

May 24, 1966

Mr. Fred W. Clayton
Consulting Engineer
100 Washington Street
Room 1
Reno, Nevada 89503

Dear Fred:

Thank you for your letter of May 10, 1966 in which you expressed a willingness to work with us on the proposed BLM Eastgate project. I apologize for the delay in sending you my thanks, but I spent all of last week out of the City and am now just catching up on the correspondence.

Skip Howard will keep you posted on the progress of BLM in making their selection of a consultant, and I sincerely hope they pick us for this most interesting project.

I trust this finds you and your family in good health and I hope on my next trip to Carson City, I may have the time to visit with you and talk about some potential foreign work which may be developing in the near future.

Thank you again for your cooperation on the Eastgate project.

Sincerely,

THE KEN R. WHITE COMPANY

Te v
T. C. Vest, P.E.
Vice President

TCV:de

cc: Mr. E. M. Howard
Carson City, Nevada

cc: E. M. Howard
Carson City, Nevada

ENGINEERING
ARCHITECTURE
PLANNING
RESEARCH



THE KEN R. WHITE COMPANY

1567 MARION STREET • DENVER, COLO. 80218 • 255-0337

May 24, 1966

Mr. Raymond M. Smith
AIP
136 Vassar Street
Reno, Nevada

Dear Mr. Smith:

Please forgive my tardiness in thanking you for your letter and resume of May 10, 1966 regarding the BLM Eastgate project. I had to spend all of last week in Phoenix, Arizona on business and am just now getting around to catching up on my correspondence.

I certainly agree with you that the project at Eastgate is an interesting one and is rather unusual for the United States, although many similar projects have been completed by U. S. personnel overseas. If successful on this project, we believe that the door would be opened to many more such undertakings in the Western United States. To date, Bureau of Land Management personnel have been most encouraging and seem to appreciate our efforts in taking the time to prepare the statement of interest and capabilities. Skip will keep you posted on the progress of BLM in selection of the consultant for this program.

I hope on my next trip to Nevada I may have the opportunity to meet you and I wish to assure you that it is my desire to terminate the situation which you so candidly mentioned in your letter. Thanks again for your interest in this project, and I know with your knowledge of the history and the economy of Northern Nevada, you would add much to the team effort required in completing a worthwhile study.

Very truly yours,

THE KEN R. WHITE COMPANY

TW
Taylor C. Vest
Vice President

ENGINEERING
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THE KEN R. WHITE COMPANY

NEVADA ENGINEERING CONSULTANTS DIVISION
888 E. WILLIAMS • CARSON CITY, NEVADA 472-1669

*Carson City
"unk. skip"*

May 13, 1966

Bureau of Land Management
Nevada State Office
P. O. Box 1551
Reno, Nevada 89505

Attention: Mr. Nolan F. Keil
State Director

Your Ref: 5:9173

Gentlemen:

It is our pleasure to reply to your letter of April 12, 1966, relative to furnishing consulting services for the Eastgate Frail Lands Multiple Use Watershed Development Project, Reference No. 5:9173. We understand the objectives of this research and development project are to inventory the resources of the Eastgate Watershed and, by use of present and proposed management techniques, prevent further deterioration of the resources and utilize them in combinations that will best meet the present and future needs of the American people.

The Ken R. White Company was organized in 1953 for the purpose of performing design and consulting engineering services. The Company has its main office at 1567 Marion Street, Denver, Colorado, 80218. In addition to the home office in Denver, The Ken R. White Company has offices in Carson City, Nevada; Phoenix, Arizona; Helena, Montana; Yakima, Washington, and Washington, D. C., which perform a wide variety of engineering services.

The Company has performed engineering services for innumerable projects representing a construction value in excess of \$500,000,000, some of which are described in the attached brochure.

May 13, 1966

The Company possessed a Bendix G-15 electronic computer which is used extensively in the engineering work. The company also performs aerial photography and mapping, using its own Kelsh, Balplex Plotters and Wild A-7 Autograph first order instrument. Terrain x, y, z coordinates are digitized using the Benson-Lehner Terrain Data Translator for computer input.

In addition to its own facilities, The Ken R. White Company has access to numerous other facilities and services for the performance of intricate and detailed analysis of special problems.

Relative to your project, we have had a production office in Carson City, Nevada since 1961, the staff of which we would adequately augment for the work, including the securing of highly specialized services from both Nevada and out of state sources.

We are enclosing a folder containing the following items for your consideration:

1. U. S. Government Architects-Engineers Questionnaire Standard Form 251 (completed for entire company.)
2. A general brochure of the Company.
3. A Memorandum related to estimated work to be done, personnel requirements, the qualification specification for personnel and an activity schedule.
4. Consolidated draft review of parts of the anticipated contract, used in preparation of the above memorandum, Item 3.
5. Biographies of proposed Project Engineer, Assistant to Project Engineer, Geologist, and Special Consultant for history, economics and recreational areas.

Biographies of other specialists will be furnished upon request, but due to special nature of assignments, personnel would be selected to best suit conditions dictated by the field investigations and studies. Personnel from our staff would be used for most engineering assignments and special requirements would

May 13, 1966

be filled by members of the staffs from University of Nevada, Colorado State University and University of Arizona. Staff members at these institutions have agreed to assist us in this most interesting undertaking.

We believe your proposed method of approach to accomplish your goal is the correct one and should furnish a sound management program for present and future needs.

The proposed form of contract is acceptable for the most part but we believe, at this time, some items in the feasibility study portion should be on a reimbursable basis after definite needs are established. This would be a matter for discussion in final negotiations.

We are very interested in the Eastgate project and hope we may have the opportunity of working with you.

Very truly yours,

THE KEN R. WHITE COMPANY

A handwritten signature in dark ink, appearing to read "Arthur M. Krill", is written over the typed name.

Arthur M. Krill
President

AMK:rs
Enclosures

EAST GATE PROJECT

FEASIBILITY INVESTIGATION WORK PROGRAM

PROJECT AREA DESCRIPTION

Two parallel mountain ridges about eighteen miles apart, the Clan Alpine on the West and the Desatoya on the East, extend for sixty miles in a Northeasterly-Southwestly direction to form an elongated mountain valley. The Valley is divided into two drainage basins -- the Edwards Creek Valley covers about two-thirds of the Northern portion, and the East Gate Valley the Southern area.

The Desatoya Mountains attaining elevations of nearly 10,000 feet form the East side of the East Gate Basin. These mountains are barren of vegetation, except for sagebrush and a band of scrub timber, steep, rocky and cut up by ravines and water courses that descend onto the Alluvial Valley about elevation 6,500 feet. Nearly all of these water courses flow due West.

On the West of the Valley, the Clan Alpine ridge gradually rises from a gap at Middle Gate, the effluent of the drainage basin, at elevation 5,000 feet to nearly 10,000 feet, eighteen miles to the North. Between elevation 7,000 and 8,000 feet, the ridge is sparsely covered with scrub timber. The Southwesterly extremities of the Basin are sagebrush-covered hills ranging in elevations up to 7,500 feet.

A minor ridge off-shoots from the Desatoya ridge to cut across the area at East Gate to form a sub basin. This area in the Southeast corner of the East Gate Valley covers about one-third of the general area. The drainage effluent for this sub basin is at the gap in the East Gate ridge at the weigh station by that name. Highway 50 bisects the area. The area to the South of the Highway in the sub basin is a narrow alluvial-filled valley of silts, clays, sands and gravel outwashed from the surrounding hills and mountains. The alluvium is probably one hundred feet deep and is covered with a thin mantle of soils of both loess and water deposits. To the North of the Highway, the Valley is rather broad, open and sloping from the mountains toward the effluent at East Gate.

The main East Gate Basin is a rectangular area roughly six miles wide and twelve miles long between the East Gate ridge and the Clay Alpine ridge. Its outlet is near the Southwesterly corner of the area. A series of eroded channels and drains form from the mountain sides toward the center of the Alluvial Basin and join the East Gate channel about three miles Easterly from Middle Gate at the Valley effluent. The drainages all combine at the Basin outlet at Middle Gate. A granitic dike that forms the Clan Alpine ridge extends across the drainage channel at Middle Gate to form a rock barrier that controls the depth of erosion and the water table in the lower basin. At the rock barrier is a waterfall of about twelve feet and a deeply-eroded channel down stream.

All streams within the East Gate Basin are intermittent; that is, they do not flow continuously.

SCOPE OF WORK

The feasibility investigations and the work concerned with developing the resources of the East Gate Basin and plans for improvement of conditions may be segregated into seven general categories:

1. Surveying and mapping
2. Geology
3. Water resources
4. Land, soils and vegetation
5. Recreation, fish and wild life
6. Engineering plans
7. Economics and evaluation

The first phase of the work is to complete the inventory of available data and information on resources; the second is to analyze these data and develop a plan of improvement commensurate with conditions.

WORK PROGRAM

1. Surveys and Mapping

It is planned to prepare from existing photos a contour map with ten-foot contour intervals. This map will be basic for all purposes of the investigations. This map, together with mosaic

photos, the same scale as the contour map (uncontrolled mosaic) would be used for delineation of soils, vegetation, soils sampling, geology, location of recording gauges, roads and layouts of general plans. Field data would be transposed from the photos to the basic map for recording and report purposes.

The preparation of the maps and photos is of special consideration. It will require about 120 days to complete the final map, but the mosaics may be used in the interim. Additional surveys and topography on larger scales than the above maps may be found necessary for location of major structures, reservoirs, or land classification developed in the plans.

2. Geology

A draft of a report on geology to serve as an appendix for an over-all report would be prepared. This draft report would be prepared from available published reports and from field inspections. The report would briefly describe the general geology of the Basin, disclose any unusual occurrences, general faulting, formations, and seismic activities. It should point out known locations of mining activities and future potentials that may be of value in the resource development of the Basin.

The geologist should as much as possible furnish information on sub-surface conditions in the alluvial plains; that is, rock surfaces, alluvial fill characteristics, barrier ridges and other information for the purpose of ascertaining ground water potentials. Detailed information may also be required on foundations

for major structures.

3. Water Resources

The hydrologist would view, assemble and gather all existing hydrological and meteorologist data of the Basin, consolidate, prepare drafts of maps, sketches and draft a report on the inventory of data available.

To obtain additional data, the hydrologist would make in the field a flood damage survey, prepare flood hydrographs by the unit hydrograph method, for various control points in the Basin and make estimate of the probable damages from floods.

The hydrologist would also make sediment surveys using existing data, make synthetic analysis of sedimentation as well as do additional sampling when possible. We would also make water depletion studies, determine retention factors and areas and runoff estimates. In addition, vegetative water requirements would be determined.

He should locate and examine springs, stock and wild life watering sources, and aid in locating wells and prepare a ground water map of the alluvial basins consistent with findings of the other phases of the investigations.

In addition to the above, runoff estimates may be required for features of the plans of development, such as for stock ponds, wild life watering spots and recreation areas.

It is expected that three to five wells may be drilled in the Basin to ascertain the possibility of using wind mills for stock and game water needs as well as for recreation purposes. These wells would be required to specifically explore the ground water conditions.

Probably about four hundred linear feet of six-inch cased wells would suffice for the initial work. Each well would be measured for draw-down, transmissivity, permeability, radius of influence and yield. Careful logging of the wells would be required. The well driller will be required to do all the work, furnish all the material, do the pumping and leave the hole cased and capped. The work would be under the supervision of the hydrologist.

The hydrologist can expect to secure samples of both ground water and surface water and have them analysed for suitability for domestic, stock and irrigation uses. A total of twenty-five samples should suffice.

4. Land, Soil and Vegetation

The entire Basin area estimated to cover 214 square miles is about one-third alluvial plain. The rest is mountains, foothill and undulating terrain.

Annual precipitation ranges from seven to ten inches over most of the alluvials below elevation 6,000 feet to as much as sixteen inches in the Eastern high mountains. Precipitation increases

with elevation. Evaporation is in the range of sixty inches per year. Of the approximate 100,000 acre feet of precipitation that falls on the Basin annually, probably five to six percent actually leaves the Basin in the form of flash floods at its effluent at Middle Gate. Vegetation uses some water in the form of evaporation, transpiration, but the majority is evaporated from the hard desert ground surface before it can filter into the deeper subsoil. Precipitation is fairly constant by months throughout the year -- a little above average in May and October and below average in August.

Thin to moderate stands of small sagebrush and greasewood cover the area. A band of scattered scrub timber persists between elevations 6,500 to 8,000 feet. The water table is fairly close to the surface (eight to ten feet) in the lower areas where deep-rooted greasewood thrives. There appears to be no artesian in the area.

The major problem of the Basin is to determine the range type of grass or vegetation that can be grown under the conditions and the management necessary. Large-scale irrigation does not appear feasible, but there may be some garden variety irrigation from wells that will develop in the area below East Gate and near Middle Gate. The D.R.I., B.L.M., and University of Nevada should have data information and give advice with respect to range vegetation and current management practices. Low-lying terrain along water

courses and outwash fans should be considered for trees, and deep-rooted vegetation for wind breaks and wild life habitation.

It would appear that considerably more soils testing and sampling would be required for feasibility investigations and for use in determining final layouts of soils units, their capabilities and classifications. More detailed soils sampling and testing of soils, especially in the "A" and "B" horizons are needed. Probably about 1,000 sample points, in addition to existing information, would suffice. The tests should be mainly for Ph, conductivity and depth.

This program would consist of the employment of the best expert on desert and mountain vegetation and management for part-time periods, to supervise, plan and direct the field work and prepare a draft of a report appendix on the findings. A lesser subordinate would be required to perform the tasks of field work, sampling, testing and delineation of data. Laborers would be needed for the hand auger work.

5. Recreation, Fish and Wild Life

Although the Bureau of Land Management instructions indicate the services of a fish biologist, at this time it does not appear his services would be needed. In case this subject becomes an issue or feature of the plans developed, his services would be obtained.

Plans for recreational facilities may be handled as a

part of the engineering functions. The need for such items as access roads, historical markers, roadside parks, trees planted, picnic and camping areas together with the availability of water and other facilities will become apparent from the economic surveys. A qualified plan will be used.

Facilities for wild life would be provided under the range management program and in accordance with the economic findings.

6. Engineering Plans

There are no definite engineering plans formulated for the Basin at this time and the subject remains somewhat nebulous. But there are some basic items that must be inventoried; such as, the long-range highway and transportation program. A survey of erosion conditions is required; that is, a field survey and mapping of erosion conditions in the Basin and tentative locations determined for structures to rectify the conditions.

A similar survey in coordination with the hydrologist of flood damage conditions, locations for channel rectifications, bank stabilizations, detention reservoirs and other features in accordance with benefits and costs must be made.

It appears at this time the plan of development will consist of:

- (1) A large-scale range land development and management program, including such erosion and flood control features as contour plowing and ripping;
- (2) A series of, preferably, wells for livestock water or stock ponds where ground water conditions are not suitable for wells;
- (3) Water course erosion control structures in the form of dumped rock and gravel where they can be economically justified;
- (4) Except for the possibility of developing excellent range lands that would be susceptible to damage by flooding, flood control does not appear to be a primary issue and expenditures for such facilities may be difficult to justify;
- (5) Features for recreation;
- (6) A road system for the plan, and
- (7) Other considerations -- there are two apparent sites in the Basin for a moderate size dam and small reservoir. One is above East Gate and the other at the gauging station at Middle Gate. Either would provide a recreation pond which would serve to retain sediment and detain floods. It appears possible with a dam at the Middle Gate site, to pond the water,

raise the water table up stream, provide a recharge area around the lake and provide some irrigation by pumping from wells or from the lake, should the soils be found adequate and the water suitable. Such a pond would control erosion down stream and stop sediment, provide a source of ready water for the Basin as well as be a recreational area.

Reconnaissance types of designs, quantity and cost estimates for engineering structures should suffice for the Basin plan, except for major structures. In the plans developed, there may be numerous small isolated structures such as check dams, rock fill drop structures, small water holes and stock tanks for which standard typical designs have been developed. Field inspections and over-all quantity estimates, or lump sum estimates of individual features, together with their locations on maps, indexing and tabulations should suffice for these cost estimates and designs. Large structures at obvious locations may require profile and cross-section surveys, some auger holes or test pits to examine foundation conditions, and

preparation of sufficient designs to establish the parameters of the structure and to make quantity take-off estimates. Core drilling or extensive foundation and construction materials sampling are not anticipated under this work.

Obviously, the work of contour plowing, ripping and land work may be considered as the land management costs and not engineering, but engineering should include the recreational facilities. Operation, maintenance and replacement costs are also part of the investigations.

Construction or implementation schedules including finance schedules is part of the engineering work to be done. The project engineer would devise plans and alternatives for sub-areas and together with the hydrologist and economist would determine their feasibility or devise various methods of treatment and develop plans based upon benefit and cost analysis of sufficient ratio to at least return the O.M. and R. costs. The project engineer would also aid in preparation of drafts of appendices. An engineer assistant for the project engineer for layout work on maps, prepare drawings, charts, tables and perform general all-around work in both

the field and office would also be required.

Design engineers would prepare designs and cost estimates and aid in preparing the appendices report.

7. Economics and Evaluation

An economic survey by an agricultural economist is required. The survey shall show the past and present conditions, including trends of population, cattle and sheep inventories, production and costs, revenues, range depletions, land values, forestry, agricultural products, minerals, water users, costs, markets and transportation, a traffic survey through the Basin and the Basin income. Predictions and forecasts for similar parameters with and without conditions of Basin development will be made. The range land development would be evaluated in terms of animal units per month for both domestic livestock and wild life. Benefits and returns adequate to allocate costs for both reimbursable and non-reimbursable expenditures in accordance with government regulations would be estimated. Special economic considerations, evaluations and an examination of the economic merits of parts and phases of the Basin development will be needed.

The agricultural economist shall be versed in range land problems and management. He would aid in the development of the Basin plan and provide a draft of the appendix for the report on this phase of the work.

REPORT

A report on the investigations will be published. The final format of the report is likely to consist of two parts -- a summary report which summarizes the findings of the investigations, the conclusions and recommendations, etc.; the second part would be in the form of appendices probably under the basic categories of the work which would serve to preserve data and information, present results of studies and analyses of conditions. The report would be suitable for government authorization purposes.

Parts or all of the separate appendices on specific subject matter would be available for the monthly meetings with the Bureau of Land Management for discussions and actions. A final draft of the entire report would be available for the Bureau of Land Management review board prior to the final meeting. The context, format and makeup of the report would be a subject for discussions and actions at these meetings.

The project in general falls under the category of research and, therefore, reports, appendices and presentation of data is expected to be voluminous. Data will have to be consolidated, tabulated and reduced to keep down the volume. The presentation of the rough drafts of the appendices would be by the individuals concerned.

Preparation of the final draft of the report for the Bureau

of Land Management review would constitute rewriting the appendices for consistency and writing the summary report (expected to be about forty pages). The final draft may consist of around 800 pages of double-spaced text, twenty-five drawings, reducible to fold-outs and perhaps 150 page-size charts, graphs and tables. Reproduction of six copies (three for the Bureau of Land Management) of the final draft is expected.

Editing revisions, modifications after the Bureau of Land Management reviews, final typing and printing would require at least a month of intensive effort.

ACTIVITY SCHEDULE for FIELD INVESTIGATION AND FEASIBILITY STUDY

	MONTH											
	1	2	3	4	5	6	7	8	9	10	11	12
A. Map Preparation Mosaics												
B. Survey Crew												
C. Field Investigation												
1. Project Engr.												
2. Asst.												
3. Geologist												
4. Hydrologist												
5. Asst.												
6. Agronomist												
7. Asst.												
Labor												
8. Biologist (Fish)												
9. Engineering												
Design												
Estimates												
10. Agr. Economist												
11. (Asst)												
D. Report												
a. Summary												
b. Appendices												
1. Geology												
2. Water Resources												
3. Land, Soils, Vegetation												
4. Recreation, F. & W.L.												
5. Plans, Designs and Costs												
6. Economics and Evaluation												
c. Review and Publication												

Notes: Field -----

Office -----

Completion: ☒ Draft ☒ Final

* Special asst to position number

EAST GATE FRAIL LANDS MULTIPLE USE
WATERSHED DEVELOPMENT PROJECT

Consolidated Draft Review of Anticipated Contract

ARTICLE IV - Data to be furnished by the Government (BLM)

A. Precipitation

In February 1963, the BLM established a network of instruments in the Eastgate Basin to collect data on precipitation at various elevations and location. Both recording and non-recording instruments were being used. At the outlet of the drainage at approximate elevation of 5,000 ft., a continuous recorder was installed, and also at three other intermediate locations. In addition to the continuous recorders, 22 rain can were distributed uniformly throughout the drainage area. The U. S. Weather Bureau has maintained a recording station for approximately 11 years, one-quarter (1/4) mile west of the village of Eastgate.

The BLM instrumentation has been serviced approximately every 30 days since installation in 1963, but, if a storm of significance occurred, they were generally serviced immediately after the storm. In September 1965, the precipitation data collected since February 1963 was given to the University of Nevada for interpretive studies by the Desert Research Institute. The Desert Research Institute (D.R.I.) agreed to furnish the following items in early 1966.

1. A series of depth-area-precipitation frequency curves for each 1000 foot differential in elevations in the Eastgate Basin applicable for areas of 0 to 10 square miles and 12 hour precipitation duration, and greater than 10 square miles and 24 hours precipitation duration.

2. Frequency curves of one year, two years, five years, twenty-five years, fifty years, one hundred years.

3. A determination relative to the maximum probable floods.

4. Rainfall intensity distribution curves for each series of depth-area-frequency curves.

5. For stockpond development work and seedings, a separate rainfall frequency study.

6. Isohyetal maps for normal rainfall in each calendar month and for the year.

7. Maps showing the expected frequency and the lower 80 percent confidence limit on the expected frequency for 24-hour rains of .01 inch or more, and for 24-hour rains greater than .10", .25", .50" and 1.00".

8. An estimate of the reliability (confidence level) by percent rating or other method for all data developed including increased accuracy of adjusted data compared to unadjusted valley records.

B. Stream Flows

A continuous stage recorder was installed in February 1963 at Middle Gute. Four (4) other peak flow devices were installed at strategic locations on drainage tributaries to obtain data for runoff hydrographs of storms reaching the drainage outlet and peak flows occurring on the tributaries.

1. These data and hydraulic characteristics developed by computations and by direct current meter readings of low flows of runoff at the stage recorder, storm hydrographs and unit hydrographs for applicable portions of the drainage area are being developed by the University of Nevada and will be furnished.

2. Loss curves for the various portions of the drainage will be developed and furnished.

3. Depth-area-runoff frequency curves will be furnished for the same frequencies and elevations as for the precipitation frequency curves.

C. Sedimentation Data

From certain of the storms recorded by the instruments outlined in A and B above, a sample of water was collected to assist in estimating the approximate sedimentation quantities in the flow.

1. This information, to date, has only been obtained on

low flows and for one point on the flood hydrograph.

2. Supplemental information, sedimentation quantity data from a small number of flows from similar areas in Nevada will be furnished.

D. Evaporation Data

Previously published evaporation rates for surface waters for various locations, seasons and elevations assembled by BLM will be furnished to the Contractor.

E. Plant Data

The BLM will furnish, under agreement with the University of Nevada, an analysis of the vegetative characteristics of the Eastgate Basin. Vegetative data will be developed on a basis that will reflect determinations on species, composition and dominance. Objectives of this study are to furnish interpretive information for analysis as follows:

1. To describe and delineate the major plant communities.
2. Determination of the production, condition, and trend of the vegetation.
3. To provide vegetative data for use in watershed runoff analyses.
4. To interpret land conditions for management and improvement practices.

Data on each plant community will be furnished on a planimetric map. Data will also include related topographic features, slope, aspect; physiographic features including land form, macrorelief, microrelief; and vegetative features characterized by cryptogams, including data on type, cover and distribution. Dominance ratings of the various species will be provided and cover estimates will be tabulated. Specific data on shrubs and trees including age and class distribution will be provided.

F. Soils Data

The BLM will furnish, under agreement with the University of Nevada, an analysis of the soil characteristics. This information will be furnished with the following objectives in mind:

1. The ecology of range lands can best be understood if the soils are investigated at the same time that the vegetation is appraised. In a synecological appraisal certain decisions regarding the state of a vegetative grouping can be satisfactorily resolved only when the soils are carefully examined. By properly interpreting soil characteristics and correlating them with natural vegetation, the following can be accomplished.

- a. Range sites can be more fully described
- b. The relative productivity of a site established
- c. The results of classifying use evaluated

d. A sound management plan developed

The soils information will provide adequate data for deciding the suitability of a site for various range improvements such as brush control, seeding, fertilization, growth of desirable plant species, and data to predict success or failure of previously untried land development practices.

Specific information that will be furnished on soils will include:

1. Soil survey characteristics including percentage cover of stones and gravels, and soils characteristics based on profile descriptions. Samples will be collected and analyzed in the laboratory for each horizon. These analyses will include at least the following:

PH, conductivity, texture of soil and percentage of organic matter, and cation exchange capacity of the A horizon. Water infiltration rates will be determined on important and widespread soil units with varying slopes by artificial sprinkling. These data will be furnished on maps and in tabular form.

G. Photography and Mapping

1. A complete set of 1:15,840 scale photographs of the drainage area will be furnished. The photography furnished has an accuracy of + or - 5% tolerance allowed on this specified scale. A minimum amount of control was placed prior to the

flight to obtain this photography. It would be necessary to perform a considerable amount of additional photo identification and field control location work to obtain reliable 10 foot interval contour maps from this photography.

2. A planimetric map at a scale of 2" = 1 mile, delineating the dendritic pattern of the watershed channels will be furnished. United States Geological Survey mapping is also in the preparation state and may become available for portions of the Eastgate Basin within the period allowed for the feasibility studies outlined below.

3. Cadastral surveys are scheduled for the basin and a new survey network will be available on the ground by the fall of 1967.

H. Project Development Guidance

The BLM will make available technical specialists in several related fields for advice to the Contractor in the performance of the work. In order to insure the least interruption of other work being performed by the BLM technicians, the Contractor shall establish a project office in Government provided quarters or at other suitable locations during the time required for the field investigation. BLM technicians will provide basic information on conventional land treatment procedures.

I. Land Treatment Plan

The BLM will furnish guidelines relating to conventional

land treatment practices for the Contractor to consider. A general outline including maps reflecting certain types of land treatment work will be furnished as preliminary advice.

J. Additional Data

1. Road development criteria: Standard geometric designs, design methods and sample plans and specifications.
2. Standard specifications and design criteria for wells, stock dams, dikes and detention reservoirs.
3. BLM standard drawing sizes and title block data.
4. Card punched precipitation data.
5. Standard specifications for seedings, certain other plantings, and fences.
6. Map reflecting location of land developed for agriculture and allowed entrees under the Desert Land Act.
7. Eastgate Basin "Location Map".

ARTICLE V - Contractor's Responsibility and Work to be
Performed by Contractor

A. General

1. The Contractor shall, using the data furnished by the BLM, together with data from other sources, prepare within one calendar year from the date of Notice to Proceed on this contract, a complete feasibility investigation and report for resource development of Eastgate Basin.

2. The Contractor will evaluate alternative approaches for development of the land, including the preliminary Land Treatment Plan provided by BLM and arrive at conclusions using, as basic guidelines, benefit cost analysis. Investigations must be sufficiently comprehensive to insure that the selected phase of development work will attain the highest potential use of the land.

3. In the investigations consideration will be given to the specific application of conventional practices, as well as the need for new practices and activity on BLM administered resource developments.

The Contractor shall initiate and devise new, untried methods of development for marginal lands. There are no restrictions on the creativity of the Contractor.

4. The Contractor shall analyze the interpret basic data and interpretive work furnished by the BLM, the University of Nevada and the Desert Research Institute, determine whether or not all possible usable information has been developed, and satisfy himself that the interpretive work performed is adequate for the purpose intended. The Contractor shall furnish the BLM a written statement relative to the findings. The Contractor shall determine what, if any, additional interpretive work is

necessary and, if required, shall perform the additional interpretive work and again provide a statement of adequacy thereof.

B. Coordination with BLM

1. At periodic intervals of approximately one month or as required, the Contractor shall appear before the BLM review committee of technicians and management personnel for review, evaluation, acceptance and/or rejection of various phases of the work at Reno, Nevada, or at other mutually agreed places.

2. A written summary of each meeting shall be prepared by the Contractor, reviewed and signed by both parties.

3. A final meeting will convene not less than 30 days in advance of completion of the work for formal action on completion of the feasibility investigations and review of report activities.

4. The Contracting Officer shall make final decisions relative to acceptance or rejection of any and all portions of the work.

5. The work is divided into two parts: (1) feasibility investigations, and (2) report.

C. Work to be Performed by Contractor

1. Prepare a contour map of the drainage basin with 10 foot contour intervals from furnished photographs or other

supplemental photographs, including the establishment of necessary horizontal and vertical controls, as well as photo identification, commensurate and in conformity with standard practices and accuracies for this type of work.

2. Review and interpret all hydrological and metrological data furnished, secure and supplement with additional available data for both surface and subsurface conditions of the basin and perform necessary hydrological studies and investigations for feasibility determinations required for the plan or plans of development of the basin.

3. Obtain and consider data and information on existing and past uses of water since 1961, including water rights that might be affected by the basin development.

4. Make necessary sedimentation surveys and sampling.

5. Obtain and cause to have chemically analyzed not less than 10 samples, nor more than 50 samples, of each surface and ground water at strategic locations in the basin for a determination of suitability of water for irrigation, Fish and Wild Life, and/or domestic use.

6. Perform all hydrological functions such as, reservoir operations, sediment control, flood control, establish design flood hydrographs, channels, drains, and canal capacities, determine irrigation, crops and range vegetation water requirements

using the Blaney-Criddle methods of analysis, including return flows, make a water depletion analysis of the basin, determine availability of water at strategic locations in the basin and, or, for features of the plan of development.

7. Determine reliability of hydrological data furnished and make critical analysis of reliability of all other hydrological information presented.

8. Make a flood damage survey of the basin.

9. Develop control feature for the plan of development for the basin.

10. Obtain data on existing and newly constructed wells and form a reasonable number of test pits, borings and shallow examinations and prepare ground water maps of the basin commensurate with other investigations.

11. Construct not less than three wells for use in ground water investigations and perform tests to determine specific yields of ground water resources at specified locations. The wells to be left cased and capped.

12. Advise and report on the possible existence of ground water reservoirs in the basin together with a program for further detailed investigations of these resources.

13. Large scale feasibility investigations of ground water reservoirs are complex, time consuming, and expensive

and are not a part of these investigations, but such work may be conducted under a negotiated addendum to this contract.

14. Perform a general geological investigation of the basin including maps and detailed geological interpretations of foundation conditions for major structures, including a program of investigations of detailed foundation conditions for use in final design.

15. Investigate sources of construction materials sufficient to assure their adequacy for the purpose intended.

16. Conduct additional soil surveys of the basin to assure the adequacy of the soils for planned uses.

17. Delineate and map existing vegetation communities in the basin using existing information supplemented by further field work.

18. Should investigations disclose potentials for irrigation, the investigations will include a semi-detailed examination of these potentials including a semi-detailed land classification in accordance with U. S. Bureau of Reclamation Standards for the area up to 1,000 acres including adequate contour mapping. Further detailed investigations of this purpose to feasibility grade may be accomplished by a negotiated

addendum to this Contract.

19. Recreation potential of the basin will be explored in accordance with the BLM requirements.

20. Existing Fish and Wild Life conditions will be examined, future potentials explored and considerations purported in the plans of development for the basin.

21. An economic inventory of past and existing conditions of the basin will be made including population trends, education, socio-economic status, transportation facilities, input and output capital outlays, production, returns, trends and potentials both with and without the plans for development of the basin. This work will entail evaluations of productive areas in agriculture including domestic animal units, costs and returns, as well as similar evaluation of fish and wild-life potentials and recreation. It shall also include estimates and costs of the facilities needed, operations and maintenance, benefit evaluations, amortizations and cash flows analysis where required.

22. A thorough investigation of soil erosion conditions will be made, mapped and plans devised for rectification of the conditions.

23. Investigate domestic water requirements and potentials.

24. The contractor will be required to make ground surveys

for structures of sufficient adequacy to permit reliable estimating of the cost of structures and determining reservoir capacities where needed.

25. The Contractor will provide drawing of sufficient detail both of typical designs and preliminary design characteristics to provide quantity estimates as well as establish general design criteria and parameters.

26. Prepare quantity and cost estimates for the plans developed including recreational, fish and wildlife facilities.

27. Determine and include plans and cost of transportation and communications system for the plans developed.

28. Prepare evaluations of individual phases of the plans developed.

29. Furnish data and information required by the BLM review committee.

30. Devise a plan or plan of development of the basin in accordance with analysis of data, evaluations of benefits and costs, cooperative views of BLM and other mitigating circumstances.

31. Prepare comprehensive report in accordance with this contract.

ARTICLE VI - General Consideration for the contractor

A. Purpose and Scope

The purpose of the feasibility investigation and report will be to provide the basis for the East Gate watershed development, to establish the worthiness of individual undertakings of areas to define their physical limits and provide a report and record for implementation of the development. The feasibility investigation will be based on available data supplemented where needed by additional field surveys. The investigation should be made in sufficient detail and the data presented should be of sufficient accuracy to provide adequate support to the conclusions reached.

The investigation should evaluate all resources and factors which are related to the development of the basin particularly the water resources. Some of these resources or factors may be situated outside the basin. Attention should be given to water requirements for present uses and new requirements upon development of the basin. Sites for control, storage and utilization of water should be located, suitable engineering structures determined and their cost of construction estimated. The feasibility investigation should establish an order of preference among the competitive uses for water. Careful basin planning will obviate the danger of partial or incomplete uses, which may prevent or make more costly, later full development.

The objective of the feasibility basin investigations should be to meet the needs of the basin through the optimum utilization of the water resources consistent with sound engineering and economic principles and the policies of the BLM.

The basin plan should present an orderly sequence of development. Key facilities to meet immediate or critical needs should be indicated for early construction.

The feasibility investigation should include the examination of specific undertakings to formulate a plan for development of the basin, establish needs and justifications, define their limits, and determine their technical and economic practicability. The recommendations should include the data to support the findings.

Specific subjects that need special consideration are:

1. Water Supply: The water resource investigations should include studies involving the extent, character, magnitude and dependability of water resources and analysis of present and past utilization of water supplies and an evaluation of future operations for control and development.

Water resource studies shall be carried out in sufficient detail to insure the adequacy of the water supply for all anticipated uses and to aid in the establishment of design and operating criteria. Planning and developing water resources in the East Gate Basin cannot be delayed for a long period of observation and record accumulation. Therefore, it is recognized that

certain synthesized projections may have to be adopted. Analysis of basic data available must reasonably insure against failure to reach anticipated goals because of inadequate water supplies, of costly over-design of facilities and of tragic structure failure attributal to failure to recognize flood potential.

(a) A complete investigation of surface water and ground water is required. Information furnished by the United States Geological Survey indicates that in one known area in the lower part of the East Gate Basin, the ground water level has dropped considerably since the time of the last severe earthquake in the area in 1954. This occurrence should be investigated further to determine its significance, if any, and the results used in the appraisal of ground water potential. Ground water studies will involve studies which will provide data concerning the extent, thickness, capacity, hydrologic characteristics, and economic and dependable yield of the aquifer. Data from the operation of existing pump wells shall be obtained to provide some information.

The feasibility investigation should determine the suitability of the water for its intended use and should provide specific information on the quantity of transported sedimentation. The feasibility investigations must make proper allowances for existing water uses.

Established rights to the use of water must be recognized and protected. A separate study should be made of current basin and downstream uses within the past five years to insure that

waters used beneficially are reserved for this continuing purpose and that waters that have not been used beneficially are surplus water available for the development program. The available water supply for the various requirements must be determined and optimum utilization made of this resource. In the planning process, water requirement should be estimated for each use and through operation studies, engineering, economical and other considerations, a practical plan tailored to provide for the most practical utilization of all resources.

Estimates of water required for vegetative growth shall be determined.

Estimates of water requirements for anticipated recreation and domestic use should be made. Known livestock and wild life watering locations will be indicated on the data map furnished by BLM.

Investigation of potential sites for development of fisheries in the Desatoya Range should include the quality of water necessary to insure against adverse affects on fish propagation. These studies should be made in conjunction with the services of a qualified fishery biologist. The construction of project works and the development of areas for various uses must not upset the existing wildlife balance and result in the loss of recreation and other values. Planning should include measures to improve the wild life environment and the quality and availability of wildlife.

2. Floods: These feasibility investigations involve the fields of engineering, resource management, and economics and are concerned with: (1) the volumes, stage and frequency of anticipated floods for use in determining the desirability of including flood control as a project purpose, and (2) the flood to be considered in the design of hydrologic structures and practical land treatment practices.

3. Sedimentation: Estimates should be made of the sediment load transported in the main channel flow and various tributaries in the East Gate Basin for design storms and drainage areas. Changes in natural flows resulting from construction of dams or other works may create silting or erosion problems which would require special attention and should be considered.

4. Erosion control: Field reconnaissance are necessary to evaluate the active erosion problems that are present and to initiate engineering studies to rectify the conditions. The objective is to locate structures that will (1) stop the active erosion, primarily in the lower one-third of the area, and (2) to locate structure that would heal or tend to heal the erosion scars that now exist.

Erosion control structures and land treatment methods to control erosion may include, but will not be limited

to, drop structures, detention dams, gully plugs, reservoirs, dikes, contour furrowing and ripping, land treatment and management practices. Benefit-costs, aesthetic values, including intangible benefits should be considered.

5. Water Control Plans: Water operation studies should be carried out for the basin plan. Various assumptions as to water supply and water requirements should be compared under anticipated operating conditions. Basically, the study should develop a system of accounting for the water income and expenditures and will then present a picture of the project in action based on runoff conditions experienced in the past.

Consideration should be given to anticipated periods of critically low flows and extend through a period prior and subsequent to the low flow period sufficiently long to represent a realistic cycle of operations. The criteria established for the operations study should set forth the amount and timing of water diversion or releases for the various contemplated uses. The criteria should define the order and extent of preference to be given to specific uses during periods of competition of available waters. The storage or regulating capacity assumed for the study will be dictated by engineering and/or economic limitations.

6. Road Network: In conjunction with the plan for the area, a complete road network should be developed. A time schedule for road development is required.

7. Geology: Generalgeologic mapping of the East Gate Basin should be made for interpreting features for project development work, developing ground water data and other factors which influence the physical plans.

(a) Foundation Geology. The suitability of foundation conditions for dams and other major structures shall be determined by field examination. Test pits or holes may be needed if questionable conditions are encountered.

(b) Construction Materials. The location of suitable deposits of construction material of earth, concrete aggregate and similar materials shall be made as required from field examinations.

8. Construction Cost Estimates: Cost estimates developed will provide a basis for authorization of the project for construction. Individual estimates should be prepared for each identifiable feature. The estimates should be in sufficient detail to show the quantity, unit costs and total costs of the various works and supply items. The estimate should be modified to reflect unusual construction problems such as climatic conditions affecting construction time or method, existing road networks and construction of new roads,

availability of labor supplies, equipment repair facilities, and location and quality of construction materials. The location, size, type and cost of major facilities should be established within reasonable limits. The designs and estimates of cost should be in sufficient detail that no major deviation from the plan will be necessary when actual construction and development of the project is undertaken.

9. Easements and Agreements. It shall be the responsibility of the BLM to acquire any easements or agreements necessary to accomplish the development plan.

10. Economic Investigations and Plan Formulation Guidance. Economic investigations should be made to determine how phases of the over-all plan of development would achieve such objectives as improving the efficiency of resource use, promoting economic growth and stimulate diversified development. The investigation should provide a comparison of alternate means of achieving stated objectives and provide a guide in selecting needs to meet: (1) which phase or facilities to develop, and (2) the extent to which development should be carried.

The economic investigations shall be conducted to determine how the phase will contribute toward achieving the primary objective of promoting and sustaining economic growth and optimum use of the resources. The economic investigation should provide a basis for comparison of phases or parts of the plan for selection of the most desirable plan of development and the economic

justification and financial feasibility of the selected plan. The extent and detail of the East Gate investigation should be sufficient to provide a firm basis for authorizing the development.

Benefits - the term "benefits" is used to designate the estimated improvements in conditions attributal to the undertaking and for convenience of discussion, they are defined as follows:

Direct benefits - An increase in value of the immediate goals and services resulting from the development.

Indirect benefits - the value of increases in useful goals and services which accrue from activities stemming from processing of the development output.

Intangible benefits - The benefits which cannot be measured in monetary terms. An item to be considered under intangible benefits is aesthetic values.

Methods of Economic Investigation - The economic investigation is concerned with the identification and comparison of the costs and benefits associated with a particular course of action. These costs and benefits shall be measured by the difference in conditions which would prevail with and without the project. The investigation will cover three time categories: historic and present conditions, probable future conditions without the project, and probable future conditions with the project in operation. Time is a vital element in the comparison because equal cost and equal benefits which occur at different times are not of equal value. The comparison of future conditions which would prevail with and without

the project is the foundation of the economic analysis. It is not proper to base the analysis solely on a comparison of conditions immediately before and after project construction and development. Change is inevitable and conditions may decline or improve in the absence of the project. The predication of future conditions without the project should be based on historic and present conditions and the economic trends which will most likely occur in the absence of the project. The predication of future conditions to the area should reflect on improvements in available resources and opportunities and production resulting from project construction.

The objective should be achieved within the framework of practical engineering, land management, and economic principles and criteria for a comprehensive long and short range public point of view. Detailed comparison of closely competitive alternatives should be made. Estimates of the annual operation, maintenance, and replacement costs must be considered in the plan selection. Factors such as secondary and intangible benefits and aesthetic consideration which cannot be reduced to monetary terms should be considered.

ARTHUR V. WERNER
Project Engineer

Education: **University of Idaho**
 B.S.C.E. - 1931

Career:

1966-to date **Consultant**

1959-1966 **Chief Planning Engineer, Engineering Consultants, Inc., Denver, Colorado. Reviewed available data, directed additional field investigations, and developed project plans for Maskeliya Oya Hydro-electric Project and Samanala Wewa Multipurpose Project in Ceylon; for Brahmaputra Project in East Pakistan; and for Lam Pao, Lam Pra Plerng, Me Tang and Nan Projects in Thailand. Prepared feasibility reports for use in obtaining project financing.**

1950-1959 **Chief, Engineering Surveys and Geology, U. S. Bureau of Reclamation, Amarillo, Texas. Responsible for studies and investigations for determination of the location, size and stability design of irrigation, power, navigation and flood control structures; cost and availability of natural construction material; alternate plans for layout of basin or project facilities; estimates of costs of engineering features of regional, basin and project development; planning and supervising all general and specific field surveys including horizontal and vertical control, topographic, canal and drain alignment, land lines, right-of-way and structure location.**

Also responsible for directing and supervising investigations of the geological and mineral resources of the region, surface mapping of rock formations and structures; sub-surface explorations, by diamond and calyx drilling, geophysical surveys, shafts, tunnels, trenches, pits, etc., on the foundation studies of sites for dams, reservoirs, power houses, canals, tunnels, and other structures; directing geological and petrographic studies to determine the character, suitability, adaptability, utilization and treatment of earth and rock formations

for structures and construction materials; determining sources, qualities and quantities of material available for embankment and aggregates; and directing and supervising preparation of reports on regional, basin and project geology; geological sufficiency of dam, reservoir and other structural sites.

1947-1950

Head Design Engineer, Lewiston Orchards Project, Idaho, U. S. Bureau of Reclamation, Responsible for: design of diversion dams, sand traps, concrete flumes, reservoir outlet works, irrigation and domestic water distribution systems, filter plant, and related structures; preparation of specifications for construction and purchase of materials.

1946-1947

Assistant Project Planning Engineer, U. S. Bureau of Reclamation, Medford, Oregon. Responsible for field investigations and necessary action regarding field problems of hydrology, engineering, land classification, economics, and reports in connection with project and basin reports.

1946

Civil Engineer, U. S. Bureau of Reclamation, Denver, Colorado. Assigned to special design problems connected with dams and hydraulic structures, including stress analysis of structures, photo-elastic studies and illustrative drawings. Prepared manuals on preliminary field investigations.

1942-1946

Military Service.

1931-1942

Junior to Associate Engineer, U. S. Bureau of Reclamation, Denver, Colorado. Prepared designs of cableways, railroads, highways and special structures, grout and drainage systems, galleries, conduits, adits, tunnels, stream diversion, power plants, outlet works, spillways and dams.

**RAYMOND M. SMITH, A.I.P.
(Special Consultant)**

Education: Stanford University
 B.A. - 1947
 Harvard University
 M.C.R.P. - 1949

Memberships:
(Professional) American Institute of Planners - Full Member

Career:

1960-to date Planning Consultant - Northern California and Nevada. Planning Consultant to the Cities of Winnemucca, Lovelock, Wells, Ely, Fallon, Carson City and Counties of Humboldt, Pershing, Ormsby, Churchill, Douglas, Mineral, and Storey.

He has conducted and completed comprehensive Master Plan Studies and reports under 701 Federal Procedures for: The Union Township Regional Planning Commission (Humboldt County and the City of Winnemucca), Douglas County, The Pershing County Regional Planning Commission (Pershing County and the City of Lovelock), Carson City and Ormsby County, Town of Hawthorne and Mineral County, and is currently completing a similar program in Churchill County and Douglas County, including a specific Master Plan for the Lake Tahoe Portion thereof. He has personally conducted a wide practice in all fields of private and planning endeavors of economic feasibility studies for land and structure usage.

1949-1959 Director of Regional Planning Commission of Reno, Sparks and Washoe County. Active as Executive Director of the first Urban Renewal Agency of the City of Reno and executive to the Industrial Development Commission of Western Nevada.

(Detailed Biography available on request)

FRED W. CLAYTON
Assistant Project Engineer
(Consultant)

Education: University of California, Berkeley
University of Nevada
B.S.C.E. - 1940
Advanced Professional Engineering Degree - 1963

Registrations: Nevada - Professional Civil and Structural Engineer
Registered Land Surveyor
State Water Right Surveyor
California - Civil Engineer
Oregon - Professional Engineer, Civil Engineering

Memberships:
(Professional) American Society of Civil Engineers
Structural Engineers Association of Northern
California - Member
Consulting Engineers Council - Member
National Society of Professional Engineers - Member
Society of American Military Engineers - Member
American Water Works Association - Member

Career:

1963-to date Consulting Practice-Reno, Nevada. General Engineering
practice - civil and structural. Wrote water supply
section for State Recreation Report.

1951-1963 Domestic and Foreign Assignments for Federal Govern-
ment. Served four year term as a Public Service
Commissioner for State of Nevada.

1945-1951 Consulting Engineering Practice-Reno, Nevada.
General civil and structural practice.

1940-1945 With Engineering firm in San Francisco Area.

(Detailed biography furnished on request.)

DAVID LECOUNT EVANS, GEOLOGIST
(Consultant)

Education: **Stanford University**
 A.B. - 1927, M.A. - 1928
 Stanford University
 School of Mining 1936

Career:

1964-to date **Consulting Geologist, Reno, Nevada. Evaluation**
 of properties in Nevada, California, Washington,
 Oregon, Arizona and Colorado.

1951-1964 **Consulting Geologist, Wichita, Kansas. Appraisal**
 and evaluation of mining properties in Kansas,
 New Mexico, California, Oregon, Arkansas, Wyoming,
 Oklahoma, Utah, Colorado, Nevada, five states in
 Mexico, Turkey, Haiti, French Guiana, and Nova
 Scotia. Geophysical and sub-surface studies in
 Missouri, southeastern Kansas and northeastern
 Oklahoma as an aid in revival of old mining
 districts. Field work and final collaboration
 as an expert witness in ground water and water
 pollution cases.

1947-1951 **Geologist - Geophysicist - The Ohio Oil Company,**
 Tulas, Oklahoma

1945-1947 **Petroleum Geologist - The Ohio Oil Company, Wichita,**
 Kansas

1943-1945 **Shift Boss on Mine Development - The Climax**
 Molybdenum Company, Climax, Colorado.

1942-1943 **Senior Mineral Specialist - Board of Economic**
 Welfare, Washington, D. C.

1940-1942 **Mining Geologist - The Freeport Sulphur Company,**
 Reno, Nevada and Grants Pass, Oregon.

1936-1940 **Resident Geologist - The Climax Molybdenum Company,**
 Climax, Colorado.

1933-1935 **Chief of Technical Department - Compania Minera**
 Unificada del Cerro Rico de Potosi, Potosi, Bolivia,
 S.A.
 (Detailed Biography furnished on request)

April 18, 1966

Mr. T. C. Vest, Vice President
The Ken R. White Company
1567 Marion Street
Denver, Colorado 80218

Dear Bud:

Here is the invitation on Eastgate and the main problem, as they say, is our approach as to how we will fulfill the requirements of this contract.

I am sure we are the best outfit in the country to do the work with all the brains and facilities required at our disposal so how about putting your little brain to work on this and give me something in sufficient time - before the 15th of May - so that I may become familiar with it to make the proper approaches to the Bureau of Land Management people.

Yours truly,

THE KEN R. WHITE COMPANY

E. M. Howard, Manager

Enclosure



UNITED STATES
DEPARTMENT OF THE INTERIOR

BUREAU OF LAND MANAGEMENT

Nevada State Office

P. O. Box 1551

Reno, Nevada 89505

IN REPLY REFER TO:

5:9173

April 12, 1966

The Ken R. White Company
888 East Williams
Carson City, Nevada

Attention: Mr. Howard

Dear Sir:

Reference is made to your inspection tour of the Eastgate Watershed and to your indicated interest in our Eastgate Frail Lands Multiple Use Watershed Development Project.

In accordance with current Federal Procurement Regulations, a negotiation committee is being appointed and will be charged with evaluating the qualifications of the interested engineering firms.

After selection of a firm, negotiations will be undertaken for the required services and if an agreement is reached, a mutually agreed-upon contract will be executed.

In order for this committee to obtain the basic qualifications of the interested firms, two (2) sets of Standard Form 251, "U. S. Government Architect-Engineer Questionnaire", are enclosed for your use. The original, fully completed and signed, is to be returned to this office by May 15, 1966.

Since this is a research and development pilot project for proposed future multiple-use development work on the lands administered by the Bureau of Land Management, and for BLM is a new method for "getting the job done", your approach as to how you would fulfill the requirements of this contract is extremely important. Therefore, to assist the committee in selecting a firm, we are enclosing for your review, a draft of the proposed contract. The committee would also appreciate receiving a report from your firm, along with your form 251, summarizing the types of expertise that would be utilized on this job and the steps that you would take in analyzing the problems and working up the complete basin development plan.

Comments relative to this method of approach to accomplish our goal and of the contract requirements themselves are also solicited.

The items to be furnished by the Government as listed in Article IV of the proposed contract are available and can be seen in our state office in Reno.

The Bureau of Land Management appreciates your interest in our proposed project and will be looking forward to your submittal that will assist the committee in final selection of a firm.

Sincerely yours,


Nolan F. Keil
State Director, Nevada

Enclosures
S.F. 251 (2)
Proposed contract

U. S. GOVERNMENT
ARCHITECT-ENGINEER QUESTIONNAIRE

See explanatory notes
on page 9.

DATE (Month, day, and year)
March 10, 1966

1. FIRM NAME

THE KEN R. WHITE COMPANY

2. ESTABLISHED

A. YEAR
1953

B. STATE
COLO.

3. TYPE OF ORGANIZATION (Check one)

☐ INDIVIDUAL
☐ PARTNERSHIP
☒ CORPORATION
☐ JOINT VENTURE
☐ OTHER (Explain in item 22)

4. FORMER FIRM NAME(S), IF ANY, AND YEAR(S) ESTABLISHED

Ken R. White Consulting Engineers, Inc.

5. HOME OFFICE BUSINESS ADDRESS AND TELEPHONE NO.

1567 Marion Street - Denver, Colorado 80218
255-0337 (Code 303)

6. NAME OF PERSON IN CHARGE

Forms 251 pertaining to Branch Offices submitted separately.

7. PRESENT BRANCH OFFICE(S)

A. ADDRESS
Phoenix, Arizona; Salt Lake City, Utah; Carson City, Nevada; Helena, Montana; Yakima, Washington; and Washington, D.C.

8. ASSOCIATE MEMBERS OF FIRM

ARTHUR M. KRILL, Pres. T. C. Vest, Vice Pres.
D. L. Preszler, Vice Pres.
G. L. Koonsman, Vice Pres.
P. M. Gale, Vice Pres.

W. J. Grudis B. Sensel
A. Menhennett R. Whissen
S. Safarian

9. KEY PERSONNEL OF FIRM (Name)

A. ARCHITECTS

D. L. Preszler
D. E. Nichols
R. E. Hartley

D. STRUCTURAL ENGINEERS

S. Safarian
R. Whissen
E. Sharp

G. ELECTRICAL ENGINEERS (Indicate Specialty)

L. Paul Fritzsche - Commercial Electrical Projects
M. Dodd - Power
H. PLANNERS (Indicate Specialty as Site, City, Town, Community, etc.)

B. LANDSCAPE ARCHITECTS

E. SANITARY ENGINEERS (Indicate Specialty)

M. Lawner - Community Master Plans

C. CIVIL ENGINEERS

T. C. Vest - Chief Civil Eng.
A. E. Menhennett - Highways
E. R. Andrews - Drainage

F. MECHANICAL ENGINEERS (Indicate Specialty)

W. J. Grudis - HV and A/C
B. Sensel - Industrial, Mechanical

I. OTHER KEY PERSONNEL (Indicate Specialty)

G. L. Koonsman - Industrial
P. Gale - Photogrammetry
H. E. Noble - Soils Engineer

10. NUMBER OF PERSONNEL IN YOUR PRESENT ORGANIZATION

A. PRINCIPALS & KEY PERSONNEL															B. OTHER PERSONNEL										TOTALS	
LOCATED AT	ARCH. (1)	ENG. (2)	OTHER (3)	ARCH. (4)	ENGINEERS				DRAFTS- MEN (9)	SPEC. WRITERS (10)	ESTIMA- TORS (11)	INSPC- TORS (12)	SURVEY- TORS (13)	BALANCE (14)	(15)											
					(5)MECH.	(6)ELEC.	(7)CIVIL	(8)OTHER																		
A. HOME OFFICE	3	16	1	4	18	5	28	18	61	1	1	2	7	15	180											
B. BRANCH OFFICE IN		4					6	2	8					3	23											
C. TOTALS	3	20	1	4	18	5	34	20	69	1	1	2	7	18	203											
11. NUMBER OF PERSONNEL IN YOUR ORGANIZATION DURING LAST 5 YEARS																										
										A. MAXIMUM NO.		B. YEAR		C. NORMAL STRENGTH												
										248		1961		165												

* (Total of items 7 and 9)

12. OUTSIDE ASSOCIATES AND CONSULTANTS USUALLY EMPLOYED BY YOUR FIRM
(Furnish a separate completed questionnaire for each firm or individual listed below but see note c, page 9)

a. CATEGORY	b. NAME OF FIRM OR INDIVIDUAL AND ADDRESS	a. CATEGORY	b. NAME OF FIRM OR INDIVIDUAL AND ADDRESS
A. ARCHITECTS		F. MECHANICAL ENGINEERS	
B. LANDSCAPE ARCHITECTS		G. ELECTRICAL ENGINEERS	
C. CIVIL ENGINEERS		H. PLANNERS	
D. STRUCTURAL ENGINEERS		I. ESTIMATORS	
E. SANITARY ENGINEERS		J. OTHER CONSULTANT AFFILIATIONS	

13. INDICATE IN ORDER OF PRECEDENCE, USING "1," "2," "3," ETC., THE TYPES OF PROJECTS IN WHICH YOUR FIRM SPECIALIZES (Work specialties not sufficiently identified by the printed general categories are to be listed separately in the spaces provided)

ACOUSTICS - SOUND SUPPRESSION	1	HOSPITALS	1	PUBLIC BUILDINGS
AIRFIELD FACILITIES	1	HOUSING	3	SURVEYS AND REPORTS
AIR COND. - REFRIG. - VENT.	1	INDUSTRIAL BUILDINGS	1	UTILITIES
BRIDGES	2	IRRIGATION OR DRAINAGE	1	WATER - SEWAGE
CHANNEL IMPROVEMENTS		LABORATORIES	1	Photogrammetry
CHEMICAL FACILITIES	2	MANUALS		
COMMUNICATIONS	2	MASTER PLANNING - SITE DEVELOP.		
COMMERCIAL BUILDINGS	1	MILITARY STANDARD DESIGN	1	Soils Engineering
EARTH FILL DAM WORK	1	MISSILES - FACILITIES - FUELS		
ELECTRONIC FACILITIES		NUCLEAR FACILITIES		
HARBOR FACILITIES	3	PETROLEUM FACILITIES		
HIGHWAYS	3	POWER - HEATING PLANTS		

14. INDICATE THE SCOPE OF SERVICES PROVIDED BY YOUR FIRM WITHOUT USE OF OUTSIDE ASSOCIATES OR CONSULTANTS ON TYPES OF PROJECTS INDICATED IN ITEM 13 (i.e. Architectural, Mechanical, Electrical, Structural, etc.)

This firm has complete Architect-Engineer capabilities for the projects above, utilizing presently employed personnel. Maximum size project completed to date - \$45,000,000.

15. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES WITHIN YOUR FIRM
(Furnish complete data but keep to essentials)

A. NAME (Last-first-middle initial) KRILL, ARTHUR M.					D. NAME (Last-first-middle initial) VEST, TAYLOR C.				
DATE OF BIRTH (Month-day-year) Oct. 17, 1921	YEARS OF EXPERIENCE 3	AS PRINCIPAL IN THIS FIRM 3	AS PRINCIPAL IN OTHER FIRMS 7	OTHER THAN PRINCIPAL 13	DATE OF BIRTH (Month-day-year) April 16, 1922	YEARS OF EXPERIENCE 4	AS PRINCIPAL IN THIS FIRM 4	AS PRINCIPAL IN OTHER FIRMS 2	OTHER THAN PRINCIPAL 14
EDUCATION (College, degree, year, specialization) University of Colorado, BSME, 1943 University of Colorado, MSME, 1951					EDUCATION (College, degree, year, specialization) University of Colorado				
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS American Soc. Mech. Engrs., Amer. Ordnance Assoc., AAS, Teknik Club of Denver, NSPE, ASCE					MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS American Society of Civil Engineers American Society of Photogrammetry				
REGISTRATION (Type, year, State) PE, Colo.-1949, Ariz., Wyo., Mont., Others					REGISTRATION (Type, year, State) PE, Colo.-1964, Ariz., Others				
B. NAME (Last-first-middle initial) PRESZLER, DONALD L.					E. NAME (Last-first-middle initial) GALE, PLINY M.				
DATE OF BIRTH (Month-day-year) March 18, 1926	YEARS OF EXPERIENCE 3	AS PRINCIPAL IN THIS FIRM 3	AS PRINCIPAL IN OTHER FIRMS 14	OTHER THAN PRINCIPAL 14	DATE OF BIRTH (Month-day-year) July 12, 1910	YEARS OF EXPERIENCE 2	AS PRINCIPAL IN THIS FIRM 29	AS PRINCIPAL IN OTHER FIRMS 4	OTHER THAN PRINCIPAL 4
EDUCATION (College, degree, year, specialization) University of North Dakota North Dakota State University - 1949 - B.S. Architectural Engineering					EDUCATION (College, degree, year, specialization) Cincinnati University St. Mary's University				
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS NSPE, American Military Engineers, C.E.C., American Institute of Architects					MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS American Society of Photogrammetry, ASCE, NSPE				
REGISTRATION (Type, year, State) PE(1960), NCSBE, and other states					REGISTRATION (Type, year, State) PE, 1940 Texas plus 8 other states				
C. NAME (Last-first-middle initial) KOONSMAN, GEORGE L.					F. NAME (Last-first-middle initial)				
DATE OF BIRTH (Month-day-year) Nov. 21, 1922	YEARS OF EXPERIENCE 3	AS PRINCIPAL IN THIS FIRM 3	AS PRINCIPAL IN OTHER FIRMS 15	OTHER THAN PRINCIPAL 15	DATE OF BIRTH (Month-day-year)	YEARS OF EXPERIENCE	AS PRINCIPAL IN THIS FIRM	AS PRINCIPAL IN OTHER FIRMS	OTHER THAN PRINCIPAL
EDUCATION (College, degree, year, specialization) Colorado State University - BSCE - 1947 MS (Irrigation) - 1949					EDUCATION (College, degree, year, specialization)				
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS American Society of Civil Engineers, Consulting Engineers Council (CEC)					MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS				
REGISTRATION (Type, year, State) PE, Colorado - 1951; LS, Colo. - 1964					REGISTRATION (Type, year, State)				

16.

PRESENT ACTIVITIES ON WHICH YOUR FIRM IS DESIGNATED ARCHITECT OR ENGINEER OF RECORD

NAME AND TYPE OF PROJECT	LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	PERCENT COMPLETED	
				DESIGN	FIELD SUPV.
Carson College	Carson City, Nevada	Carson College Carson City, Nevada	\$30,000,000	15	0
Service Center Complex	Lakewood, Colorado	Dist.R-1, Jefferson Cty.	\$ 4,000,000	25	0
Cultural Center	Golden, Colorado	Colo. School of Mines Golden, Colorado	\$ 2,500,000	15	0
Cement Mfg. Plant	Seattle, Washington	Ideal Cement - Denver	\$20,000,000	65	0
Cadet Encampment	USAF Academy, Colo.	Air Force Academy P&C	\$ 175,000	95	NIC
Alterations & New Const.	Denver Mint	GSA, Region 8, Denver	\$ 3,000,000	32	0
Interstate Highway and Structures	Yakima-Elensburg (I-82)	Washington State Highway Commission	\$20,000,000	5	NIC
Interstate Highway and Structures	Dowd-Gypsum, Colo.	Colorado Department of Highways	\$19,000,000	26	NIC
Interstate Highway	Eastern Montana	Montana Highway Dept.	\$ 5,000,000	95	NIC
Reno Bypass (Interstate)	Reno, Nevada	Nevada Dept. of Highways	\$14,000,000	90	NIC
Master Planning	Colo., Ariz., Utah	State Planning Agencies	Reports	25	NIC
Boiler Plant Rehab. & Steam Lines	State Home & Training School Grand Junction, Colo.	Colo. State Dept. of Institutions	\$ 210,000	98	65
Longmont Airport	Longmont, Colorado	City of Longmont	\$ 75,000	40	0
Other Projects (14)	Throughout U.S.A.		\$ 4,000,000	60	NIC

NOTE: Photogrammetric projects of Falcon Air Maps Division and Branch Office work not included in above.

TOTAL NUMBER OF PRESENT PROJECTS:

27

TOTAL ESTIMATED CONSTRUCTION COST:

17.

PRESENT ACTIVITIES ON WHICH YOUR FIRM IS ASSOCIATED WITH OTHERS
(Indicate phase of work for which your firm is responsible)

NAME OF PROJECT AND PHASE OF WORK	LOCATION	OWNER	ESTIMATED CONSTRUCTION COST OF		PERCENT OF ENTIRE PROJECT COMPLETED		FIRM ASSOCIATED WITH
			ENTIRE PROJECT	WORK FOR WHICH YOUR FIRM IS RESPONSIBLE	DESIGN	FIELD SVY.	
Sanitary Sewer- age Treatment Plants and Trunk Sewers	Denver, Colo. and adjacent counties	Denver Metro- politan San- itation Dis- trict	\$30 Million	1/3 of all de- sign	95	65	A Joint-Venture Phillips-Carter- Osborn, Inc. and Henningson, Durham and Richardson, Inc.
Federal Reserve Branch Bank	Denver, Colo.	Federal Res. District of Kansas City	\$4,000,000	\$4,000,000 (KRW is contract prime)	78	0	W. C. Muchow, AIA
TOTAL NUMBER OF PRESENT PROJECTS: 2			TOTAL ESTIMATED CONSTRUCTION COST OF WORK FOR WHICH YOUR FIRM IS RESPONSIBLE: \$14,000,000				

18. COMPLETED WORK ON WHICH YOUR FIRM WAS DESIGNATED ARCHITECT OR ENGINEER OF RECORD DURING THE LAST 10 YEARS

NAME AND TYPE OF PROJECT	LOCATION	YEAR YOUR WORK COMPLETED	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	CON- STRUCTED (Yes or No)
USAF Reserve Facilities ties FY 58 Program	Naval Air Station Denver, Colorado	1956	9th Naval District Great Lakes, Illinois	\$ 3,100,000	No
Analytical Laboratory	Grand Junction, Colo.	1956	AEC, Grand Junction	\$ 300,000	Yes
Refueling Facilities	Naval Air Station Denver, Colorado	1957	9th Naval District Great Lakes, Illinois		
Cement Crushing Plant	Ada, Oklahoma	1957	Ideal Cement Company Denver, Colorado	\$ 2,500,000	Yes
Waterfront Terminal	Sacramento, Calif.	1957	Ideal Cement Company Denver, Colorado	\$ 1,800,000	Yes
Secondary Mountain Rds.	Montrose County, Colo.	1957	Colo. Dept. of Highways	\$ 2,000,000	Yes
Turbo-Jet Engine Test Facility	Naval Air Station Denver, Colorado	1957	9th Naval District Great Lakes, Illinois	\$ 300,000	No
Continental Jet Test Cell	Stapleton Field Denver, Colorado	1957	Continental Airlines Los Angeles, California	\$ 250,000	Yes
Housing Project, com- plete with all utilities	Big Piney, Wyoming	1958	El Paso Natural Gas Co. El Paso, Texas	\$ 300,000	Yes
Interstate Highway with Major Structures	Fort Morgan, Colo.	1958	Colo. Dept. of Highways	\$ 6,000,000	Yes
Reconnaissance Data Processing Laboratory	Denver, Colorado	1959	Thompson-Ramo-Wouldridge Corp., Denver, Colorado	\$ 600,000	Yes
Plant, completely automated	Tijeras, New Mexico	1959	Ideal Cement Company Denver, Colorado	\$16,000,000	Yes
Rehab. of Buildings and Utilities	Fitzsimons General Hospital Colorado	1959	C.E., Omaha District	\$ 900,000	Yes
Laboratories(Classified)	Denver, Colorado	1959	AEC-Albuquerque, N.M.	\$ 900,000	Yes
Missile Assembly Bldg.	Lowry AFB, Colorado	1959	USAF-BMD, Los Angeles	\$ 800,000	Yes
Tech. Supply Facility	Lowry AFB, Colorado	1959	C.E., Omaha District	\$ 600,000	Yes
TOTAL NUMBER OF COMPLETED PROJECTS:		TOTAL ESTIMATED CONSTRUCTION COST:			

18. COMPLETED WORK ON WHICH YOUR FIRM WAS DESIGNATED ARCHITECT OR ENGINEER OF RECORD DURING THE LAST 10 YEARS

NAME AND TYPE OF PROJECT	LOCATION	YEAR YOUR WORK COMPLETED	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	COMPLETED (Yes or No)
Liquid Oxygen Plant	Lowry AFB, Colorado	1959	C.E., Omaha District	\$ 700,000	No
Base Telephone Exchange	Lowry AFB, Colorado	1959	C.E., Omaha District	\$ 200,000	Yes
Base Projects (17)	Yuma Test Center Yuma, Arizona	1960 1961	Base Engineer Yuma Test Center	\$ 400,000	Yes
Telephone Duct System	Lowry AFB, Colorado	1960	C.E., Omaha District	\$ 160,000	Yes
Base Projects (4)	Holloman AFB Alamogordo, N.M.	1960	A.I.O. Holloman AFB New Mexico	\$ 100,000	Yes
Nosecone Facilities (Main Base)	Lowry AFB, Colorado	1960	C.E., Omaha District	\$ 500,000	Yes
AFBMD Field Office Facilities	Lowry AFB, Colorado (Buckley Field)	1960	C.E., Omaha District	\$ 160,000	Yes
Base Projects (55)	Fitzsimons General Hospital, Colorado	1960	C.E., Omaha District	\$ 1,100,000	Yes
Streets and Electric Distribution	Lowry AFB, Colorado	1961	C.E., Omaha District	\$ 250,000	Yes
Master Plan for Airport and Industrial Park	Jefferson County, Colorado	1961	Jefferson County Planning Commission	Report	-
Phase I Expansion - Tijeras, N.M., Cement Plant	Tijeras, New Mexico	1961	Ideal Cement Company Denver, Colorado	\$ 9,000,000	Yes
Airport Master Planning Pavements & Utilities	Jefferson County, Colorado	1961	Board of Commissioners, Jefferson County	\$ 800,000	Yes
Cement Terminal	Seattle, Washington	1961	Ideal Cement Company Denver, Colorado	\$ 4,000,000	Yes
ARTC Center	Longmont, Colorado	1961	FAA - Region 4, Los Angeles, California	\$ 1,500,000	Yes
Afghan Regional Transit Project (300 miles of roadways and roadway structures)	Kabul to Kandahar Afghanistan	1961	Royal Government of Afghanistan (through ICA, now AID)	\$45,000,000	Yes
TOTAL NUMBER OF COMPLETED PROJECTS:		TOTAL ESTIMATED CONSTRUCTION COST:			

18.

COMPLETED WORK ON WHICH YOUR FIRM WAS DESIGNATED ARCHITECT OR ENGINEER OF RECORD
DURING THE LAST 10 YEARS

NAME AND TYPE OF PROJECT	LOCATION	YEAR YOUR FIRM COM- PLETED	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	CON- STRUCTED (Yes or No)
G/M (Mace) Student Check-out Building	Lowry AFB, Colorado	1961	C.E., Omaha District	\$ 100,000	Yes
Airport Master Plan & Pavement Design	Canon City, Colorado	1961	Fremont County, Colorado	\$ 100,000	Yes
Cement Storage and Packhouse	Tampa, Florida	1962	Ideal Cement Company Denver, Colorado	\$ 3,250,000	Yes
Eight Story Apt. Bldg.	Denver, Colorado	1962	D. Bowey Co., Denver, Colo.	\$ 900,000	Yes
Cement Storage Center	Trident, Montana	1962	Ideal Cement Company Denver, Colorado	\$ 2,600,000	Yes
Housing Complex - Windsor Gardens	Denver, Colorado	1962	Windsor Gardens Development Company	\$ 1,800,000	Yes
Master Plan - Ankara Air Station	Ankara, Turkey	1962	Headquarters, TUSLOG Ankara, Turkey	Planning	-
NCO Club	Lowry AFB, Colorado	1962	Lowry AFB, Colorado	\$ 200,000	Yes
Cement Terminal	Superior, Nebraska	1962	Ideal Cement Company Denver, Colorado	\$ 1,200,000	Yes
Modification and Rehab. (64 Projects)	Fitzsimons General Hospital, Denver Colorado	1962	USCE, Omaha	\$ 1,300,000	Yes
Runway 14-32	Buckley ANG Base	1962	Colorado ANG, Denver	\$ 500,000	Yes
East 46th Ave. Elevated Interstate Highway	Denver, Colorado	1962	Colo. Dept. of Highways	\$10,000,000	Yes
Runway, Taxiway & Apron	Pueblo, Colorado	1963	City of Pueblo, Colorado	\$ 500,000	Yes
Storm Drainage Study	Metropolitan Denver	1963	Inter-County Regional Planning Commission	Study	-
Nuclear Rocket Develop- ment Station, Phase I	Jackass Flats, Nevada	1963	Space Nuclear Propulsion Office, Nev. Test Site	\$ 2,000,000	Yes
Cement Mfg. Plant	Castle Hayne, N. C.	1963	Ideal Cement Company Denver, Colorado	\$23,500,000	Yes
TOTAL NUMBER OF COMPLETED PROJECTS:		TOTAL ESTIMATED CONSTRUCTION COST:			

18. COMPLETED WORK ON WHICH YOUR FIRM WAS DESIGNATED ARCHITECT OR ENGINEER OF RECORD DURING THE LAST 10 YEARS

NAME AND TYPE OF PROJECT	LOCATION	YEAR YOUR FIRM COMPLETED	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	CON-STRUCTED (Yes or No)
Feasibility Study - 1200-mile gas pipeline	Western U.S.A.	1963	American Pipeline Co. Denver, Colorado	\$240,000,000	No
Cement Mill Expansion	Tulsa, Oklahoma	1963	Dewey Cement Co. Tulsa, Oklahoma	\$ 2,000,000	Yes
Missile Service Shops(4)	Hill AFB, Utah	1964	Headquarters AFLC Wright-Patterson AFB	\$ 750,000	-
Clean Rooms Shop	Norton AFB, Calif.	1964	Headquarters AFLC Wright-Patterson AFB	\$ 400,000	Yes
Cement Storage & Distr.	W. Palm Beach, Florida	1964	Ideal Cement Company Denver, Colorado	\$ 3,000,000	Yes
Misc. Projects (23)	Colorado, Utah, New Mexico, Arizona	1964	GSA, Region 8	\$ 200,000	Yes
Cleaning & Plating - 77A	Rocky Flats Plant	1964	AEC, Albuquerque Operations Office	\$ 500,000	Yes
Cement Storage & Distr.	Portland, Colorado	1964	Ideal Cement Company Denver, Colorado	\$ 2,500,000	Yes
E. M. Barracks Complex (27 Buildings)	Fort Carson, Colorado	1964	U.S. Corps of Engineers Omaha, Nebraska	\$11,000,000	Yes
Master Plan	Lake Tahoe, Nevada	1964	Douglas County, Nevada	Report	-
12 Story Office Bldg. Lincoln Towers-S,M&E	Denver, Colorado	1964	T. W. Anderson	\$ 5,000,000	Yes
Meat Packing Plant	Brush, Colorado	1964	Sigman Meat Co., Denver	\$ 1,000,000	Yes
Alterations & Air Conditioning, Air Force Finance Center	3800 York, Denver	1965	GSA, Region 8	\$ 1,800,000	Yes & No
New Airport	Arapahoe County, Colo.	1965	Arapahoe County	\$ 3,000,000	No
Missile Service Shops(2)	Hill AFB, Utah	1965	USCE, Sacramento	\$ 400,000	Yes
Meat Packing Plant	Greeley, Colorado	1965	Monfort Feed Co. Greeley, Colorado	\$ 2,500,000	Yes

TOTAL NUMBER OF COMPLETED PROJECTS:

TOTAL ESTIMATED CONSTRUCTION COST:

18. COMPLETED WORK ON WHICH YOUR FIRM WAS DESIGNATED ARCHITECT OR ENGINEER OF RECORD DURING THE LAST 10 YEARS

NAME AND TYPE OF PROJECT	LOCATION	YEAR YOUR WORK COMPLETED	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	CON-STRUCTED (Yes or No)
Interstate Highway & Structures	Mt. Vernon Canyon, Colorado	1965	Colorado Department of Highways	\$12,000,000	Open
100 Units MCP Housing (thru prelim. plans)	F. E. Warren AFB, Wyoming	1965	USAF, Warren AFB	\$ 1,700,000	No
Design Study for Down-town Core Area	Longmont, Colorado	1965	Committee; thru Chamber of Commerce	-	-
<p>The above list represents a selected range of projects to show the overall capabilities of the firm and is not a complete listing of projects of record.</p>					
TOTAL NUMBER OF COMPLETED PROJECTS:			TOTAL ESTIMATED CONSTRUCTION COST:		

19. COMPLETED WORK ON WHICH YOUR FIRM WAS ASSOCIATED WITH OTHER FIRMS DURING THE LAST 10 YEARS
(Indicate phase of work for which your firm was responsible)

NAME OF PROJECT AND PHASE OF WORK	LOCATION	OWNER	YEAR YOUR WORK COMPLETED	ESTIMATED CONSTRUCTION COST OF		CON-STRUCTED (Yes or No)	FIRM ASSOCIATED WITH
				ENTIRE PROJECT	WORK FOR WHICH YOUR FIRM WAS RESPONSIBLE		
Precision Shops, (Architectural, Structural Civil Specifications).	Rocky Flats, Colorado	AEC-Albuquerque, New Mexico	1960	\$ 900,000	\$ 400,000	Yes	Tracy Behrent Engineering Company
Office Building All Working Drawings (Architectural, Structural, Mechanical and Electrical)	Denver, Colo.	Petroleum Information Corporation	1962	\$ 300,000	\$ 290,000	Yes	Paul Reddy, AIA (Joint Venture)
GSA Stores Depot (Structural, Mechanical, Electrical Civil, and Specifications)	Denver, Colo.	General Services Administration, Washington, D.C.	1964 Des. Cons. 1965	\$5,300,000	\$5,300,000	Yes	Paul Reddy, AIA (Joint Venture)
TOTAL NUMBER OF COMPLETED PROJECTS:				TOTAL ESTIMATED CONSTRUCTION COST OF WORK FOR WHICH YOUR FIRM WAS RESPONSIBLE:			

20. EXHIBITS OF COMPLETED WORK **Unless specifically requested, submission of photographs is optional. Where submitted, furnish one exterior and one interior photograph of five examples of completed architectural work that are listed in items 18 and 19. (Photographs of models, renderings, sketches, etc., are NOT desired.) Size of photographs not to exceed 8 1/2" x 11". On the back of each photograph give the following information: (1) Name of your firm; (2) Name and address of client; (3) Type of structure; (4) Location of structure; (5) Cost of specific structure. Photographs of electrical or mechanical facilities and other components of a decided engineering character are not necessary.**


21. SECURITY CLEARANCE (See Note d)	A. CURRENT STATUS (Check one) <input checked="" type="checkbox"/> ACTIVE <input type="checkbox"/> INACTIVE <input type="checkbox"/> NONE	B. DEGREE OF CLEARANCE SECRET	C. DATE OF CLEARANCE May 23, 1957	D. CLEARED BY OOPHS-USAF	E. HAVE PRINCIPALS BEEN CLEARED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
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22. IN THE EVENT SPACES PROVIDED ON THE FORM ARE NOT SUFFICIENT FOR ENTRIES, OR IF YOU WISH TO FURNISH ADDITIONAL INFORMATION, IT MAY BE INSERTED HERE, ON THE REVERSE OF THIS PAGE, OR ON SEPARATE SHEETS, WITH APPROPRIATE REFERENCES.

23. PURPOSE OF SUBMITTING THIS QUESTIONNAIRE (Check A or B, not both)

<input type="checkbox"/> A. I/we wish to be considered for architectural or engineering services in connection with the <input checked="" type="checkbox"/> design, <input checked="" type="checkbox"/> inspection, <input checked="" type="checkbox"/> supervision (check applicable box or boxes) of construction projects for Federal Agencies.	NAME OF FIRM ASSOCIATED WITH
<input type="checkbox"/> B. This completed questionnaire is submitted as evidence of employment as outside associate or consultant.	

As of this date: March 10, 1966 the foregoing is a true statement of facts.

NAME OF FIRM OR INDIVIDUAL SUBMITTING QUESTIONNAIRE THE KEN R. WHITE COMPANY	TYPE NAME AND TITLE OF PERSON SIGNING Donald L. Preszler Vice President	SIGNATURE 
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NOTES: (a) Form is to be completed by typewriter. Completed forms may be reproduced in any quantity deemed necessary to meet distribution requirements. (b) It will be to a firm's advantage to maintain its experience record on a current basis. This may be accomplished by periodically forwarding current data. (c) It is NOT necessary for individuals or firms who check item 23B to furnish separate questionnaires for their outside associates and consultants. (d) Item 21 is for consideration only with respect to classified projects.