come, first-served basis.

Continued on Page 3A



Jeff Winston, Bingham Engineering, explained the final proposal for Jordanelle State Park to about 30 people, who attended the last public hearing to discuss the plans last week. He used a series of maps to demonstrate how the plans had evolved from only three basic public facilities to a \$20 million, high quality park, in response to public input. His firm will present the proposal to the Utah Division of Parks and Recreation by Oct. 1.

## Jordanelle...

Continued from Page 1A

He suggested the park be developed as a high quality recreational site, and that fees might be a little higher than at other State parks, to maintain the quality. Terry Green, Parks and Recreation, explained that the Division's policy is to charge the same at all parks and that the fees should be low enough that the facilities are available to everyone. But Winston said the Jordanelle Park could be considered a "flagship" for State Parks, developed to the highest possible standards, and possibly higher fees. If it proves successful, other parks could be upgraded, he said.

In spite of the detailed planning, a number of problems remain unresolved and won't be settled before the Oct. 1 deadline, like fire, police, and garbage services, Winston said. State personnel on public grounds are trained and authorized to handle law enforcement problems but, by law, must refer some to the County Sheriff. Fire equipment and firefighters from neighboring communities are also often required. Winston recommended that the Parks Department and Wasatch County form inter local agreements that spell out the details for those services and for garbage collection.

He said it is also probable that people will launch boats from the main marina, then camp on the shores, not necessarily in designated campgrounds. Even though it would be expensive to provide services and monitor the entire shoreline, some arrangements must be made in order to protect the environment, he pointed out.

Bingham further recommends that Jordanelle Park be managed under the State Department of Natural Resources, assigning Parks and Recreation to manage recreation and the Department of Wildlife Management to control wildlife, including the fishery.

Green said there was some agreement in his division with the suggestions that the Department of Natural Resources should manage the park and the idea of inter local agreements to provide services.

He said, "We're looking at facilities that are easy and less costly to maintain...We'd like to see a good mix of private capital and public capital, to develop a facility that's going to meet a broad spectrum of recreational needs...to help support the economy of Wasatch County and Summit County."

Bob Mathis, Wasatch County Planner, approved of the proposal, but objected to learning that night that the Parks Department doesn't have enough money to fully develop or take care of the park.

He said there is "a great deal more to be done" before engineering begins and strongly recommended that the following issues be resolved before then:

- The fact that there wasn't enough money to develop Rainbow Bay (on Deer Creek), doesn't change the fact that people go there. The fact that there wasn't enough money to recognize where people in Duchesne County would like to recreate on Starvation Reservoir, doesn't change the fact that they go there," he said.

- Policies for land use must be more specifically decided, and how the \$12 million will be spent must not be left up to the engineer.

- Fire protection, law enforcement, garbage costs, and enough personnel to continually monitor and report changes in water quality, fish and wildlife habitat, and vegetation.

- A transition team, composed of representatives of local governments, Parks Division, Bureau of Reclamation, and Department of Natural Resources, to decide policies and priorities, and resolve management issues.

- A clear, specific plan for roads, parking, water and sewer facilities.

- Specific policies for concessionaires and park employees, which are now "far too vague."

- Clarify land uses surrounding the park, which don't all relate to the water.

"These things are, in my opinion, the life and death of the park," Mathis said. "If we don't conceive of them now, to the best of our ability, we'll never catch up and [will] destroy the opportunities...to make this park successful."

When one man asked what could be done to protect the quality and type of development on the private land around the reservoir, McKay Edwards, who is developing Telemark Park near the reservoir, assured him, "The Wasatch County planning code is probably the most responsible code in the State of Utah...It is very comprehensive and I think that the planning is being done as conscientiously as anywhere in the state...There will be good control of what happens around the lake."

Fred Lilligren, recreational specialist for the Bureau of Reclamation, which is funding the park construction, said it is possible more money could be allocated. The Bureau needs to be convinced that the additional recreational facilities are needed and then it would request the additional funds from Congress. He said the Bureau is "leaning toward" Mathis's idea of a transitional team to continue with the planning.

U.      **Photographs of Desired Detail and Quality (slides available)**

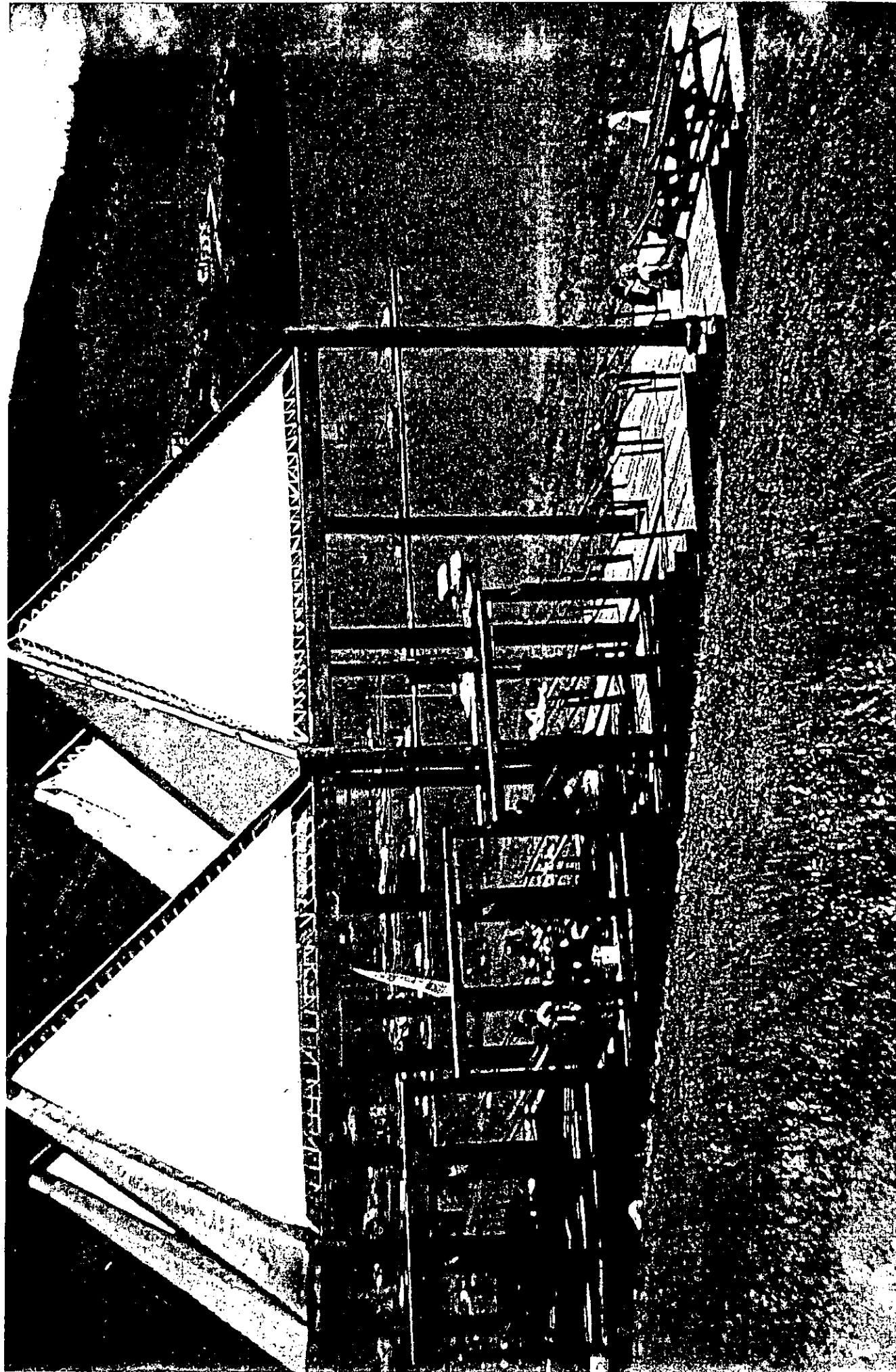
# ENTRY/ THEME

JORDANELLE STATE PARK MASTER PLAN - QUALITY DETAIL



COURTESY OF JENIFER HARRINGTON

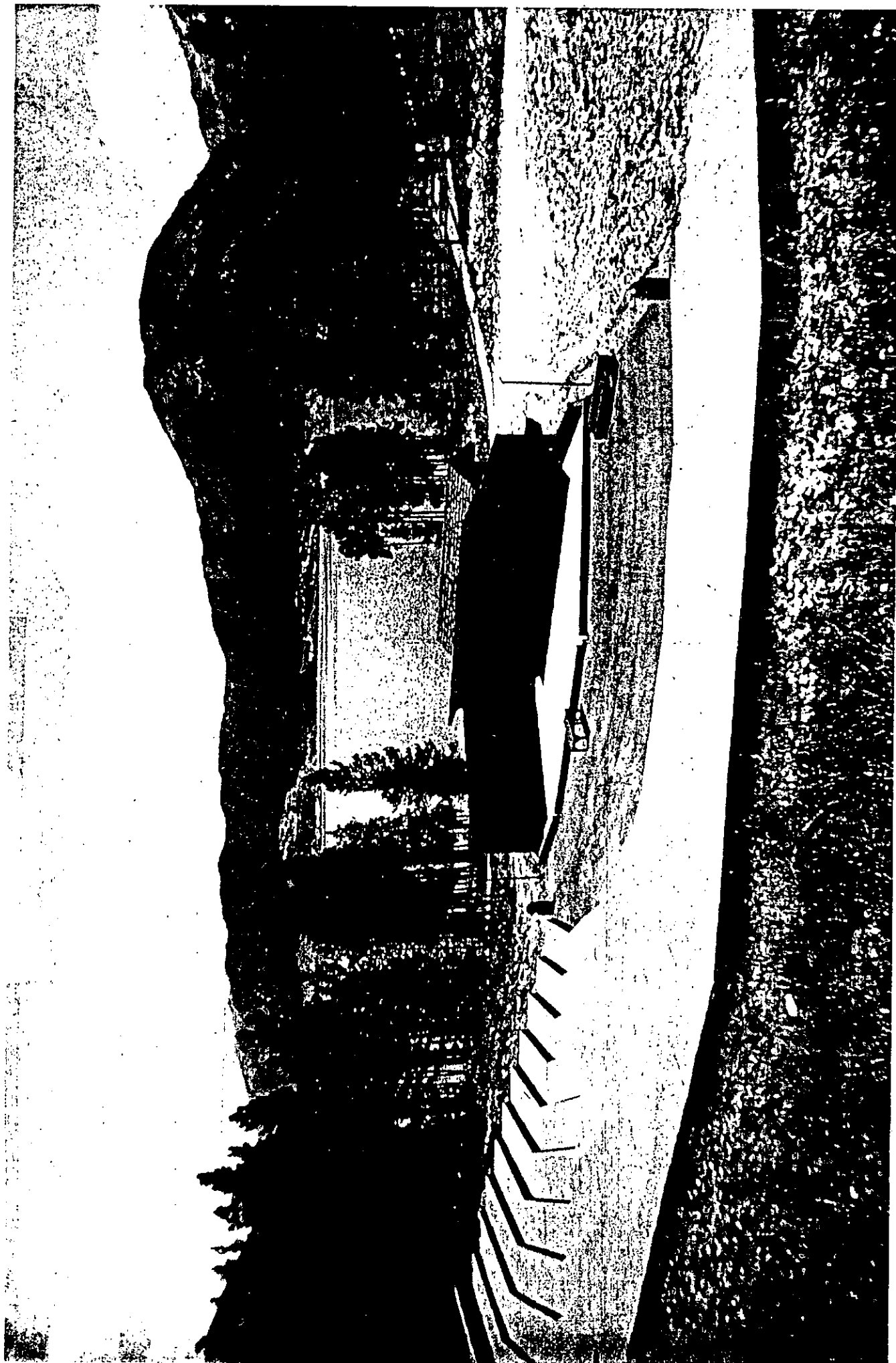
**AMPHITHEATRE/ ORIENTATION**  
JORDANELLE STATE PARK MASTER PLAN - QUALITY DETAIL



COURTESY OF JENIFER HARRINGTON

# AMPHITHEATRE / VIEWS

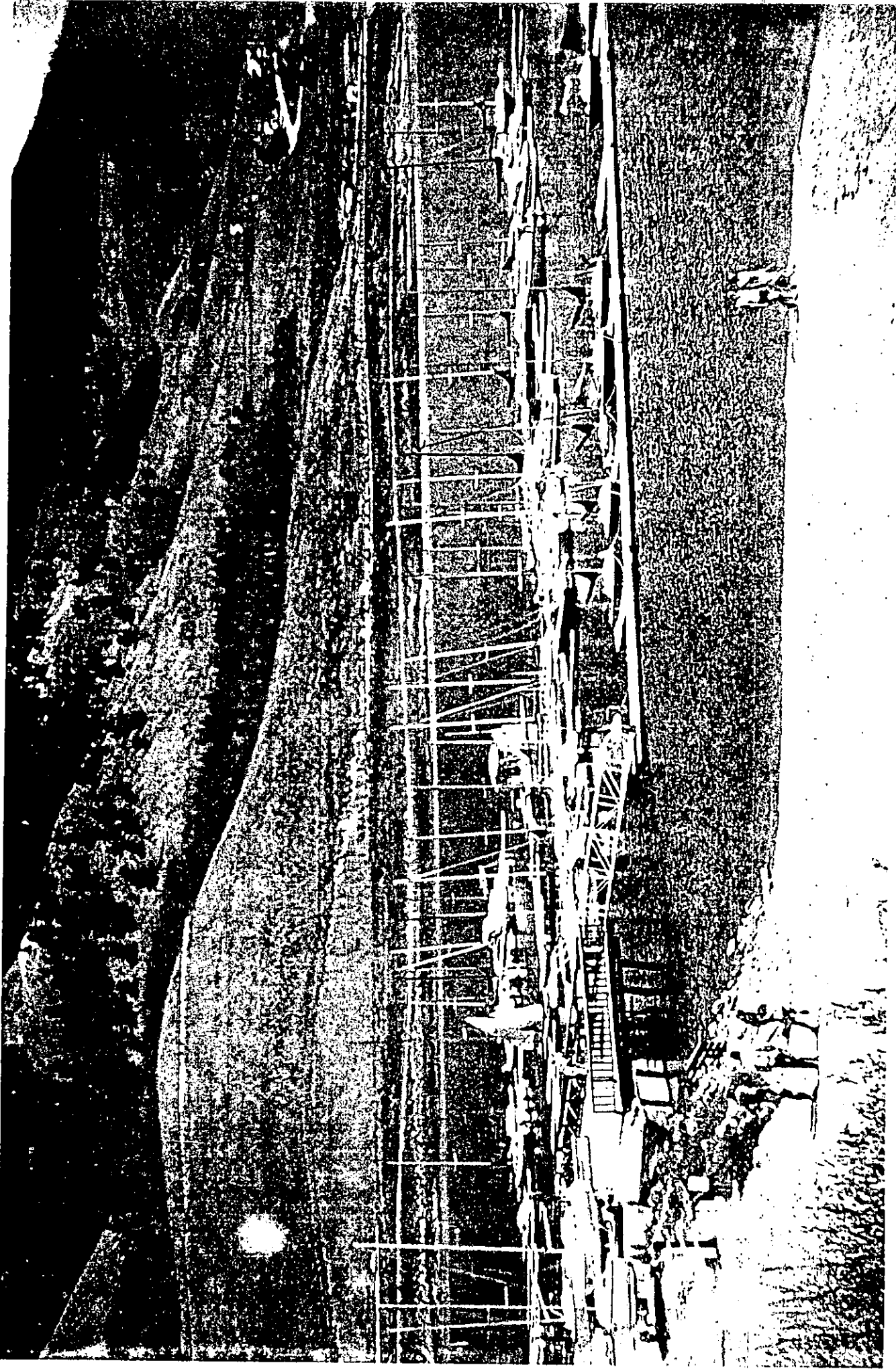
JORDANELLE STATE PARK MASTER PLAN - QUALITY DETAIL



COURTESY OF JENIFER HARRINGTON

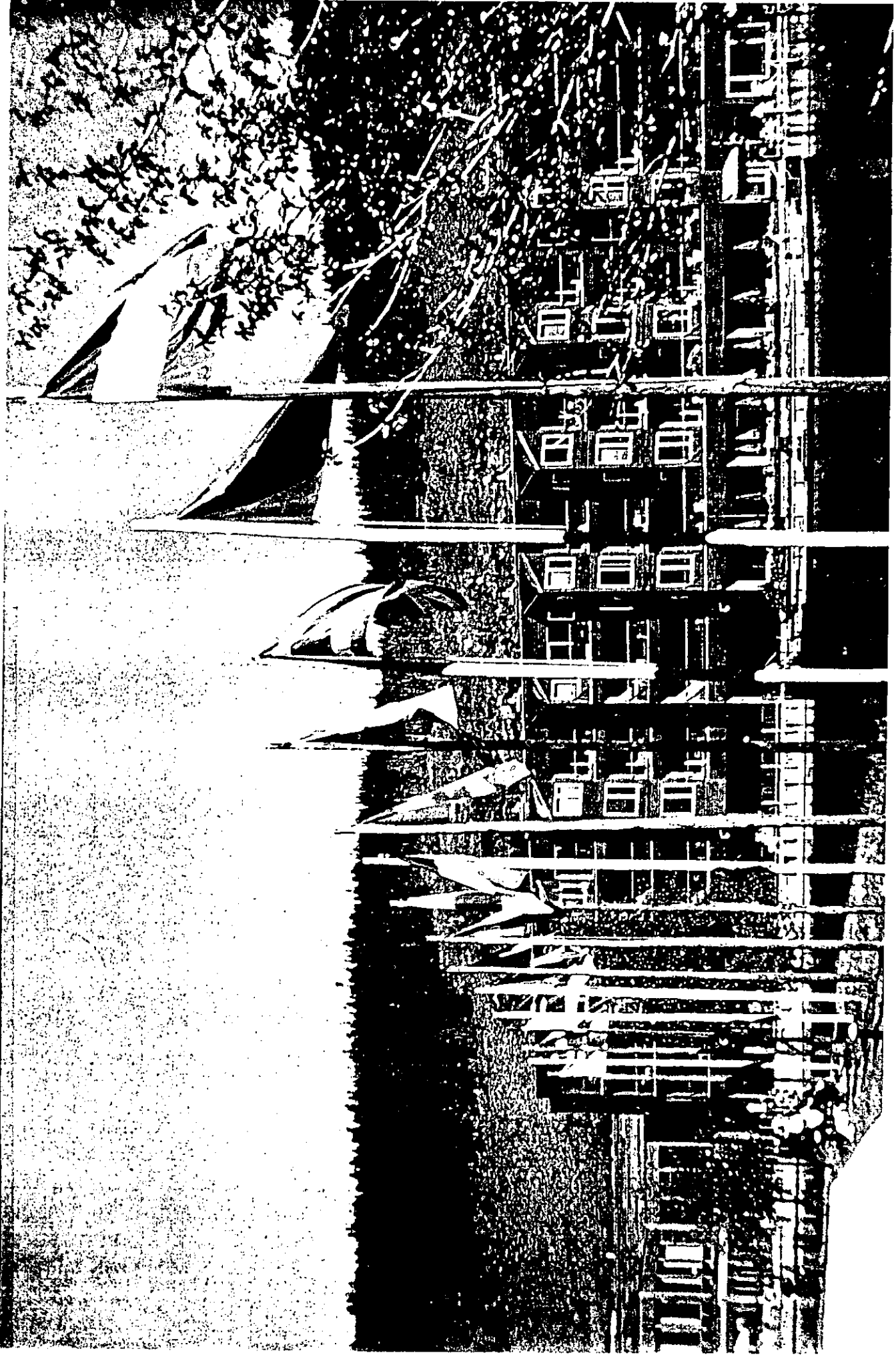


**MARINA/BOAT SLIPS**  
JORDANVILLE STATE PARK MASTER PLAN - QUALITY DETAIL



COURTESY OF JENIFER HARRINGTON

**SPECIAL EVENTS/PUBLIC SPACES**  
JORDANELLE STATE PARK MASTER PLAN - QUALITY DETAIL



COURTESY OF JENIFER HARRINGTON

# SIGNAGE/INTERPRETATIVE INFORMATION

## JORDANELLE STATE PARK MASTER PLAN - QUALITY DETAIL



# ACCESS/TRANSITIONS OF PROPERTIES

JORDANELLE STATE PARK MASTER PLAN - QUALITY DETAIL

