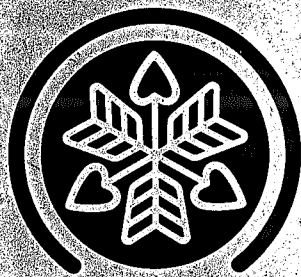


# METROPOLITAN DISTRICT SERVICE PLAN



**ARROWHEAD**  
AT VAIL

THE COUNTRY CLUB OF THE ROCKIES

ARROWHEAD METROPOLITAN DISTRICT

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# ARROWHEAD METROPOLITAN DISTRICT

## Plan Summary

### I.

#### A. Arrowhead

Arrowhead is a planned unit development serving the permanent and second family market in the Vail/Upper Eagle Valley area. Arrowhead includes approximately 2350 acres contiguous to Beaver Creek on the west. The development will include 1599 condominium units, 28 single-family units, 173 employee housing units, and 200 hotel rooms at completion. A Location Map is shown in Figure 1; a Vicinity Map is shown in Figure 2.

A variety of recreational amenities are being made available to serve the needs of the Arrowhead residents and visitors. Arrowhead will have a ski area with capacity for 3600 skiers per day; an 18-hole championship golf course, tennis and swimming facilities, and a clubhouse. Also, substantial common open space is provided with walking paths, bike paths, and equestrian trails and water features in the form of flowing water; fishing along the Eagle River within the development; and access to Forest Service lands bordering Arrowhead to the south. In addition, the project provides convenient access to the Vail Ski Area, 12 miles to the east, and the Beaver Creek Ski Area one mile to the east.

With the completion of I-70, Arrowhead is not only in the heart of Colorado ski country; but it is within two hours driving time from Denver; and within one hour of Glenwood Springs, the center of Colorado energy development. The area is served by two airports with daily commercial flights, and retains the benefits of the rapidly-developing urban services of the Vail/Upper Eagle Valley area.

Land use plans are provided in Figures 3 and 4. An integral part of the Arrowhead development plan is the provision of centrally-administered municipal services. Wastewater treatment services will be provided by Upper Eagle Valley Sanitation District through their regional plant. Eagle County will provide the "general government services" of law enforcement and regional planning. Architectural control and related common proprietary needs will be handled by the Arrowhead Design Review Committee. The Arrowhead Metropolitan District will construct the facilities for and assume administrative responsibility over the critical municipal services of domestic water supply, fire protection, road construction and maintenance, public parks with recreational facilities thereon, storm drainage, transportation, television signal transmission, and public area landscaping.

In conclusion, Arrowhead is a community thoroughly planned by Arrowhead, Ltd., a limited partnership, whose principals have an established record of quality development in Eagle County. The Arrowhead Metropolitan District is a key factor in the construction and administration of high quality public facilities to serve the community. A Boundary Map and legal description is included in Figures 5 and 6.

## B. Land Uses - Growth Projections - Phased Improvements

It is expected that Arrowhead will contain approximately 1599 condominium units, 200 hotel rooms, 157,000 square feet of commercial space, 28 single-family units, and 173 employee housing units. The owners will phase the construction schedule in a manner to insure orderly development and provision of public services.

Appendices A and B, respectively, reflect the decision to install capital improvements promptly with the start of each new phase of the development, despite the conservatively estimated growth.

Along with the planned unit development conditions, certain development restrictions and covenants provide in detail for the relative rights, responsibilities and obligations of the property owners within Arrowhead. A Design Review Committee is provided to administer and enforce the protective covenants. These covenants also cover drainage, land use, and nuisance matters, and will be administered in coordination with the Eagle County Department of Planning and Development.

## C. Need for a Metropolitan District

The purpose of the Arrowhead Metropolitan District is to supply the necessary services of domestic water, fire protection, roads, drainage, public parks with recreational facilities thereon, transportation, and television transmission. The State Legislature, as provided in the Colorado Revised Statutes 32-1-201 and 32-3-101, has recognized that a centralized public authority can promote comprehensive planning of community needs and provide a program of municipal debt financing to equitably distribute the costs over an extended period of time. It is believed that Arrowhead is an excellent example of a desire for public improvements, designed specifically for the community most benefiting, and that the Arrowhead Metropolitan District will provide the best possible vehicle for the provision of these services. While meeting the community needs, no peripheral financial burden will be placed on other residents of Eagle County.

## D. Other Public Services

Certain public services will be supplied by private and government entities already in existence. The services to be provided by other organizations have been shown in the development plan to be adequately supported financially by the Arrowhead project. These services include:

### 1. Electricity

The Holy Cross Electric Association includes the Arrowhead area in its certificated service area, and will supply electric power to the project under the rules of the Public Utilities Commission.

### 2. Natural Gas

The Public Service Company of Colorado includes Arrowhead in its certificated service area, and will supply natural gas under the rules of the Public Utilities Commission.

3. Telephone

The Eagle Valley Telephone Company includes Arrowhead in their certificated area, and will supply telephone service to the project under the rules of the Public Utilities Commission.

4. Police Protection - Construction Inspection - Animal Control

Eagle County will provide law enforcement, building inspection, and animal control to the Arrowhead project.

5. Schools

Eagle County School District RE 50-J includes the Arrowhead Development within its boundaries. A cash contribution in lieu of land is being made to the School District by Arrowhead, Ltd.

6. Sewage Treatment

The Upper Eagle Valley Sanitation District will provide wastewater treatment facilities and service to Arrowhead.

7. Solid Waste Disposal

Trash removal and disposal will be contracted for by individual property owners. The Arrowhead Metropolitan District cannot assume this responsibility at this time, but will be alert to the possibility of assuming this authority when it is legally able. The Metropolitan District will attempt to contract for the billing of these services through the water bills and thus effect some economies for its customers.

ARROWHEAD METROPOLITAN DISTRICT

Detail of Services to be Provided

II.

A. Domestic Water System

1. System Description

The design standards for the water system will meet Colorado State Department of Health minimum requirements for potable water systems and meet the minimum design requirements of the Insurance Services Office.

The potable water system for Arrowhead will use a combination of a groundwater source (wells) and a surface water source (stream diversions and water treatment plant). The wells would supply up to their optimum capability and the water treatment source would provide the balance needed. The system design provides for a looping system requiring 21,000 linear feet of ductile iron pipe with minimum sized water lines of 6" ranging up to 12". Main distribution and transmission lines requiring approximately 1900 linear feet of pipe will range to a maximum size of 30".

A one-million gallon storage tank will be located at the highest elevation in the system, which was chosen to provide a minimum ground level system pressure of approximately 60 psi and a top floor pressure of approximately 45 psi in the village condominiums. The system is designed to provide needed fire flows ranging from 1500 to 3500 gpm for periods of three hours or more.

2. Demand and Water Rights

Two estimates are required for the domestic and commercial area demands: (1) a maximum day demand (in gpm) is required for sizing pipelines and finished water storage, and (2) the annual demand is required for estimating water rights needed.

The maximum day demand should occur when the area is experiencing maximum occupancy. The population of Arrowhead at Vail under maximum occupancy conditions was estimated by assuming the number of bedrooms that will be included in each size of planned residential unit. Water demands were then estimated using an average demand of 75 gallons per customer per day (gpcd), and a maximum demand of 150 GPCD. The total ultimate demand is estimated to be 1360 acre feet per year.

Groundwater supplies probably will be insufficient to provide the total ultimate development needs. The Eagle River surface diversion would provide a back up and supplemental supply. Project planning includes a water right for municipal surface diversions. Accordingly, a filing was made for the Arrowhead Eagle River Ditch and Pipeline with the Division 5 Water Court. This right was given a conditional decree for 5 cfs from the Eagle River, and was signed by the Water Judge on July 24, 1980. Therefore, alluvial groundwater development can provide initial project requirements, and if insufficient, can be supplemented with Eagle River surface diversions. The 5 cfs water right approved by the court represents 2245 gallons/minute, or 3.2 million gallons/day.

In October, 1980, a plan for augmentation for the Arrowhead project was filed with the Division 5 Water Court (Case No. 80CW397). The purpose of the plan is to provide a legal water supply for the project, permitting junior municipal water rights to (wells plus Eagle River Ditch and Pipeline) divert in priority year around.

Adequate water rights, as shown in Appendix E, are presently owned or controlled by Arrowhead, Ltd. Water rights will be conveyed to the district by Arrowhead, Ltd., and will include both municipal rights for the domestic system and agricultural rights for irrigation of the golf course. The cost of converting the irrigation rights necessary for domestic use has been included in the water system capital improvements.

In summary, a high-quality water system, as illustrated schematically in Figure 7, will provide finished water supplies to the property within the district. Special attention has been given to adequate storage treatment, protection against freezing, raw water supplies and adequate water rights.

#### B. Parks and Recreation Area

Parks and recreational facilities include an 18-hole championship golf course designed by Jack Nicklaus Design, Inc. Golf use will insure that the majority of the acreage in the meadows at Arrowhead will remain as open space. The course is scheduled for opening in late 1983.

Skiing is also planned. It is anticipated that mountain construction will be phased over six years, with the first lifts planned for opening in the winter of 1985. Snowmaking has been planned for over 150 acres of the 200 acre mountain.

The tennis center is expected to include ten tennis courts, including a tournament court, swimming pool, and clubhouse.

A 10-acre park is located in the northwest section of the development. It will include playfields, a tot-lot, a water pumping station, and other shelter structures normally associated with parkland. This park is bordered by the Eagle River.

In addition, the development plan includes 3.1 miles of pedestrian pathways and bikeways and an equestrian/ski touring center at the south end of the property.

The Arrowhead Metropolitan District will provide landscaping maintenance for all public areas of open space. These areas include parks, play fields, malls, roadway medians and entrances to the development. Also included is maintenance of McCoy Creek within the Arrowhead Village core area.

#### C. Street Construction

All roads will be constructed in accordance with Eagle County standards as each phase of the development becomes available for sale. Accommodations for water and sewer stub-outs have been made by Arrowhead. A detail of the road system is shown in Figure 7.

Approximately five miles of roads are planned. The road system will access from Highway 6, one mile west of the Avon Interchange. The arterial road (Arrowhead Drive) has a 110 foot right-of-way, a pavement width of 20 feet for each lane, and a 14 foot drainage swale, also used for snow storage. The collector roads



have 60-80 foot right-of-ways, with a 24 foot pavement width and a 12 foot drainage swale. Local roads within the development have a 50 foot right-of-way, 22 foot pavement width, and a twelve foot drainage swale. All roads will be constructed with two inches of asphalt pavement and six inches of compacted base.

The maximum grade for the roads planned within the Arrowhead Metropolitan District boundaries is 8%. The roads have been designed for 30 m.p.g., and no parking will be allowed. Drainage will be handled by roadside ditches and culverts.

#### D. Drainage

The Arrowhead Metropolitan District will finance and coordinate construction of a storm drainage system.

Portions of the McCoy Creek channel within the mountain canyon and across the meadow will be realigned by this development. The lower reaches of the channel within the mountain canyon and the entire reach of channel across the meadow will be improved. The low flow portion of the channel will be lined with cobbles and boulders to reduce degradation. The higher portion of the channel will be lined with vegetation to reduce erosion and provide a natural appearance. Roadway crossings of McCoy Creek will be designed to pass the 100 year discharge without over topping.

Concentrated runoff from the other on-site drainage basins will be carried as overland flow or swale flow as much as possible. This improvement will help maintain peak discharges at existing levels and keep filter pollutants from the runoff before it enters McCoy Creek or the Eagle River.

Detention storage will be provided to reduce peak discharge before leaving the development.

Roadway crossings (other than McCoy Creek) will be designed to pass the ten-year discharge without overtopping, and the 100-year peak discharge with controlled overtopping.

#### E. Television Transmission

The Arrowhead Metropolitan District will provide coordination and financing for television transmission. The system will provide cable transmission or T.V. Translator Stations extending television signals from Castle Peak to all properties within the development.

Either system will provide quality television reception to the area, and eliminate the need for outside antennas. The installation of these facilities will enhance property values of the area, but would be impossible to provide through a non-governmental entity.

F. Transportation System & Facilities

Two types of bus service has been planned for Arrowhead, the valley-wide service, and the internal shuttle. The valley bus includes a stop at the Transportation Center and Central Check-in/Information Center in the Village. The Internal shuttle will service all of Arrowhead. Running at regular intervals, the shuttles will travel in one-way loops between the Village and the outlying areas. Buses will be equipped with special racks for skis. Bus shelter benches, signage for bus routes, and lighting will be located where appropriate throughout the development.

Maintenance of bus-related facilities will be the responsibility of the metropolitan district.

G. Fire Protection

Dwelling units within the district will have a value exceeding \$150,000. A high quality fire protection organization will have tangible economic benefit to property owners. Accordingly, the district proposes to contract with the Eagle-Vail/Avon Fire Department for professionally-trained fire protection services.

Equipment necessary for participation in the regional fire department will be ordered as required. The Arrowhead Metropolitan District plans to construct a fire station in 1985.

ARROWHEAD METROPOLITAN DISTRICT

Capital Construction, Phasing, Costs & Source of Funds

III.

The cost estimates for construction and design of the necessary facilities for the Arrowhead Metropolitan District are outlined below by year of proposed construction. These costs include a 15% contingency factor for each year from 1981. A summary of these capital costs is shown in Appendix A.

It is significant to note that no land costs are included in these capital improvements. Arrowhead, Ltd. is the owner of all land which will be needed by the District and will donate sufficient property rights to the District for its land needs. The division of "Type A" and "Type B" facilities is for purposes of identifying those improvements which may have certain municipal bonding restrictions relating to them. Briefly, throughout the capital construction years of 1981-1986 not more than \$1,000,000 in Type B capital facilities are funded through municipal bonds. There are \$10,450,000 in Type A facilities and a total of \$6,200,000 estimated in Developer contributions. These amounts are all estimates and subject to adjustment as a result of changing costs, economic conditions, and the financial capacities of the District and the Developer.

1981

Road improvement plans are to rough grade and gravel the roads; install culverts; and construct three pedestrian underpasses. Drainage improvements will include excavation and lining of McCoy Creek, as well as realignment of the drainage ditches and water augmentation pond excavation. Water system improvements will begin with construction of a 1,000,000 gallon storage tank. Rough grading will begin for the golf course.

Type A Facilities

Surface drainage (Engineering = \$146,000)	\$973,000
Water system (Engineering = \$91,000)	694,000
Legal/Organizational Costs	<u>25,000</u>
	<u>\$1,692,000</u>

Type B Facilities

Roads (Engineering = \$93,000)	<u>\$717,000</u>
Total 1981 Capital Improvements	<u><u>\$2,409,000</u></u>

Source of Funds

Bond Proceeds	Type A	\$1,725,000
	Type B	700,000
Less: Reserve for 1982 Capital Improvements		<u>-16,000</u>
Total sources of funds		<u><u>\$2,409,000</u></u>

1982

Road improvements will include continuation of culvert installation, manhole installation and bridge construction.

Drainage improvements scheduled for 1982 are:

- 1) Construction of velocity control structures in McCoy Creek.
- 2) Construction of pond outlet and spillway structures.
- 3) Pond lining.
- 4) Revegetation of McCoy Creek, irrigation ditches and ponds.

Water system improvements will include completion of the storage facility, installation of well and pumping equipment, chlorination equipment, and pressure reducing systems. Pipe will be laid for the water distribution system.

Fine grading will start on the golf course; the sprinkler system will be installed; and the course is scheduled to be seeded.

Type A Facilities

Surface drainage (Engineering = \$166,000)	\$1,272,000
Water system (Engineering = \$140,000)	1,073,000
Parks, landscaping	<u>250,000</u>
	\$2,595,000

Type B Facilities

Roads	<u>\$ 899,000</u>
Total 1982 Capital Improvements	<u><u>\$3,494,000</u></u>

Sources of Funds

Bond Proceeds Reserved in 1981	\$ 16,000
Developer interest free loans or contributions	3,400,000
Tap Fees, Interest & Net Operating Revenue	<u>78,000</u>
Total Sources of Funds	<u>\$3,494,000</u>

1983

Road improvements for 1983 are paving and roadway revegetation. Major roads will have 12 inches of asphalt. Local roads will have a six inch layer of pavement. In addition, turning lanes and other improvements will be added to U. S. Highways 6 and 24.

The remainder of the water distribution system will be completed including a maintenance building. Systems that loop through the development will be started at this time.

Several tennis courts and swimming pool will be constructed, along with the necessary supporting facilities.

The golf course is scheduled to open in the fall of 1983.

Television transmission facilities are also scheduled for completion.

Type A Facilities

Water System (Engineering = \$128,000)	\$ 986,000
Recreation (Engineering = \$124,000)	<u>950,000</u>
	<u>\$1,936,000</u>

Type B Facilities

Roads (Engineering = \$89,000)	\$ 679,000
T. V. Transmission	<u>200,000</u>
	<u>\$ 879,000</u>
Total 1983 Capital Improvements	<u>\$2,815,000</u>

Source of Funds

Bond Proceeds Type A	\$2,425,000
Less: Amount reserved for 1984 Type A Capital Improvements	<u>-489,000</u>
	<u>\$1,936,000</u>
Developer interest free loans and contributions	500,000
Tap Fees, Interest, and Net Operating Revenue	<u>379,000</u>
Total Sources of Funds	<u>\$2,815,000</u>

1984

The proposed district plans to complete the domestic water system; construct a maintenance facility for the transportation system; complete additional swimming and tennis facilities; and grade and seed the play fields in Arrowhead Park. In addition, a fire truck and peripheral fire protection equipment will be purchased.

Type A Facilities

Water system (Engineering = \$39,000)	\$ 300,000
Transportation Maintenance Facility	250,000
Recreation	<u>920,000</u>
	\$1,470,000

Type B Facilities

Fire Protection	<u>172,000</u>
Total 1984 Capital Improvements	<u>\$1,642,000</u>

Source of Funds

Bond Proceeds reserved in 1983 - Type A	489,000
Bond Proceeds - Type A	<u>810,000</u>
Subtotal	<u>\$1,299,000</u>
Developer interest free loans and contributions	1,000,000
Less: Amount reserved for debt service	<u>657,000</u>
Subtotal	<u>343,000</u>
Total Sources of Funds	<u>\$1,642,000</u>

1985

Capital improvements for 1985 include additional landscaping in Arrowhead Park and construction of the bike path/walkway system. Construction of the fire station will also begin.

Type A Facilities

Recreation  
(Engineering = \$80,000) \$ 620,000

Type B Facilities

Fire Protection 322,000

Total 1985 Capital Improvements \$ 942,000

Source of Funds

Bond Proceeds \$ 661,000

Developer interest free loans and contributions 500,000

Less: Amount reserved for debt service 219,000

Subtotal \$ 281,000

Total Sources of Funds \$ 942,000

1986

Equestrian facilities and trails are scheduled for completion. In addition, it is possible that some of the tennis courts will be enclosed. The fire station will be completed.

Type A Facilities

Recreation  
(Engineering = \$80,000) \$ 635,000

Type B Facilities

Fire Protection 77,000

Total 1986 Capital Improvements \$ 712,000

Source of Funds

Bond Proceeds \$ 712,000

Developer interest free loans and contributions of \$300,000 reserved for debt service.

1987

Developer interest free loans and contributions of \$500,000 reserved for debt service.

ARROWHEAD METROPOLITAN DISTRICT

Economic Feasibility and Financing

IV.

A. REVENUE PROJECTIONS AND POLICIES

1. Growth Projections

The Arrowhead phasing schedule and development summary are shown in Appendices F and G. This schedule is reasonable since the infrastructure and amenities will be substantially completed prior to condominium sales.

Population estimates are shown in Appendix B. The expectation is that the population will grow from 270 in 1982 to 7000 in 1993. These population growth projections assume 3.5 persons per equivalent unit.

2. Assessed Valuations and Property Tax Revenue

Appendix B details the assessed valuation growth and property tax revenue projections for the Arrowhead Metropolitan District. The basis of the estimates is that each unit will have an average value of \$205,000. and that property values will increase 5% per year. The valuation for assessment is calculated on 20% of actual value, while state law requires 30%

A mill levy assessment of 20 mills is assumed throughout the life of the project. While this level is reasonable for the wide range of services to be provided by the Arrowhead Metropolitan District, it is probable that it will be reduced by the Board of Directors, since actual experience should be more favorable than the estimates. Also, substantial accumulated surplus is projected in later years, but state law will not allow these balances to be carried forward.

3. Water Tap Fees

Water tap fees or plant investment fees are one-time payments made by property owners and builders to partially pay for the capital costs of constructing capital facilities in the proposed district.

The water tap fees are to be paid by the property owner or builder at the time the connection or tap is made into the water system. This fee does not cover the costs for construction of the service lines to the structure, water meters, cut-off valves, or other equipment which may be related to the connection. All of these costs are to be borne by the property owner or the builder.



Water tap fees are based on the average of tap fees charged by other water suppliers in the region. The fees are \$2,000 per residential dwelling unit and \$2,000 per "equivalent dwelling unit" as produced by the commercial development. The equivalency of commercial development to a dwelling unit will be measured through the equivalency system developed by the Upper Eagle Valley Sanitation District and used by most water districts in Eagle County.

#### 4. Water Service Charges

Water service charges are shown in Appendix B as \$20/unit/mo. minimum. Water meters will be required and a charge will be assessed for excess usage over 10,000 gallons per unit per month. These revenue projections do not reflect any increase due to inflation over the life of the service plan, nor are the revenues from excess usage projected. This conservative approach allows for operational cost increases to be offset by this revenue, if necessary.

Service charges will follow the same equivalency system referenced earlier and in use throughout the Upper Eagle Valley. The water meters and excess use charges will encourage water conservation. District policies will also require water conserving shower heads and toilets.

#### 5. Television Transmission Charges

These are shown in Appendix B as \$4/unit/mo. and simply match the projected cost of operation and capital amortization. These charges would be included with the water bills.

#### 6. Availability of Service Charges

No assessment of an availability of service charge is anticipated. The District Board of Directors will have the authority to assess a small charge to vacant property to which water service has been extended but no tap is made. It is not anticipated that such a charge will be necessary.

#### 7. Developer Interest Free Loans or Contributions

Appendix C shows \$6,200,000 in developer contributions spent throughout the first seven years of the district's operation to assist in the construction of the capital facilities. The actual amount of such developer loans may vary substantially. These loans will only be made to the extent that the District lacks other reasonable sources of finance. Should the District's financial capability be greater than estimated herein at any future time, the District may initially sell bonds to produce funds shown herein as developer contributions. In addition, as mentioned earlier, Arrowhead, Ltd. is the owner of the land which will be needed by the district for its facilities. Arrowhead, Ltd. will donate sufficient property rights to the District for its land needs. The \$6,200,000 in developer contributions are in addition to these land donations.

While the district will be obligated to repay the developer contributions in later years, such repayment will be without interest and on dates based upon the availability of excess funds. In addition, this liability will be subordinate to the bonded indebtedness of the Arrowhead Metropolitan District. Per Appendix C, it is expected that funds will be available to begin reimbursing those interest free advances in 1990. This arrangement of receiving developer assistance in the early formative years of the district allows the district to preserve a strong financial standing at the risk of Arrowhead, Ltd.

#### B. FINANCING SUMMARY

The full summary of financing capabilities is shown in Appendix C. Operational costs will be met with current operating charges structured around a fair fee for the benefit received. The principal sources for financing for capital facilities are: municipal bonds, developer contributions to assist the cash flow in early years, and accumulated surpluses - primarily from the tap fees in early years.

The appendices show conservatively high capital construction costs, a 15% contingency, and conservative revenue projections. In addition, substantial financial backing is provided by Arrowhead, Ltd., in the early years. The extreme surpluses shown in the later years will not be allowed to actually accumulate, but instead will be applied to early redemption of outstanding bonds, or redemption of the developer advances, or to the lowering of service charges or a combination of the three alternatives.

#### C. BONDING

Appendix C outlines the bond issues contemplated and the combined debt service payments over their lives. The letter provided in Appendix E demonstrates underwriter support of the feasibility of the financing proposal. A total of \$11,450,000 in municipal bond financing is shown. In addition, the plan shows that the District will require additional contributions totaling \$6,200,000 without discount or escrowed interest. If these contributions were funded by municipal bonds, the required escrowed interest and discount would result in a total of \$1,350,000. While it is currently estimated that the District will issue only \$11,450,000 in bonds as set forth in Appendix C, authority will be requested from district electors to issue a total of \$19,000,000 in general obligation bonds, long term contracts, long term leases, or notes with a net effective interest rate not to exceed 15% and a maximum discount rate not to exceed 10%. In addition, the \$19,000,000 authorization will allow reimbursement agreements with the developer which will carry no interest and no discount.

APPENDIX A

ARROWHEAD METROPOLITAN DISTRICT

CAPITAL OUTLAY (000)

	1981	1982	1983	1984	1985	1986	TOTALS
Type A							
<u>Capital Improvements</u>							
Surface Drainage	973	1272					2245
Water System	694	1073	986	300			3053
Transportation Maint. Facility Recreation				250			250
Swimming, Tennis Parks, Landscaping		250	600	500	100	175	1375
Legal/Organization Costs	25		350	420	520	460	2000
							25
Total Exempt Facilities	1692	2595	1936	1470	620	635	<u>8948</u>
Type B							
<u>Capital Improvements</u>							
Fire Protection Roads	717	899		172	322	77	571
T. V. Transmitting			200				2295
							200
Total Non-Exempt Facilities	717	899	879	172	322	77	<u>3066</u>
Total Capital Outlay	2409	3494	2815	1642	942	712	<u>12014</u>

APPENDIX D

Wall Street of the Rockies  
**Boettcher & Company**  
Investment Bankers Since 1910

828 Seventeenth Street • P.O. Box 54  
Denver, Colorado 80201 (303) 629-2020

June 1, 1981

Mr. James P. Collins  
Collins & Cockrel, P.C.  
445 Union Blvd. #123  
Denver, CO 80228

Re: Arrowhead Metro-  
politan District

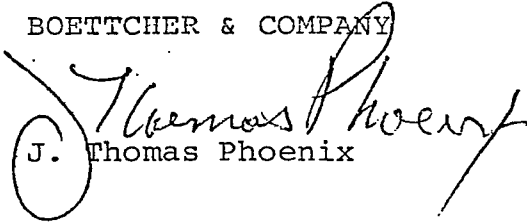
Dear Mr. Collins:

Examination of preliminary information provided to us about the above-named project, and discussions with the various consultants, have permitted us to make the determination that the area to be included in the proposed district will have the financial ability to discharge the proposed indebtedness on a reasonable basis.

This assumption, of course, is based upon the occurrence of the projected growth as indicated by both the engineers and the representatives of the owners of this project.

Very truly yours,

BOETTCHER & COMPANY

  
J. Thomas Phoenix

JTP/lal

APPENDIX E

WRIGHT WATER ENGINEERS, INC.

ENGINEERING CONSULTANTS

2420 ALCOTT STREET  
DENVER, COLORADO 80211  
(303) 458-6201

KENNETH R. WRIGHT  
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P.O. BOX 1286  
GLENWOOD SPRINGS, COLORADO 81601  
STEAMBOAT OFFICE  
P.O. BOX 5220  
STEAMBOAT VILLAGE, COLORADO 80499

April 13, 1981

Mr. Jen Wright  
Arrowhead, Ltd.  
P.O. Box 3418  
Vail, CO 81657

Dear Mr. Wright:

Wright Water Engineers, Inc. has provided engineering services to Arrowhead, Ltd. since February, 1980. The scope of our services has included evaluation of water rights, augmentation plan studies and preparation, testing and development of alluvial groundwater, and surface water hydrology.

Based on our water resource work, taking into consideration the physical and engineering-legal constraints, it is our opinion that a municipal water supply can be developed and put to beneficial use with a capability of meeting demands in the range of 1.5 million gallons per day.

The physical supply recommended is a combination of a groundwater source (wells) and a surface water source (stream diversions and water treatment plant). The wells would supply up to their optimum capability and the water treatment source would provide the balance needed.

The magnitude of the yield of the groundwater supply is uncertain because Arrowhead is still in the exploration and development stage for wells. The greater the well capability, the less Arrowhead would utilize the water treatment plant.

During 1980-1981, Wright Water Engineers conducted pumping tests on a production-test well and observation wells, and conducted aquifer testing. The results of the testing so far indicate that the alluvial aquifer is apparently a good producer and the water quality is acceptable for potable uses. Aquifer conditions which have been encountered indicate that the aquifer is complex, that is, there are uncertainties and questions as to how extensive and productive it is. Answers can best be obtained by a methodical program of orderly and continued well construction and testing.

Orderly aquifer testing and development, of the well field should proceed by drilling a series of additional producing wells. Each newly completed well would provide additional data on long term pumping rates and yields, and how best to manage the aquifer as a water resource.

Mr. Jen Wright  
 April 13, 1981  
 Page 2

Groundwater supplies probably will be insufficient to provide the total ultimate development needs. The Eagle River surface diversion would provide a back up and supplemental supply. Our project planning, included a water right for municipal surface diversions. Accordingly, a filing was made for the Arrowhead Eagle River Ditch and Pipeline with the Division 5 Water Court. This right was given a conditional decree for 5 cfs from the Eagle River, and was signed by the Water Judge on July 24, 1980. Therefore, alluvial groundwater development can provide initial project requirements, and if insufficient, can be supplemented with Eagle River surface diversions. The 5 cfs water right approved by the court represents 2245 gallons/minute, or 3.2 million gallons/day.

In October, 1980, a plan for augmentation for the Arrowhead project was filed with the Division 5 Water Court (Case No. 80CW397). The purpose of the plan is to provide a legal water supply for the project, permitting junior municipal water rights to (wells plus Eagle River Ditch and Pipeline) to divert in priority year around.

It is our opinion that Arrowhead controls sufficient senior agricultural water rights provide a sound basis for the contemplated municipal water supply plan.

If you have any questions regarding this letter, please feel free to contact us.

Very truly yours,

WRIGHT WATER ENGINEERS, INC.

By Richard D. Johnson, *ard*  
 Richard D. Johnson

Approved by Kenneth R. Wright  
 Kenneth R. Wright

RDJ:ard  
 cc: Scott Balcomb  
 Dick Sparlin  
 #C

## APPENDIX E

### WATER RIGHTS

Table 1 presents a list of the water rights currently controlled by Arrowhead, Ltd. The first part of the table lists the three water rights that are presently conditionally decreed for municipal purposes. The remainder of the table summarizes pertinent decree information for the senior irrigation rights associated with the project. Figure 1 shows the location and distribution of lands historically irrigated by Arrowhead's water rights.

The following is a description of the irrigation water rights owned by Arrowhead, Ltd.

Terrell & Ford Ditch. The Terrell & Ford Ditch diverts from the left bank of the Eagle River about 1 1/2 miles upstream from the mouth of McCoy Creek. The ditch headgate, as stated in the decree, "is situated on the south bank of Eagle River....at a point north 21° 25' west, 1450 feet from the E 1/4 corner of Sec. 11, T 5 S, R 82 W, 6th P.M.". From the point of diversion, the ditch runs in a westerly direction along the Eagle River for approximately three-quarters of a mile, where it diverges from the river and flows for about 1 1/2 mile along the toe of the Eagle River alluvial terrace. From the point where the Terrell & Ford and the Eagle River diverge, the ditch has the physical capability of irrigating nearly all the land between the ditch and the Eagle River. Presented in Table 1 is a summary of the decreed information for the Terrell & Ford Ditch.

Inspection of the table shows the Terrell & Ford Ditch is decreed for a total of 23.75 cfs. The first two decrees are probably fully satisfied under normal conditions, and the second enlargement appears to be a flood right.

Based on a study of aerial photographs and an interview with former rancher, Mr. Pete Dodo, we estimate the total irrigated land under the Terrell & Ford Ditch to be 285 acres. The fields are used primarily for hay grass crops. Apparently about 10% of the total land, or 30 acres, has been irrigated out of McCoy Creek (McCoy & Taylor Ditch) via a flume crossing the Terrell & Ford in the early irrigation season. This was done to facilitate the heavy irrigation of the fields north of Highway 6 out of the Terrell & Ford Ditch.

TABLE 1

ARROWHEAD AT VAIL  
WATER RIGHTS

DIST. 37	PRIORITY STATE ENG. 3 TAB. NO.	NAME	SOURCE	ADJUD. DATE	APPROP. DATE	DECREED AMOUNT	AMOUNT CONTROLLED BY ARROWHEAD
<u>MUNICIPAL</u>							
	Case No. 79CW360	Arrowhead Eagle River Ditch & Pipeline	Eagle River	05-15-1980	12-28-1979	5 cfs C <sup>4</sup>	5 cfs C
	Case No. 79CW360	Arrowhead McCoy Creek Ditch & Pipeline	McCoy Creek	05-15-1980	12-28-1979	5 cfs C	5 cfs C
	Case No. 79CW360	Arrowhead Dam	McCoy Creek	05-15-1980	12-28-1979	500 AF C	500 AF C
<u>IRRIGATION</u>							
314	2137	S.B.A.H.	Beaver Creek	09-08-1913	06-15-1905	6.0 cfs	3.375 <sup>1</sup> cfs
315	2138	S.B.A.H.	Beaver Creek	09-08-1913	10-17-1911	5.0	2.813 <sup>1</sup>
446	2788	S.B.A.H.	Beaver Creek	10-03-1936	10-17-1920	5.32	2.993 <sup>1</sup>
234	1577	Dry Gulch	McCoy Creek	06-04-1907	08-25-1901	0.3 cfs	0.3 cfs
233	1577	McCoy	McCoy Creek	06-04-1907	08-25-1901	0.3	0.3
272 a	1658	McCoy & Taylor	McCoy Creek	06-07-1909	05-01-1886	6.0	6.0
372	2727	McCoy & Taylor	McCoy Creek	10-03-1936	05-01-1887	6.83	6.83
151	911	Terrell & Ford	Eagle River	03-05-1901	06-10-1889	6.64 cfs	6.23 <sup>2</sup> cfs
449	2791	Terrell & Ford	Eagle River	10-03-1936	06-10-1921	10.91	10.23 <sup>2</sup>
511	4155	Terrell & Ford	Eagle River	02-07-1956	05-31-1951	6.2	5.81 <sup>2</sup>

<sup>1</sup> Computed as 18/32 ownership - subject to legal review.

<sup>2</sup> Arrowhead at Vail has a 15/16 interest in the Terrell & Ford Ditch.

<sup>3</sup> Based on 7/1/78 State Engineer's Tabulation of Water Rights.

<sup>4</sup> C Denotes conditional water right.



However, as the flow in McCoy Creek diminished into the season, the Terrell & Ford exclusively irrigated all of the 285 acres.

The diversion records kept by the Water Commissioner for the period 1960 to 1978 show the Terrell & Ford Ditch yielded an average of 4821 acre-feet per year. Typically, during an average 148 day irrigation season from the end of May to mid-October, the ditch diverted an average of 16.26 cfs. The smallest yield occurred in 1968 when the ditch diverted 2000 acre-feet or 40% of the average.

It has been estimated that about 6 cfs diverted at the headgate is lost to ditch seepage in the gravelly soils along the Eagle River from the point of diversion to the boundary of the irrigated field. Hence, with a net application of 10 cfs for 285 irrigated acres, the duty of the Terrell & Ford Ditch is about 30 acres/cfs. A duty of 30 acres/cfs is reasonable for fields with a developed top soil profile overlying gravels.

Based on our understanding of the hydrologic conditions and administration of water rights in the Eagle River basin, we believe the Terrell & Ford has historically provided a full supply of water to the irrigated fields controlled by Arrowhead in both average and dry years.

S.B.A.H. Ditch. The S.B.A.H. Ditch diverts from the left or west bank of Beaver Creek about 3 1/2 miles from the mouth of the Creek. The decreed point of diversion "is at a point on the left bank of Beaver Creek, whence the East quarter corner, Sec. 24, T 5 S, R 82 W, 6th P.M. bears north 29<sup>0</sup> 22' East 7612.7 feet". From the point of diversion the ditch runs in a northerly direction for about 2 1/4 miles irrigating fields in the Beaver Creek drainage before it turns west and crosses into the adjacent drainage known as Bachelor Gulch. The S.B.A.H. Ditch historically irrigated land currently controlled by Arrowhead in Bachelor Gulch. Table 1 presents a summary of the decreed information for the S.B.A.H. Ditch.

Inspection of the table shows that the S.B.A.H. Ditch is decreed for a total of 16.32 cfs, of which Arrowhead apparently owns 9.18 cfs proportionally from all three decrees. Based on a conversation with Pete Dodo, we believe Arrowhead controls a one-half interest in each of the three decrees, however, we recommend that Arrowhead obtain a legal opinion as to ownership.

The S.B.A.H. Ditch is the most upstream water right on Beaver Creek, and the first two priorities are junior to 12.57 cfs of senior rights in the basin. Beaver Creek has a limited physical supply of water, and probably the S.B.A.H. Ditch could not divert in priority the full complement of the first and second priorities (11 cfs) for the duration of the season. Based on an inspection of aerial photographs, we estimate the irrigated acreage under the S.B.A.H. Ditch and controlled by Arrowhead to be approximately 135 acres of pasture grass. The balance of the acreage historically irrigated out of the S.B.A.H. Ditch in the Beaver Creek drainage appears to be significantly smaller.

The diversion records kept by the Water Commissioner for the period 1962 to 1976 indicate the S.B.A.H. Ditch yielded a seasonal average of 1037 acre-feet. The ditch generally diverted an average of 4.6 cfs for a 98 day season from early June thru mid to late September. For the period of record analyzed, the lowest yield of the S.B.A.H. Ditch occurred in 1975 when the ditch diverted 231 acre-feet, or 22% of the average. Based on an interest of 18/32 in the ditch, Arrowhead's share of the average diversions would amount to 583 acre-feet per year.

We believe the S.B.A.H. Ditch was generally not able to fully satisfy its first priority in August, September and October. Hence, the irrigated fields controlled by Arrowhead probably did not receive a full supply. In dry years, the quantity of water delivered was further restricted. Mr. Dodo stated that he and the Nottinghams, who formerly owned the property and water rights which are now believed to be part of the Beaver Creek development, divided the irrigation water in the S.B.A.H. Ditch.

McCoy Ditch. McCoy Ditch diverts from the left or west bank of McCoy Creek about one-half mile from the creek mouth. The decreed location of the ditch headgate is "at a point whence the south 1/4 corner, Sec. 10, T.5 S, R 82 W, bears S 59° 30' E 1370 feet". Of the three ditches diverting from McCoy

Creek, the McCoy Ditch is the most senior. From the point of diversion the ditch runs in a northerly and westerly direction for about one quarter of a mile, irrigating a parcel of land north of the existing ranch house, west of McCoy Creek, and south of the Terrell & Ford Ditch. All of the irrigated land historically under the ditch is currently controlled by Arrowhead. Table 1 presents a summary of the decreed information for the McCoy Ditch.

Based on field inspection and a review of aerial photographs, we estimate the McCoy Ditch has historically irrigated about 8 acres of hay grass. Diversion records kept by the Water Commissioner for the period 1960 to 1972 show the ditch historically yielded an average of 205 acre-feet per year. Typically, the ditch diverted an average of 0.8 cfs over a 120 day irrigation season, starting in early June and ending in late September. The Water Commissioner has not recorded McCoy Ditch diversion since 1973 because a headgate and measuring flume were not installed.

The lowest yield for the above period occurred in 1963, when the ditch diverted 18 acre-feet. We understand the McCoy Ditch has never been called out, and only on two occasions in the period of 1960 to 1972 was the ditch not able to divert its full decreed amount.

We believe the ditch generally delivered a full supply of water to the irrigated field in normal years. In dry years the ditch was probably able to deliver 50% of a full supply.

Dry Gulch Ditch. The Dry Gulch Ditch diverts from the right or east bank of McCoy Creek about 1 mile from the mouth. The decreed location of the headgate is "at a point whence the south 1/4 corner of section 10, T 5 S, R 82 W, bears S 66° 15' E, 1434 feet". From the point of diversion, the ditch runs in a northerly direction for about 1/2 mile irrigating a long, narrow parcel between the ditch and McCoy Creek. The Dry Gulch Ditch is the furthest upstream diversion on McCoy Creek. All of the historically irrigated land under the ditch is currently controlled by Arrowhead. Table 1 presents a summary of the decreed information for the Dry Gulch Ditch.

Based on field inspection and a review of aerial photographs, we estimate the Dry Gulch Ditch has historically irrigated about 9 acres of hay grass.

Diversion records kept by the Water Commissioner for the period 1960 to 1972 show the Dry Gulch Ditch had an average historic yield of 87 acre-feet. Typically, the ditch diverted an average of 0.35 cfs over a 120 day season from early June thru late September. The Water Commissioner has not been able to record any ditch diversion since 1973 because a headgate and flume were not installed. The lowest yield for the above period of record occurred in 1963, yielding 12 acre-feet. Based on the diversion records, it appears the ditch was not able to divert its full decreed amount during some dry years.

As with the McCoy Ditch, we understand the Dry Gulch Ditch has never been called out, and generally received a full supply of irrigation water under normal conditions.

McCoy & Taylor Ditch. The McCoy & Taylor Ditch diverts from the right or east bank of McCoy Creek just downstream from the McCoy Ditch point of diversion. The decreed location of the headgate is "at a point near the center of the south 1/2 of Sec. 10, T 5 S, R 82 W, 6th P.M.". From the point of diversion the ditch runs in a north easterly direction for about 1/5 of a mile at which point it crosses the Terrell & Ford Ditch via a wooden flume and continues in an easterly direction below the Terrell & Ford. The McCoy and Taylor has historically irrigated a parcel of land south of the Terrell & Ford Ditch, as well as several acres north of the Terrell & Ford. The portion of land north of the Terrell & Ford Ditch was only irrigated out of the McCoy & Taylor during high spring runoff from McCoy Creek.

All of the fields historically irrigated out of the McCoy & Taylor are currently controlled by Arrowhead.

Pete Dodo indicated that, during the period of high flow in McCoy Creek, he either directly supplemented the flow in the Terrell & Ford, or turned water

out of McCoy Creek in several laterals below the Terrell & Ford. Table 1 presents a summary of the decreed information for the McCoy & Taylor Ditch.

Inspection of the table shows the McCoy and Taylor Ditch is decreed for a total of 12.83 cfs.

We estimate the McCoy & Taylor Ditch has historically irrigated about 4 acres of hay grass lying above (south) the Terrell & Ford Ditch with a firm supply of water. The irrigation of fields north of the Terrell & Ford have been supplemented from the McCoy & Taylor during the early summer.

Diversion records kept by the Water Commissioner for the period 1960 to 1972 show an average yield of 196 acre-feet per year. The ditch typically diverted an average of 0.8 cfs over a 120 day season. The Water Commissioner has not recorded any ditch diversions since 1973 because neither a headgate or flume are installed. The lowest yield for the above period of record occurred in 1963, yielding 49 acre-feet.

We understand that the McCoy & Taylor has never been called out, similar to the other two McCoy Ditches. While the ditch never diverted its full decreed amount, we believe the field lying under the ditch south of the Terrell & Ford received a full supply of irrigation water under normal conditions.

Table 2 presents a summary of the historic use of the irrigation ditches owned by Arrowhead, Ltd. The historic use has been determined from Water Commissioner records.

TABLE 2

ARROWHEAD AT VAIL

HISTORIC USE OF IRRIGATION WATER RIGHTS

DITCH	DECEED AMOUNT (cfs)		IRRIGATED <sup>1</sup> ACREAGE CONTROLLED BY ARROWHEAD	AVERAGE HISTORIC USE <sup>4</sup> LENGTH OF IRRIGATION SEASON (DAYS)		AMOUNT ATTRIBUTABLE TO ARROWHEAD	
	TOTAL	AMOUNT CLAIMED BY ARROWHEAD		TOTAL (cfs)	(AF)	(cfs)	(AF)
Terrell & Ford	23.75	22.27 <sup>2</sup>	281	148	15.24	4520	
S.B.A.H.	16.32	9.181 <sup>3</sup>	135	98	2.59	583	
McCoy	0.3	0.3	8	121	0.8	205	
Dry Gulch	0.3	0.3	9	115	0.35	87	
McCoy & Taylor	12.83	12.83	4	130	0.8	196	

- (1) Determined from aerial photographs.
- (2) Arrowhead has a 15/16 interest in the Terrell & Ford Ditch.
- (3) Arrowhead has a 18/32 interest in the S.B.A.H. Ditch.
- (4) Historic use based on evaluation of Water Commissioner records 1960-1978, and prorated according to ownership.

#### HISTORIC CONSUMPTIVE USE

Irrigation water requirements depend upon local climatic conditions, soil characteristics, topography, type of irrigation practice, and several other factors. The normal growing season for agricultural crops in the Edwards area is from May until mid-October. Historically, crops grown in the area have been hay, alfalfa, and pasture grass.

A portion of the irrigation water applied to the land returns to the stream system. The remainder that does not return to the stream system is evapo-transpired to the atmosphere and is considered to be consumptively used. The value of a water right is directly proportionate to its consumptive use. Typically, in the Edwards area, 60 to 90 percent of the water diverted for irrigation returns to the stream, and only 10 to 40 percent of the water is consumptively used.

A number of empirical methods for estimating consumptive use of irrigation water have been developed. The Jensen-Haise method has been used to determine the irrigation consumptive use potential in the Edwards area for this augmentation plan. We have used the Eagle weather station for determining the necessary climatic parameters for the Jensen-Haise method.

Table 3 presents a summary of the results of these calculations for an average and dry year for irrigated hay and pasture grass. These same values would apply to the consumptive use of irrigated lawns from the municipal water system. Inspection of Table 3 shows a potential consumptive use of 1.64 and 1.98 acre-feet per acre for an average and dry year respectively.

In calculating the dry year consumptive use, we used the climatic data from the year 1958. Even though 1977 was a more water short year, 1958 was used because the natural precipitation in the area totalled only 2.36 inches for the months May through September. In 1977 for the same period, the total precipitation was 4.28 inches, and thus crop water requirements were actually less in 1977.

TABLE 3

ARROWHEAD AT VAIL  
 POTENTIAL IRRIGATION CONSUMPTIVE USE ESTIMATE<sup>(1)</sup>  
 for  
 HAY GRASS & PASTURE GRASS NEAR ARROWHEAD AT VAIL

AVERAGE YEAR<sup>(2)</sup>

<u>Month</u>	<u>Potential Irrigation Consumptive Use (Ac-Ft/Ac.)</u>
May	0.19
June	0.39
July	0.49
August	0.38
September	0.17
October 10	<u>0.02</u>
	1.64

DRY YEAR<sup>(3)</sup>

May	0.28
June	0.51
July	0.50
August	0.47
September	0.16
October 19	<u>0.06</u>
	1.98

- (1) Calculated using Jensen-Haise method.  
 (2) Average year calculation on 1951-1971 climatic data from Eagle Weather Station.  
 (3) Dry year based on 1958 climatic data from Eagle Weather Station.



Table 4 presents an estimate of the historic consumptive use of Arrowhead's irrigation water rights. The values refer to the amount of historic depletion to the stream system due to the irrigation of land owned or controlled by Arrowhead, Ltd. The amount of irrigated acreage has been determined by field inspection and review of aerial photographs. The percent of full supply has been evaluated based on discussions with past irrigators, review of diversion records, and an evaluation of stream flow under varying conditions. Table 4 shows the total estimated historic consumptive use to be 606 and 644 acre-feet per year for average and dry year conditions respectively. Figure 1 shows the points of diversion, and historically irrigated fields as determined by field inspection and from aerial photographs.

TABLE 4

ARROWHEAD AT VAIL  
HISTORIC IRRIGATION CONSUMPTIVE USE

<u>DITCH</u>	<u>IRRIGATED ACREAGE CONTROLLED BY ARROWHEAD</u>	<u>PERCENT OF FULL SUPPLY</u>		<u>ESTIMATED HISTORIC CONSUMPTIVE USE</u>	
		<u>AVERAGE</u>	<u>DRY</u>	<u>AVERAGE @ 1.64 AF/Ac</u>	<u>DRY @ 1.98 AF/Ac</u>
Terrell & Ford	281	100	100	461	556
S.B.A.H.	135	50	25	110	67
McCoy	8	100	50	13	8
Dry Gulch	9	100	50	15	9
McCoy & Taylor	<u>4</u>	100	50	<u>7</u>	<u>4</u>
TOTAL	437			606	644



## APPENDIX H

### PROPOSED AGREEMENTS

#### FIRE PROTECTION SERVICES

Arrowhead Metropolitan District plans to join the regional fire department, which now serves Eagle-Vail, Avon, Beaver Creek and Berry Creek Metropolitan Districts. The form of agreement with the lead agency and Eagle-Vail will be similar to those already in existence. Costs will be shared based upon relative assessed valuation levels and economies of scale, and higher levels of effectiveness will continue to be realized.

#### ADMINISTRATION, WATER MAINTENANCE, AND WATER SERVICE BILLING

Arrowhead expects to contract with Upper Eagle Valley Sanitation District to operate and maintain the water system and to handle other administrative duties for the District. Upper Eagle now provides these services to all other water and sewer utilities in Eastern Eagle County except Minturn Water and Redcliff. Again, economies of scale and higher levels of effectiveness are available through this arrangement.

#### INTER-DISTRICT WATER SUPPLY AGREEMENTS

Interconnections with Avon, Berry Creek and/or Edwards water systems are highly probable. Such interconnections provide back-up assurances that water will be available in emergencies.

Holme Roberts & Owen<sup>LLC</sup>  
ATTORNEYS • A T • L A W

Boulder  
Colorado Springs  
Denver  
Salt Lake City  
London  
Moscow

1401 Pearl Street  
Suite 400  
Boulder, CO 80302  
303 444-5955  
Fax 303 444-1063

Glenn E. Porzak

August 11, 1994

Mr. Richard D. MacCutcheon  
Director of Development Administration  
Vail Associates Real Estate Group  
P.O. Box 959  
Avon, CO 81620

Dear Rick:

Reference is made to our July 27, 1994 letter to you regarding the water supply requirements of the Arrowhead and Bachelor Gulch developments. In that letter, we indicated that the engineering firm of Helton and Williamsen had determined that the total consumptive use requirement for the Arrowhead Metropolitan District (the "District") based on actual water usage will equal 77.2 acre feet per year (see the attached Table 1). By Agreement Concerning Ownership and Utilization of Water Rights dated May 31, 1992, between Arrowhead at Vail, the District and Country Club of the Rockies, the District was allocated 147 af of consumptive use water associated with the Terrell & Ford Ditch Priority No. 449. This water right was quantified as part of and is subject to the benefits of the Arrowhead augmentation plan decreed in Water Division No. 5, Case No. 80CW397. You have asked for our opinion as to the value of 77.2 consumptive acre feet of the Terrell & Ford Ditch priority No. 449.

For purposes of our valuation we are assuming that any conveyance of the Terrell & Ford Ditch water right would be subject to the terms of the aforementioned May 31, 1992 agreement with Arrowhead at Vail and the Country Club of the Rockies, and be entitled to a pro rata share of the benefits of the Arrowhead augmentation plan and alternate diversion points decreed in Water Division No. 5, Case No. 80CW397, as modified in Case No. 85CW609. Based on these assumptions, we are of the opinion that a reasonable value for the Terrell & Ford Ditch water right would be approximately \$4,000 per acre foot or a total of \$308,800. This value is based on the fact that this water right has been quantified and changed to municipal uses by the Water Court, is augmented by Green Mountain Reservoir

Mr. Richard D. MacCutcheon  
August 11, 1994  
Page 2

releases as a so-called "preferred beneficiary," is senior to the area decreed instream flows, but may not include a winter use for the reasons detailed in our July 27, 1994 letter to you.

It should be noted that this water right is currently subject to a long-term lease to the District (29 remaining years) at a fixed price favorable to the District (10¢/1000 gallons). Nonetheless, the attached discounted present value analysis of this leasehold interest prepared by you indicates a current value of nearly \$300,000, which is approximately equal to the purchase value.

Finally, should you desire further confirmation of the valuation expressed herein, we recommend that an independent appraisal of these water rights be performed by a knowledgeable water resource engineer.

Please do not hesitate to call me if you have any further questions regarding this matter.

Best wishes,



Glenn E. Porzak

GEP:fd

**ARROWHEAD METROPOLITAN DISTRICT  
ANALYSIS OF WATER RIGHTS  
LEASE VS. ACQUISITION**

<u>Year</u>	<u>SFE's</u>	<u>Water Volume (in thousands of gallons)</u>	<u>Lease Rate (per thousand gallons)</u>	<u>Annual Lease Expense</u>	<u>Water Rights Acquisition Expense</u>	<u>Total Expense Stream</u>
1994	200	60,000	\$0.10	\$6,000	\$0	\$6,000
1995	245	73,500	0.10	7,350	0	7,350
1996	290	87,000	0.10	8,700	0	8,700
1997	335	100,500	0.10	10,050	0	10,050
1998	380	114,000	0.10	11,400	0	11,400
1999	425	127,500	0.10	12,750	0	12,750
2000	470	141,000	0.10	14,100	0	14,100
2001	515	154,500	0.10	15,450	0	15,450
2002	560	168,000	0.10	16,800	0	16,800
2003	605	181,500	0.10	18,150	0	18,150
2004	650	195,000	0.10	19,500	0	19,500
2005	695	208,500	0.10	20,850	0	20,850
2006	740	222,000	0.10	22,200	0	22,200
2007	785	235,500	0.10	23,550	0	23,550
2008	788	236,400	0.10	23,640	0	23,640
2009	788	236,400	0.10	23,640	0	23,640
2010	788	236,400	0.10	23,640	0	23,640
2011	788	236,400	0.10	23,640	0	23,640
2012	788	236,400	0.10	23,640	0	23,640
2013	788	236,400	0.10	23,640	0	23,640
2014	788	236,400	0.10	23,640	0	23,640
2015	788	236,400	0.10	23,640	0	23,640
2016	788	236,400	0.10	23,640	0	23,640
2017	788	236,400	0.10	23,640	0	23,640
2018	788	236,400	0.10	23,640	0	23,640
2019	788	236,400	0.10	23,640	0	23,640
2020	788	236,400	0.10	23,640	0	23,640
2021	788	236,400	0.10	23,640	0	23,640
2022	788	236,400	0.10	23,640	0	23,640
2023	788	236,400	0.10	23,640	0	23,640
2024	788	236,400	0.00	0	312,000	312,000

Present Value of Expense Stream  
discounted at:

6% \$299,447

Note: Water Rights Acquisition Expense assumes the purchase of 78 acre/ft at \$4,000 per acre/ft.

APPENDIX G

ARROWHEAD DEVELOPMENT SUMMARY

	<u>Units</u>	<u>Employee Units</u>	<u>Total Building Square Footage</u>	<u>Lot Area</u>
A. Village Center				
Condominiums	610	77	-	35.7
Retail/Offices/Restaurants	-	-	132,000	-
Golf Club/Athletic Club	-	-	40,000	-
Hotel/Studio Units	200	-	25,000	-
B. Tennis Condominiums	355	2	-	21.6
C. East Condominiums	206	2	-	17.3
D. South Golf Course Condominiums	96	2	-	13.3
E. Maintenance	-	-	28,000	4.9
F. North Golf Course Condominiums	142	2	-	14.1
G. Lakeside Condominiums	90	2	-	9.1
H. Employee Housing	-	84	-	3.8
I. Western Condominiums	115	2	-	18.2
J. Western Single Family	13	-	-	12.8
	<u>1,827</u>	<u>173</u>		<u>150.8</u>
Golf Course	-	-	-	211.6
Park	-	-	-	10.2
Open Space	-	-	-	1.3
Platted Roads	-	-	-	21.2

\* Gross Density:  $\frac{2,000 \text{ units}}{2,194 + 155 \text{ acres}} = .85 \text{ units per acre}$

\* Net Density:  $\frac{2,000 \text{ units}}{1,466 \text{ acres under 40\% slope and not subjected to 100 year flood}} = 1.36 \text{ units per acre}$





**FIGURES**

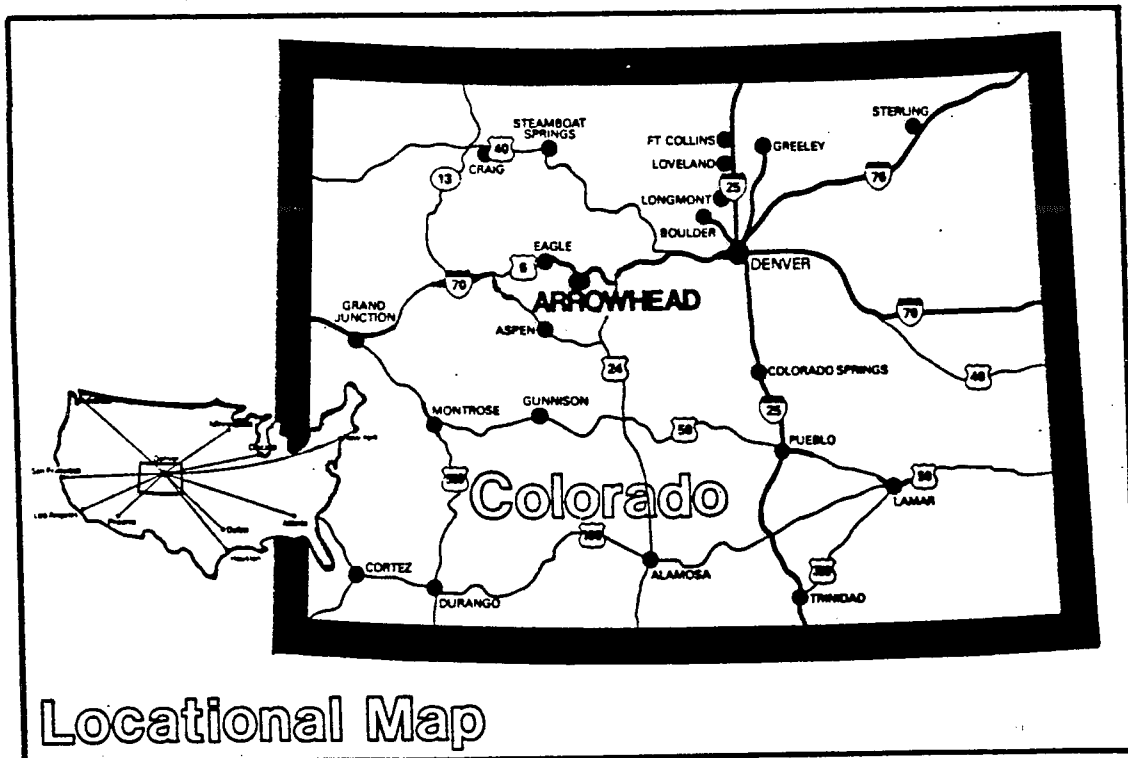
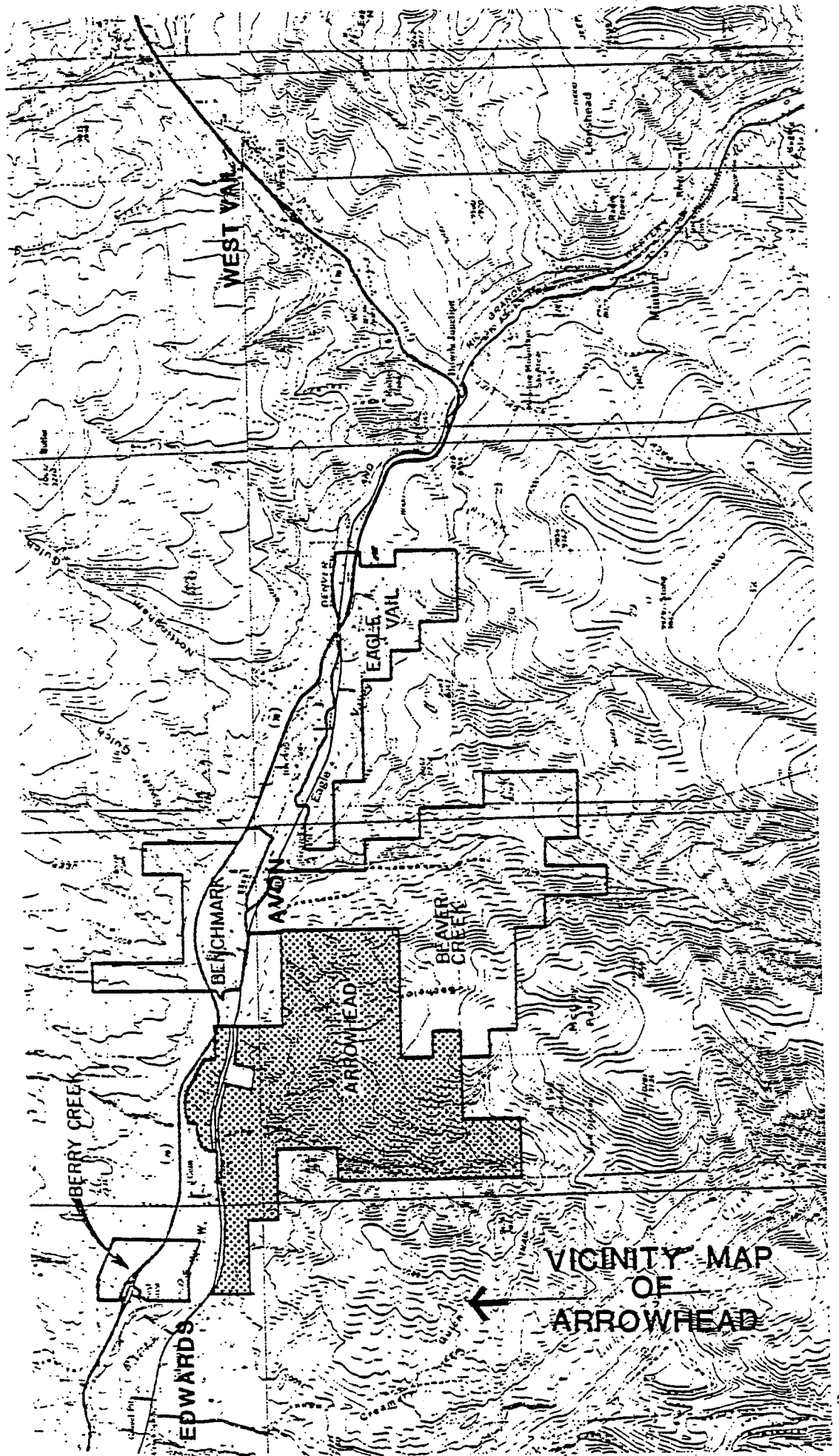
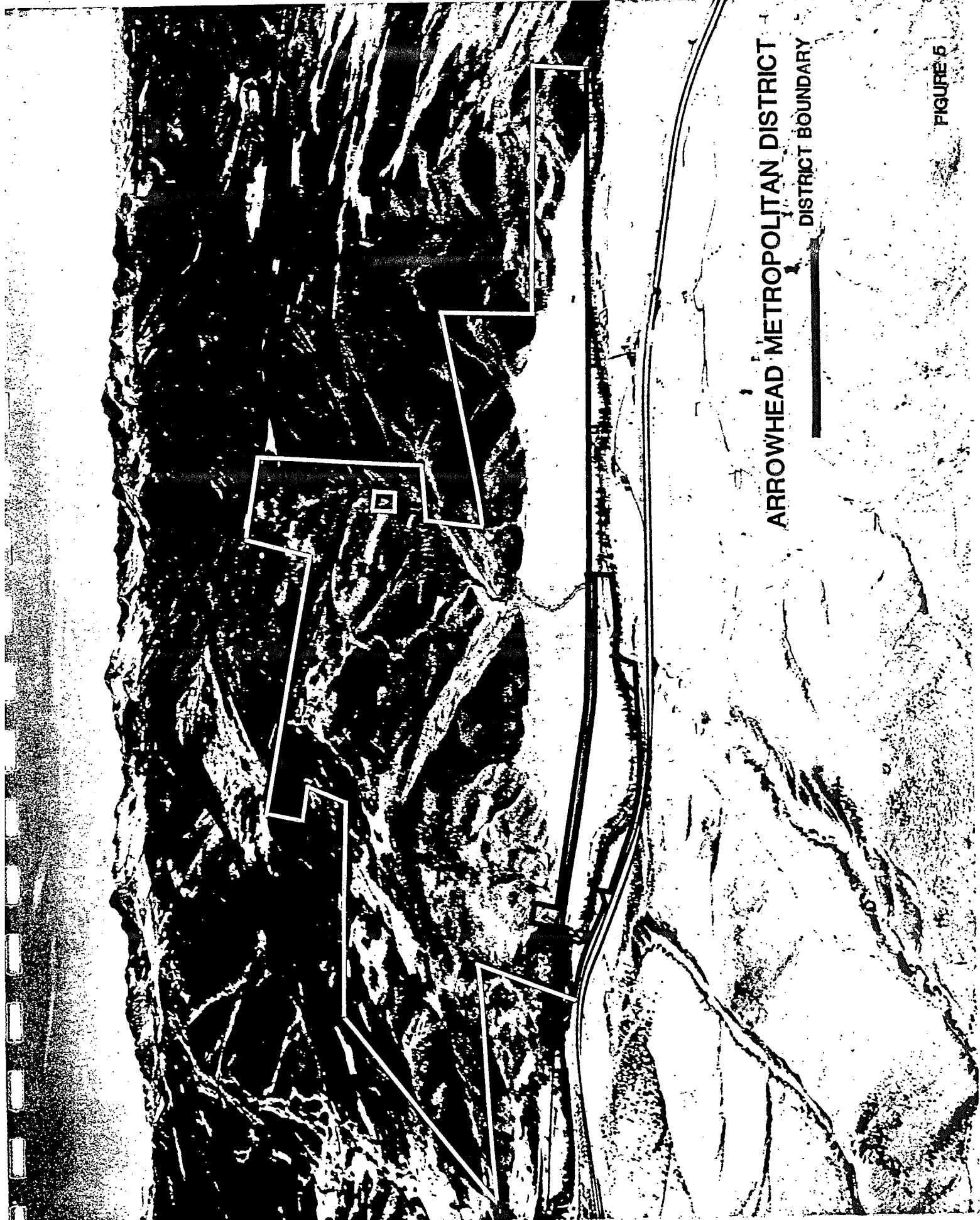


Figure 1



VICINITY MAP  
OF  
ARROWHEAD





ARROWHEAD METROPOLITAN DISTRICT  
DISTRICT BOUNDARY

FIGURE 6

# ARROWHEAD AT VAIL

## ARROWHEAD METROPOLITAN DISTRICT

### Legal Description

A tract of land in Sections 10, 11, 14, 15, and 22, Township 5 South, Range 82 West of the 6th Principal Meridian lying southward and eastward of a right-of-way line of U.S. Highway 6 and 24, including thereon the land of multiple patented Arrowhead at Vail, Filings No. 1, 3, 4, 5, 7, and 8, said tract being described as follows:

Beginning at the Southwest corner of said Section 10, being a brass cap properly set and found in place according to the Dependent Reurvey and Survey of said Township and Range accepted September 7, 1971, and being the South line of said Section 10 thence North 89°37'41" East 1359.37 feet along said Section 10; thence North 15°00'00" East 207.00 feet along the West line of the W 1/2 SW 1/4 of said Section 10 to the Northwest corner of said W 1/2 SW 1/4; thence South 89°19'19" West 1390.38 feet along the South line of the W 1/2 SW 1/4 of said Section 10 to the West Quarter corner of said Section 10; thence North 01°29'30" East 2595.00 feet along the West line of said Section 10 to a point on the Southerly right-of-way line of U.S. Highway 6 and 24; thence along a non-tangent curve to the right whose chord bears North 81°55'10" East 142.76 feet, having a radius of 3686.00 feet, a central angle of 17°52'00"; thence along a curve to the right whose chord bears North 81°55'10" East 874.26 feet, having a radius of 4221.52 feet, a central angle of 17°52'00"; thence along a curve to the right whose chord bears South 81°55'10" East 874.26 feet, having a radius of 2815.00 feet, a central angle of 17°52'00"; thence South 72°59'00" East 3484.80 feet along said Southerly right-of-way line; thence South 51°11'00" East 215.40 feet along said Southerly right-of-way line; thence South 15°27'14" West 224.22 feet; thence North 16°22'16" East 551.43 feet; thence North 16°22'16" East 722.91 feet to a point on the Southerly right-of-way line of U.S. Highway 6 and 24; thence along a non-tangent curve in the left whose chord bears South 84°59'00" East 378.68 feet, having a radius of 1276.00 feet, a central angle of 17°06'00"; thence North 86°29'00" East 236.10 feet along said Southerly right-of-way line; thence along a curve to the right whose chord bears North 84°59'00" East 260.11 feet, having a radius of 1670.00 feet, a central angle of 18°08'25"; thence along a curve to the right whose chord bears South 84°59'00" East 260.11 feet, having a radius of 1670.00 feet, a central angle of 18°08'25"; thence South 00°11'11" West 1603.43 feet along the East line of said W 1/2 SW 1/4 to the Southwest corner of said W 1/2 SW 1/4; thence South 89°08'39" East 4056.48 feet along the North line of the S 1/2 of said Section 11 to the East Quarter corner of said Section 11; thence South 00°14'00" West 2645.36 feet along the East line of said Section 11 to the Southwest corner of said Section 11; thence North 89°08'39" East 4056.48 feet along the East line of said Section 11 to the East Quarter corner of said Section 11; thence North 89°09'17" West 5303.91 feet along the West line of the W 1/2 of Section 14 to the West Quarter corner of said Section 14; thence South 81°29'12" East 1310.70 feet along the West line of the W 1/4 SW 1/4 of said Section 14 to the Northwest corner of the SW 1/4 SW 1/4 of said Section 14; thence South 89°13'05" East 1381.49 feet along the North line of said SW 1/4 SW 1/4 to the Northwest corner of said SW 1/4 SW 1/4; thence South 00°23'30" West 1350.30 feet along the South line of said SW 1/4 SW 1/4 to the Southwest corner of said Section 14; thence North 89°37'55" West 2706.92 feet along the South line of said Section 13 to the South Quarter corner of said Section 13; thence South 00°13'45" East 2816.13 feet along the East line of the NW 1/4 of said Section 22 to the east corner of said Section 22; thence North 89°37'58" West 2708.00 feet along the West line of the NW 1/4 of said Section 22 to the West Quarter corner of said Section 22; thence North 00°10'18" West 2613.61 feet along the West line of said Section 22; thence North 00°17'19" East 3229.27 feet along the West line of said Section 13 to the Point of Beginning;

EXCEPT the following described parcel lying within the W 1/2 NW 1/4 of said Section 13:

Beginning at a point whence the Section corner common to Sections 2, 3, 10 and 11 in said Township 5 North, Range 82 West, with 39°12'45" East 7755.33 feet; thence South 73°11'35" West 188.43 feet; thence North 23°11'35" West 257.37 feet; thence North 73°36'40" West 385.43 feet; thence North 23°11'35" East 757.37 feet to the Point of Beginning;

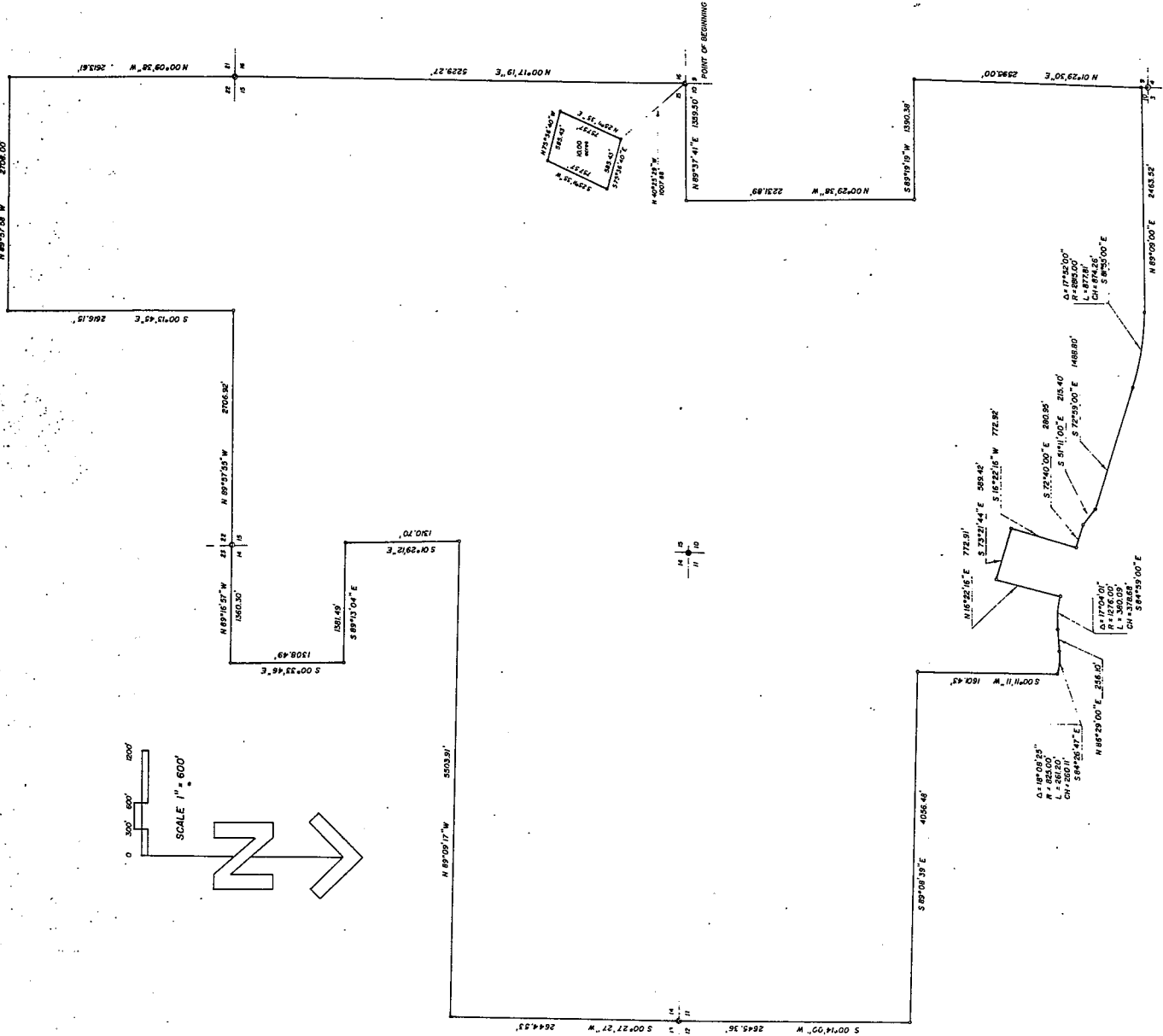
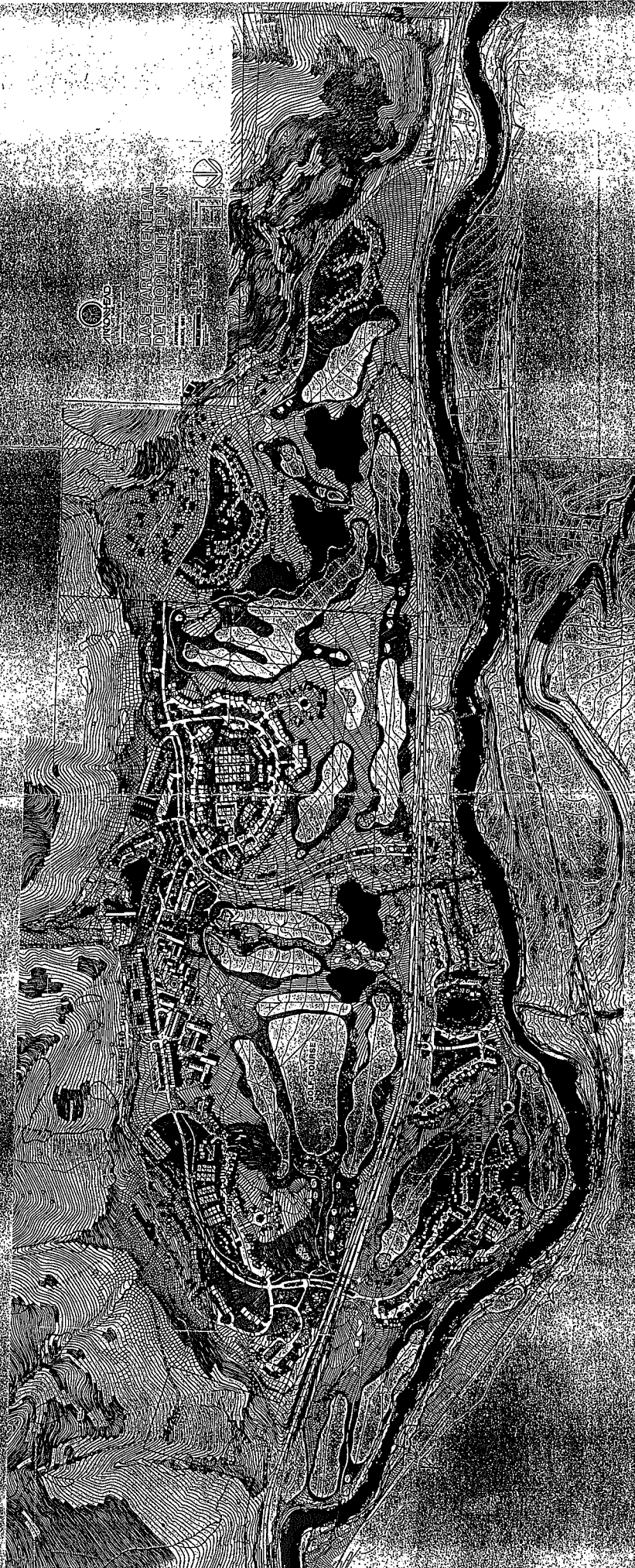


Figure 6A





ASLEAD  
BASE AREA GENERAL  
DEVELOPMENT PLAN





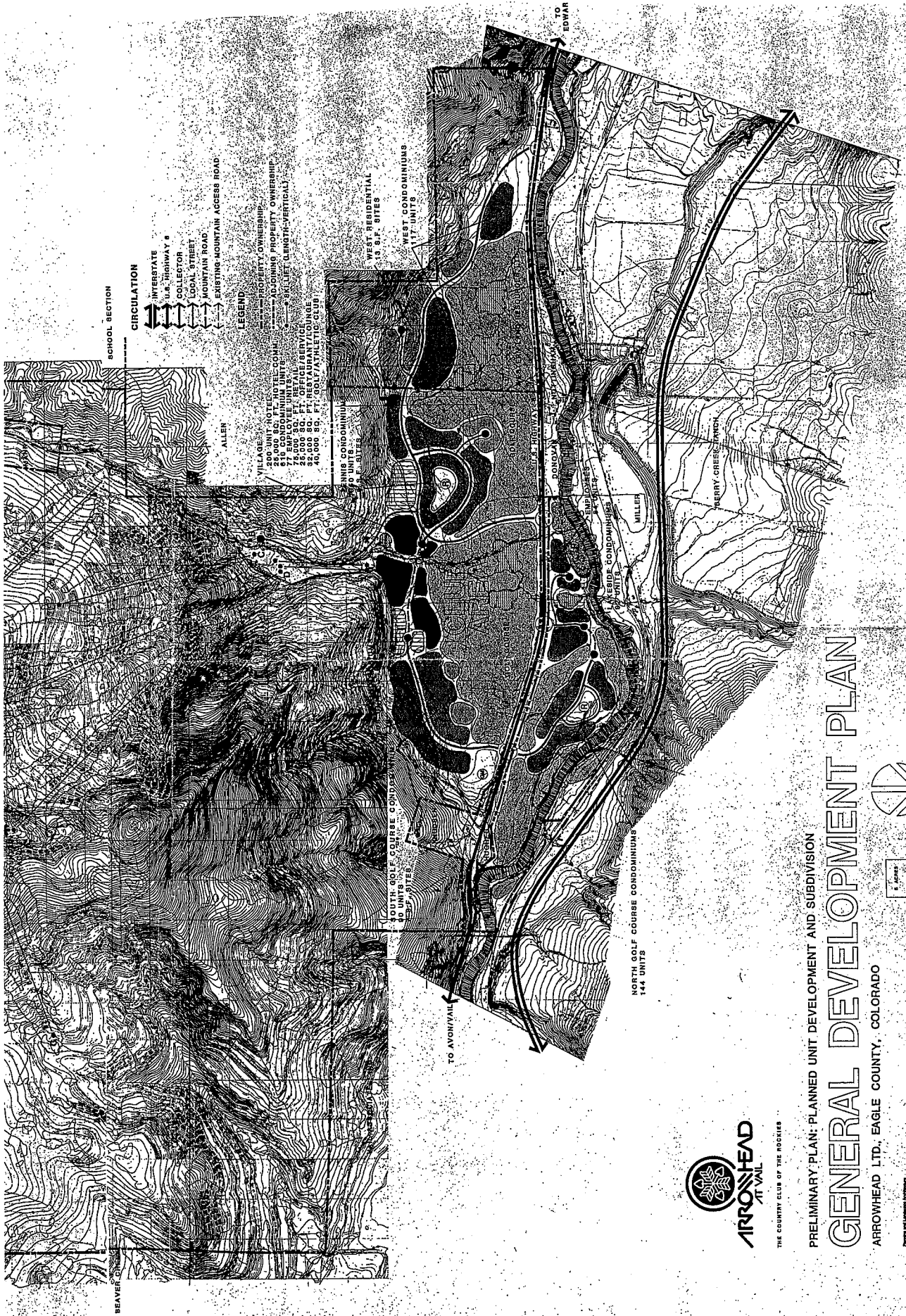


WATER DRAINAGE AND ROADS  
ARROWHEAD METROPOLITAN  
DISTRICT

ARROWHEAD LTD., EAGLE COUNTY, COLORADO







SCHOOL SECTION

**CIRCULATION**

- INTERSTATE
- U.S. HIGHWAY
- COLLECTOR
- LOCAL STREET
- MOUNTAIN ROAD
- EXISTING MOUNTAIN ACCESS ROAD

**LEGEND**

- VILLAGES
- 200 UNIT HOTELS
- 25,000 SQ. FT. HOTEL/CONF.
- 75 EMPLOYEE UNITS
- 25,000 SQ. FT. OFFICE/SERVICE
- 25,000 SQ. FT. RESTAURANT/LOUNGE
- 40,000 SQ. FT. GOLF/TENNIS CLUB
- INN/RESIDENTIAL
- 10 UNITS
- WEST GOLF COURSE CONDOMINIUMS
- 111 UNITS
- WEST RESIDENTIAL
- 13 8.P. SITES
- NORTH GOLF COURSE CONDOMINIUMS
- 144 UNITS



PRELIMINARY PLAN: PLANNED UNIT DEVELOPMENT AND SUBDIVISION

# GENERAL DEVELOPMENT PLAN

ARROWHEAD LTD., EAGLE COUNTY, COLORADO



0 400 800 1600

DATE: 12/22/83  
 DRAWN BY: J. W. HARRIS  
 CHECKED BY: J. W. HARRIS  
 SCALE: AS SHOWN

MARCH, 1984



ARROWHEAD METROPOLITAN DISTRICT

APPENDIX B

REVENUE & EXPENSE PROJECTIONS

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2000		
Cr. Crd.																							
Number of Units Built	80	115	245	243	360	180	200	193	175	175	175	34	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	
Cum. No. of Units Built	80	195	440	683	1043	1223	1423	1616	1791	1966	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	
Population Projections (00's)*	2.8	6.8	15.4	24	36	43	50	56	63	69	70	70	108.5	125.0	133.6								
Assessed Value (Millions)**	1.23	1.475	3.3	8.4	19.9	32.4	51.9	63.9	78.2	93.2	108.5	125.0	133.6										
(20% of Market)																							
Operating Revenue (000)	160	230	490	486	770	360	400	386	350	350	350	68	480	480	480	480	480	480	480	480	480	480	
Water Tap Fees (\$2000/unit)	19	19	47	106	164	250	294	342	388	430	472	480	480	480	480	480	480	480	480	480	480	480	
Water Service Charge (\$20/unit/mo)	2	3	8	18	38	68	103	127	156	186	217	230	250	270	290	310	330	350	370	390	410	430	
Property Taxes (20 mills)(000)	3	3	8	18	38	68	103	127	156	186	217	230	250	270	290	310	330	350	370	390	410	430	
TV Service (\$4/unit/mo)	5	5	10	10	15	15	15	15	20	20	20	30	30	30	30	30	30	30	30	30	30	30	
Tennis, Swimming (Net Oper. Rev)																							
Total Operating Revenue	162	260	621	786	1322	1312	1806	2094	2400	2750	2835	3106											
Operating Expenses																							
Fire Protection	30	40	70	125	125	125	160	160	160	180	180	180	180	180	180	180	180	180	180	180	180	180	
Parks & Landscaping Maintenance	20	25	30	40	50	60	70	80	90	100	110	120	120	120	120	120	120	120	120	120	120	120	
Water System Operation																							
Transportation System																							
Equipment Lease																							
Maintenance																							
Road Maintenance	40	120	160	184	200	222	245	269	293	317	341	365	389	413	437	461	485	509	533	557	581	605	
TV Service	15	15	10	6	10	12	15	20	25	30	35	40	40	40	40	40	40	40	40	40	40	40	
Admin., Accounting, Engineering	6	7	9	9	10	10	15	15	15	15	20	20	20	20	20	20	20	20	20	20	20	20	
Legal	10	8	9	10	10	15	15	15	15	15	18	18	18	18	18	18	18	18	18	18	18	18	
Total Operating Expenses	166	65	136	327	430	540	648	825	895	944	1008	1093	1133										
Excess Operating Revenue	(16)	97	124	294	356	782	664	981	1199	1456	1742	1742	1973	2072	2171	2270	2369	2468	2567	2666	2765	2864	2963

\*3.5 Persons/unit  
 \*\*\$44,000/unit

APPENDIX C

FINANCIAL SUMMARY

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Net Income (Appendix B)	(16)	97	124	294	356	782	664	981	1199	1436	1742	1742	1973	2072	2171	2270	2369	2468	2567	2666	2765
Funds Avail. @ Beginning of Yr.	893	893	519	1047	781	468	476	506	378	402	498	802	74	476	232	58	72	82	909	1744	2701
Interest on Funds Available - 8%	1725	61	2425	810	661	712	91	119	126	148	179	203	164	204	132	186	135	205			
Bond Proceeds - Type A	700	875	875	125	100																
- Type B	875	3400	500	1000	500	300	500														
Interest Escrow																					
Developer Contribution	5200	875	3400	500	1000	300	500														
Total Funds Available	3302	4451	4519	3372	2479	2361	1731	1606	1703	3834	2419	2747	2211	2752	2595	2514	2636	2765	3476	4410	5466
Capital Outlays - Type A	8948	1692	2595	1936	1470	620	635														
- Type B	3066	717	899	879	172	322	77														
Developer Reimbursement	6200									2000		1000		800	800	700	800	100			
Debt Service		428	657	949	1069	1173	1225	1228	1301	1336	1617	1673	1735	1720	1737	1742	1744	1756	1732	1709	1803
Fund Balance @ Year End	893	519	1347	781	468	476	506	378	402	498	802	74	476	232	58	72	92	909	1744	2701	3663

BOND ISSUES DETAIL (000)

Interest Rates	12.5%	12.5%	12.5%	12.5%	12.5%	12.5%	12.5%	12.5%	12.5%	12.5%	12.5%	12.5%	12.5%	12.5%	12.5%	12.5%	12.5%	12.5%	12.5%	12.5%	12.5%
Discount Rate	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Total Issue - Type A	2500	3500	3500	1000	800	750															
- Type B	1000																				
Discount	175	175	175	50	24	23															
Interest Escrow	875**	875**	875**	125*	100*																
Expense of Issue	25	25	25	15	15	15															
Net Proceeds	2425	2425	2425	810	661	712															

\* Interest escrow = 1 year

\*\* Interest escrow = 2 years