

ARX84JSS

TYPE OF RECORD: PERMANENT

CATEGORY OF RECORD: CONTRACT

NAME OF AGENCY OR CONTRACTOR: ARIX

STREET ADDRESS/PARCEL NAME/SUBDIVISION/PROJECT: 201 UPDATE OF THE  
CITY/COUNTY JOINT SEWER SYSTEM, ADDENDUM NO. 1, PERSIGO

CITY DEPARTMENT: PUBLIC WORKS

YEAR: 1984

EXPIRATION DATE: NONE

DESTRUCTION DATE: NONE

Copies: Bob Evers' 7-12-85  
Engineering  
Finance  
Ralph Terry

05/24 26/53.00

AGREEMENT FOR PROFESSIONAL SERVICES

THIS AGREEMENT, made this 2<sup>ND</sup> day of MAY, 1984, by and between

The City of Grand Junction and Mesa County

hereinafter called the Client, and ARIX, A Professional Corporation, hereinafter called the Consultant, collectively referred to as the Parties.

The services to be performed hereunder are incidental to the following PROJECT:

201 Update of the Grand Junction and Mesa County Joint Sewage System  
Facilities Plan

**WITNESSETH:** That for an in consideration of the mutual covenants and agreements hereinafter contained, the Parties hereto have mutually agreed and do agree as follows:

**ARTICLE 1. SERVICES BY THE CONSULTANT** — The Consultant agrees to perform all services, hereunder, using reasonable skill and judgment in accordance with sound business and professional standards. He agrees to keep the Client thoroughly informed of his progress through periodic reports, and to maintain accurate records relating to his services in connection with this project.

The Consultant agrees to provide, directly or by association with such other Consultants or Contractors as it may deem necessary to further the interest of the Client, the following basic services:

1.1 See attached Project Approach

An itemized monthly billing showing the number of hours worked by each labor classification will be submitted. A monthly progress/activities report will also be submitted with each statement.

**ARTICLE 2. ADDITIONAL OR SPECIAL SERVICES** — The following additional or special services, which are outside the scope of basic services as above described, shall be performed by the Consultant upon authorization from the Client and paid for as hereinafter provided:

- 2.1 These services will be described separately and will become a part of this agreement. These services may include sewage system treatment and interceptor computer, modeling, future development, project incremental cost and capacity computer programming, and assistance in setting these programs for the Clients use.

### ARTICLE 3. RESPONSIBILITIES OF THE CLIENT

- 3.1 The Client shall provide and make available to the Consultant, for his use, all maps, property descriptions, surveys, previous reports, historical data, and other information within its knowledge and possession relative to the services to be furnished hereunder, and shall provide full programming requirements. Data so furnished to the Consultant shall remain the property of the Client and will be returned upon completion of its services.
- 3.2 The Client shall designate a representative who shall be fully acquainted with the Project and who has authority to render decisions relative to the Consultant's services as necessary for the orderly progress of the work. The representative shall be responsible for receiving and processing all information and documentation relative to the project in behalf of the Client.
- 3.3 The Client shall establish and maintain procedures for receiving, reviewing, recording, and acting on all information, documentation, payments, and acceptances of work and services relative to this project in an expeditious and proper manner.
- 3.4 The Client shall guarantee access and make provisions for the Consultant to enter upon public and private properties as required for the Consultant to perform its services hereunder.

**ARTICLE 4. TIME OF PERFORMANCE** — The services to be provided under this Agreement shall, unless otherwise provided, be commenced upon execution of this Agreement and be performed in general accordance with the following schedule:

Work will commence within one week of execution of this agreement and will generally adhere to the attached schedule.

**ARTICLE 5. REMUNERATION FOR SERVICES** – The Client agrees to compensate the Consultant in accordance with the following schedule, and the Terms and Conditions of this Agreement:

**5.1** For Basic Services as described in Article 1, remuneration shall be made on the following basis:

A lump sum fee of \$23,902.00.

**5.2** For additional or Special Services as described in Article 2, remuneration shall be made on the following basis:

Costs shall be determined upon developing a scope of services for the additional work.

**5.3** In addition to the remuneration above provided, the Client shall reimburse the Consultant for the following expenses which may be incurred in connection with related services:

N/A

5.4 An initial payment of

DOLLARS (\$ -0- )

shall be made upon execution of this Agreement and credited to the Client's account.

5.5 Unless otherwise provided herein, all payments for Basic, Additional or Special Services and for Reimbursable Expenses shall be made monthly in proportion to services performed and shall be due and payable at the Consultant's office at the address hereinafter designated upon presentation by the Consultant in accordance with this Agreement. Payments not made within 30 days of the billing date shall bear interest at the rate of 1-½% per month which is an annual interest rate of 18%. Consultant may cease performance of remaining work at any time if payments become more than 30 days delinquent.

5.6 N/A

5.7 N/A

5.8 N/A

**ARTICLE 6. DELAYS** — If the Consultant is delayed at any time in the progress of work by any act or neglect of the Client or its agents, employees or contractors, or by changes in the work, or by labor disputes, unavoidable material delivery delays, fire, unavoidable casualties, or by any causes beyond the Consultant's control, the time schedule shall be extended for a reasonable length of time, and the remuneration schedule shall be subject to renegotiation for increased expenses due to escalation of prices, extended services, relocation or other expenses incidental to such delays.

**ARTICLE 7. OWNERSHIP OF DOCUMENTS** - N/A

ARTICLE 15. ACCURACY OF SERVICES AND LIMITATION OF LIABILITY

15.1 The Consultant shall use reasonable professional skill and judgment in connection with services hereunder, but does not warrant that such services are without error and/or omissions. If, as a result of the authorized use and prudent interpretation of documents or advice erroneously furnished by the Consultant, an error or omission is discovered within a reasonable time, the Consultant shall be responsible for correction of any work which must be removed or altered to meet the project requirements, provided that the Consultant is given a reasonable opportunity to make remedial recommendations and to correct or arrange for the correction of the work itself. The Consultant will not be liable for the cost of procurement of work or services performed in correcting errors and/or omissions where such work or services result in a value to the Project over and above that which the original work or services provided.

15.2 Notwithstanding the above, the Client agrees to limit the Consultant's liability to the Client and to its agents and assigns, due to the Consultant's professional negligent acts, errors or omissions, such that the total aggregate liability of the Consultant to those named shall not exceed Fifty Thousand Dollars (\$50,000) or the Consultant's total fee for services hereunder, whichever is greater.

ARTICLE 16. SPECIAL PROVISIONS - N/A

ACKNOWLEDGEMENT OF COMPLETE AGREEMENT: This Agreement includes this and the preceding pages consecutively numbered 1 through 6 and the attachments thereto, identified as: Project Approach and Project Schedule.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement the day and year first written above.

CLIENT: City of Grand Junction and Mesa County

By James E Patterson  
Title PUBLIC WORKS DIRECTOR  
Address 250 N. 5<sup>TH</sup> ST.

CONSULTANT:

ARIX, A Professional Corporation  
Engineers Architects Planners

By [Signature]  
By \_\_\_\_\_  
Address 760 Horizon Drive  
Grand Junction, CO 81501

201 UPDATE OF THE  
GRAND JUNCTION/MESA COUNTY JOINT SEWAGE SYSTEM FACILITIES PLAN

Project Approach

INTRODUCTION

The scope of services presented in the proposal is based on information contained in the "Request for Proposals," and discussions with James E. Patterson, Ken Reedy, Mark Eckert, and Ken Glover. The intended scope of the study as ARIX understands it, consists of the following major items.

1. Update the 201 Planning Area and Service Area from previous work accomplished in the 1975 201 Report by NHPQ and the 1977 pre-design report by HDR.
2. Update the population projections and their distribution within the Planning Area and Service Area and compare these population and sewage flows with previous projections.
3. Current and projected wastewater flows will be compared with the capacities of the newly constructed wastewater treatment plant and interceptors as described in the 1977 pre-design report and the 1984 Nichols report on sewer capacity.
4. Development of a procedure to be used for review and approval of connector sewer requests, particularly from areas outside the present 201 Planning Area, and procedures to be used to evaluate future proposals to change the 201 Planning Area and Service Area boundary.
5. Evaluate potential future uses of the Westside Sewer Treatment Plant.

We understand the purpose of Items 1 and 2 is to meet conditions of the EPA Step 3 grant and the City's discharge permit. Item 3 will serve to update the 1977 pre-design report in terms of what percentage of capacity the various systems of the new wastewater facilities are now used, and at what future population and approximate time the various systems will have reached capacity. Item 4 will be used by the City/County staff and decision makers to evaluate requests for service, particularly from areas outside the present 201 Planning Area. Item 5 will provide information to the decision makers concerning the potential for other uses of the Westside Sewage Treatment Plant.

It is expected that population data including projections and their distributions will be based on information developed by the City/County Policies and Research Office. This office, along with the City/County Planning and Development Department, will be the source of information on past, current and expected land use and zoning information. The amount of land presently developed or vacant within areas of interest in the study area will also largely be determined from records, maps, and aerial photos from these City/County offices.

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Although some of the 201 Planning Area is within the service area of the Clifton treatment plants, this study will pertain only to those areas capable of being serviced by the Persigo Wash Plant.

#### 201 PLANNING AREA AND SERVICE AREA UPDATE

ARIX plans to start work on this task by obtaining land use and zoning maps from the City/County offices mentioned previously. Additionally, we will prepare a current composite map of the trunk lines within the City and the Sewer Districts within and adjacent to the 201 Planning Area. The present 201 Planning Area boundary will also be shown on this map along with overlays of zoning and land use. This base map will have the same scale as the majority of the existing maps for ease of use and transfer of existing information.

Particular attention will be given to the areas which have experienced high growth rates since 1977 such as Pear Park, Clifton, Fruitvale, and Orchard Mesa. Areas outside the 201 Planning Area such as Appleton, the area north of the Persigo Wash Plant, the area north of Clifton and other adjacent lands, will be reviewed for possible later inclusion within the 201 Planning Area.

These same base maps will also be used to identify the areas presently developed and those which have limited or no development. Additionally, overlays to this map would identify probable areas for future development using information on known planned projects and logical extensions or filling in between these projects. Sewer line capacity and current flow information from the Sewer Capacity Analysis and Combined Sewer Study will be compiled on this mapping base and shown as an overlay.

ARIX expects that the overall base map will be either 1000 or 2000 feet to the inch. This will require some enlargement or reduction of existing maps for ease of transfer of data and preparation of overlays. The final decision of mapping scale should be the Client's. Our costs for the project will vary somewhat depending on the final scale selected.

#### POPULATION PROJECTIONS

The 1980 census information and estimated current population data will be gathered from the City/County Policies and Research Office for each census tract within the 201 Planning Area. The populations will be adjusted as needed to fit the sewer drainage basin areas used in the 1974 and 1977 studies by NHPQ and HDR, respectively.

Population projections will also be obtained from the Policies and Research Office and adjusted to the same sewer drainage basin areas as identified above. Adjustments will be based on building permit data and the 1983 aerial photography of the area. Population projections are expected to be compiled from existing studies. All of the population data will be shown in a format which compares the new information with the 1974 and 1977 studies.

Once all of this information has been assembled, ARIX will submit copies of the map(s) and data to all interested parties for their review and comment before proceeding further with computations and projections of wastewater flows. Population data and projections will be reviewed by the Northwest Council of Governments, Colorado Department of Health, and other agencies, after an initial review by the Client. We believe these reviews of past, current and projected populations along with land use, zoning, and sewer line data, is essential early in the project to be sure that we have obtained and correctly shown all of the available existing information on these items.

#### WASTEWATER SYSTEM UPDATE

Wastewater flows from actual current and future populations within the 201 Planning Area will be developed using the results of the Sewer Capacity Analysis and Combined Sewer Study. The information developed in the previous two tasks will be used to complete sewage flows on a per capita basis for sewage basins as well as at the treatment plant. The actual flows will be compared to those estimated and presented in the 1977 pre-design study in a manner consistent with the previous report information so that comparisons and conclusions can be reached.

Wastewater flows and strengths at the treatment plant will also be compared with the 1974 and 1977 projections. Present and future plant capacities of the new Persigo Wash plant will be reviewed as they compare with population and flow projections. A timeline will show when expansion of the plant should occur.

#### 201 PLANNING AREA UPDATE PROCEDURE DEVELOPMENT

This task will consist of preparing recommendations and guidelines to be used to evaluate proposals to change the 201 Planning Area. First we will prepare a list of criteria and/or information which would be needed in order to evaluate a proposed development from the perspective of adding the project to the 201 Planning Area. The basis for these criteria would be current or expected regulations and policies of the Colorado Department of Health and Environmental Protection Agency, along with other agencies such as Soil Conservation Service and Game, Fish and Wildlife. From this we expect to prepare a check list of items required to be addressed by the sponsors of a project and a list of agencies to whom this information would be submitted for review and comment.

Secondly, we would establish the means to evaluate a project in terms of its actual impact on the capacities of the sewerage system including trunk lines and treatment. We believe this should be done in terms of what remaining capacities will be used by the particular development. The Client will need to provide help with the definition of "remaining capacities." There is substantial difference between remaining capacities today and remaining capacities assuming full or partial build-out of known developments now being served.

By using the current flow data generated by the Sewer Capacity Analysis and Combined Sewer Study and treatment plant records, along with the capacities of the trunk lines and treatment plants, it will be possible to compute what percentage of the remaining capacity of each element would be used by a new project. Given the known cost of existing facilities and estimated costs for future pictures, it is also possible to relate these percentages to dollars for possible tap fees or plant investment fees. Obviously the results will be different depending on where a project is located. In order to provide a general range of this difference, we propose to provide an analysis of three potential developments one each located near the Persigo Wash Plant, Pear Park area, and Paradise Hills area. These locations may be changed by the Client.

An alternative to this, which we see as being a separate scope of service, would be to set up a computer model of the trunk sewer system based on the flow and capacity information available. Projected flows from new projects could be entered into the model and the increment of line capacity needed to serve the new project would be computed. This data could then be entered into a "spread sheet" type of computer program which would compute costs for a trunk line or trunk line segments as well as the increment of treatment plant capacity being used by the new project. These costs could then become part of a service agreement for areas outside the Planning Area and/or incorporated into the overall development agreements reached by the approving agency. ARIX will be glad to discuss this concept further with you.

#### FUTURE USE OF WESTSIDE SEWAGE TREATMENT PLANT

This task consists of identifying potential uses for the Westside Sewage Treatment Plant which is now in the process of being decommissioned by the City of Grand Junction. This analysis would include a review of typical industrial wastes which would have characteristics which could benefit from pre-treatment using the existing or rehabilitated treatment facilities. Consideration would also be given to the amount of available land adjacent to the plant for industrial development as well as costs for a separate pipeline to the treatment plant from a typical nearby industrial zoned tract of land. Operation and maintenance costs would be estimated for a typical user.

This task would also investigate the potential for using the facilities to treat urban runoff from nearby storm sewer locations. Storm water flow volumes and pollutants and their strength would be obtained from existing data and supplemented with typical data where needed. The levels of treatment or reduction in pollutants expected from the existing or rehabilitated treatment plant would be computed. Estimates of operation and maintenance costs would be made and presented in the report.

Currently, the City's intentions for the Westside Plant are to use the major structures/basins for equipment and salt storage. The value of this utilization will be compared to the plant's potential value as an industrial pre-treatment or stormwater treatment facility.

## SUMMARY

All of the data gathered and developed will be presented in a written final report and in a series of maps and overlays. The report will document the sources of data and the basis of the computations. We will present the land use, zoning, trunk sewer line and population data on a series of maps, overlays and tables. This information will be presented initially in draft form for review, comment and concurrence by the Client and related groups and agencies. Once all comments have been received and resolved, a final report will be prepared and provided to the Client. The number of copies distributed will be determined by the Client. ARIX expects to present this final report, after Client review, to the Colorado Department of Health and Environmental Protection agency for their approval to meet their grant and permit conditions. In all cases, the Client will be presented the materials for review first, prior to forwarding the information on to other agencies.

MANPOWER PROJECTION BY TASK

Task 1 - 201 Planning Area and Service Area Update

<u>Labor Classification</u>	<u>Total Hours</u>	<u>Percent of Hours by Mesa County Residents</u>
Principal	4	100
Project Manager	16	100
Project Engineer	24	100
Designers	60	100
Drafters	40	100
Secretarial	<u>8</u>	<u>100</u>
Subtotal	152	100

Task 2 - Population Projections

<u>Labor Classification</u>	<u>Total Hours</u>	<u>Percent of Hours by Mesa County Residents</u>
Principal	1	100
Project Manager	4	100
Project Engineer	8	100
Designers	20	100
Drafters	8	100
Secretarial	<u>4</u>	<u>100</u>
Subtotal	45	100

Task 3 - Wastewater System Update

<u>Labor Classification</u>	<u>Total Hours</u>	<u>Percent of Hours by Mesa County Residents</u>
Principal	4	100
Project Manager	20	100
Project Engineer	40	100
Designers	80	100
Drafters	16	100
Secretarial	<u>0</u>	<u>-</u>
Subtotal	160	100

Task 4 - 201 Planning Area Update Procedure Development

<u>Labor Classification</u>	<u>Total Hours</u>	<u>Percent of Hours by Mesa County Residents</u>
Principal	2	100
Project Manager	10	100
Project Engineer	30	100
Designers	60	100
Drafters	0	-
Secretarial	0	-
Subtotal	102	100

Task 5 - Future Uses of Westside Sewage Treatment Plant

<u>Labor Classification</u>	<u>Total Hours</u>	<u>Percent of Hours by Mesa County Residents</u>
Principal	1	100
Project Manager	10	100
Project Engineer	20	100
Designers	40	100
Drafters	0	-
Secretarial	0	-
Subtotal	71	100

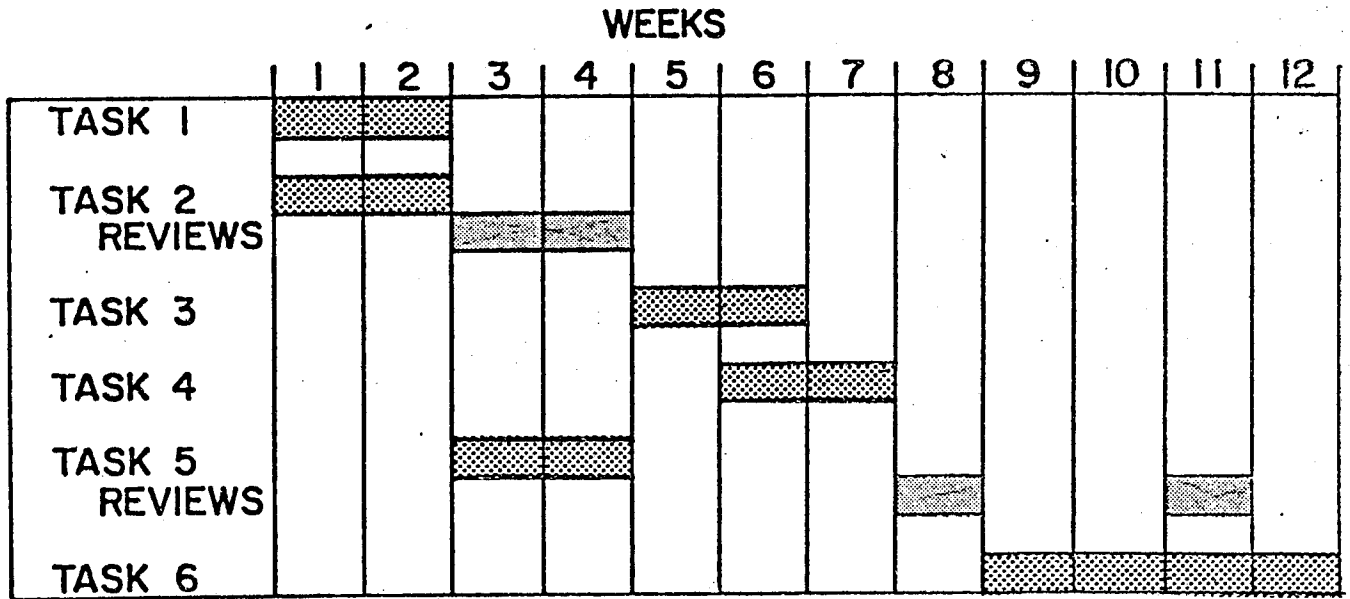
Task 6 - Report Preparation

<u>Labor Classification</u>	<u>Total Hours</u>	<u>Percent of Hours by Mesa County Residents</u>
Principal	4	100
Project Manager	30	100
Project Engineer	40	100
Designers	40	100
Drafters	24	100
Secretarial	40	100
Subtotal	178	100

TOTALS 708 hours 100%

# 201 UPDATE OF THE GRAND JUNCTION/ MESA COUNTY JOINT SEWAGE SYSTEM FACILITIES PLAN

## PROJECT SCHEDULE



THIS PROPOSED SCHEDULE IS ENTIRELY COMPATABLE WITH OUR GRAND JUNCTION STAFF CAPABILITIES AND PROJECTED WORKLOAD DURING THE ANTICIPATED SCHEDULE DURATION.

Copies: Area 7/22/85  
Finance Dept  
Ralph Steffy

ADDENDUM NO. 1

THIS ADDENDUM made and entered into this 22 day of July, 1985, by and between the City of Grand Junction and Mesa County, hereinafter referred to as the Client, and ARIX, A Professional Corporation, hereinafter referred to as the Consultant.

WITNESSETH:

WHEREAS the above parties have entered into an Agreement for Professional Services dated May 2, 1984, providing for performance by the Consultant of certain engineering services in connection with updating the Grand Junction and Mesa County Joint Sewage System Facilities Plan; and

WHEREAS the scope of services was reduced from \$23,902 to \$8,007 to reflect changes in the local economy while still fulfilling special condition 5 of EPA Grant C080337-260; providing a status report on the new Persigo Wash Wastewater Treatment Plant; evaluating the potential use of the old West Side Plant; and proposing impact items the City/County should look at when reviewing a major development outside the 201 boundary; and

WHEREAS the parties now desire to modify the Agreement to provide a computer model of sewer system capacity.

IT IS HEREBY AGREED by the parties hereto that Article 2.1 of said Agreement shall be amended to provide the following provisions:

- Article 2.1.1 Review the recently completed April 1985, Nichols Report on interceptor sewer capacity and loading to identify for each line system:
- . existing average daily flow
  - . existing EQR's
  - . existing peak flow
  - . average flow/EQR
  - . peak flow/EQR



Article 2.1.2 Develop spreadsheet program on IBM-PC computer using Lotus 1,2,3 software that would enable the City/County to constantly update demands from existing and new development on each interceptor line, identify impacts from planned development, and help City/County staff better define when infrastructure improvements are needed. To do this we see two spreadsheet formats being used. The first one would be for each interceptor line and would be updated continuously as new development took place. It would contain:

- . existing EQR
- . average total flow
- . flow/EQR
- . peaking factor
- . capacity of line
- . reserve capacity

Each new development would show up as a separate entry and be automatically totalized into the interceptor's total flow.

The second spreadsheet program would take the totals from each interceptor line's spreadsheet and summarize the entire system. This program would add up each interceptor's flow and show downstream impacts caused by growth on upstream interceptors.

Article 2.1.3 In order for the City/County to fine tune the model, it is necessary to update the actual flow in each interceptor by field measurements. We will recommend which manholes should be monitored for flow, the frequency of monitoring, the method of monitoring, and the duration of monitoring.

Article 2.1.4 It is also important that the City/County develop a better understanding of the nature of flows derived from the various sanitation and metro districts. We will recommend which manholes should have a permanent flow monitoring system to identify flows developed by each district. As part of this effort we will provide a standard design and a cost estimate for these permanent flow monitoring stations.

Article 2.1.5 In order for the City/County staff to utilize the spreadsheet program we will develop, ARIX will assist in training your computer people in the operation and modification of the program.

Article 4. Shall be amended to include the following provisions:

Item 2.1.1 - Review of the May 1985 Nichols Report will be completed and reviewed with City/County staff prior to proceeding with Items 2.1.2 thru 2.1.5.

Item 2.1.4 - To be completed and reviewed with City/County staff prior to proceeding with Items 2.1.2, 2.1.3, and 2.1.5.

Article 5.1 Shall be amended to include the following provisions:

Services described in Article 1 - Lump Sum Fee shall be reduced from \$23,902.00 to \$8,007.00.

Services described in Article 2.1.1 thru 2.1.5 shall be remunerated based on the following rates not to exceed the remaining budget of \$15,895:

Senior Engineer	\$50.00/hr.
Project Engineer	35.00/hr.
Drafter	25.50/hr.
Secretary	20.00/hr.
Computer Time	10.00/hr.
Xerox Copies	.10/ea.

ALL OTHER PROVISIONS of the Agreement dated May 2, 1984, shall remain in effect. *Time of completion shall be 90 days.* <sup>TC</sup> <sub>ABZ</sub>

IN WITNESS WHEREOF, the parties hereto have executed the Agreement the day and year first written above.

CLIENT

City of Grand Junction ~~and~~  
~~Mesa County~~

by *Charlotte Achen*  
*City Manager*

CONSULTANT

ARIX, A Professional Corporation

by *Gordon W. Bruchner*  
Gordon W. Bruchner, Vice President

ATTEST

by *Beverly S. Lockhart, MC*  
*City Clerk*

by *Timothy J. Carlson*  
Timothy J. Carlson, Sr. Engineer

