

GARY DE COCK

SPRING 1992

- Harlowton - Montana -

- HIGH PLAINS GAME RANCH -



THESIS

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HIGH PLAINS GAME RANCH
A SPORTSMAN AND VACATION RESORT
HARLOWTON, MONTANA

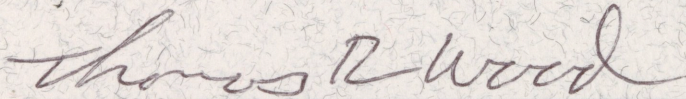
by
Gary DeCock

A thesis submitted in partial fulfillment
of the requirements for the degree
of
Bachelor of Architecture

APPROVED:

Thesis Advisor

Thesis Committee



Director, School of Architecture

MONTANA STATE UNIVERSITY
Bozeman, Montana

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**I dedicate this thesis to my wife, Lela and
to my children, Brenda, April, and David.
For without their love, understanding, support,
and prodding, I wouldn't have been able
to achieve my goal.
(Survive M.S.U.'s School of Architecture)**



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PREFACE

PREFACE

Since the late 1800's, sheep and cattle ranchers in the upper Musselshell River Basin have waged an all out war with the predators that preyed upon their livestock. In recent years they have almost removed them from the area. But by decreasing the number of natural predators in the area, the population of varmits (prairie dogs, gophers, and jack rabbits) has increased unchecked. The lack of predators has also caused an increase in the deer and antelope population, which the State Fish and Game has tried to control by increasing the number of hunting permits issued for the area.

This has become a major problem within the upper Musselshell river valley for the ranchers and farmers living there. Both man, and nature have attempted to correct it; man, by poison and hunting, and nature, by predators and disease. Beginning in the 1930's and continuing until the early 1950's, nature controlled the population problem by disease. However, this not only caused a decrease in the rodent population but it effected all of the animals in the area including predators, deer, antelope, and livestock. But by the 1960's the varmit population had again increased to record numbers. Because of the abundance of game and the lack of predators, (therefore a reduction in predator control measures by man), again the population of coyotes



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increased.

Man, of course, resisted nature's attempt to control the over population of rodents and game animals by again reducing the number of predators. Man's solution to the population problem is poison and hunting. But poison isn't selective, it kills all that consume it. Therefore it kills other species which inhabit the area, and effects the balance of nature. In some cases, the poison that was used not only killed the rodents in the area but also all of the birds. Because there were no birds in the area the insect population increased unchecked. This in turn caused the increase in disease in the livestock in the area.

Since poison causes such tremendous problems, hunting is the rancher/farmer's only effective means to control predators, varmits, and game populations. But for the rancher and farmer, hunting presents problems of cost, in time and in money . Because of the increased pressure on the government by ecology groups, there are few programs available to help the farmer or rancher in controlling over population of game and non-game animals. So little is done to stop the increase in population.

Hunting seems to be the only solution which both nature and man agree upon. Nature uses hunting as its primary control on population of a species, only after hunting fails, do starvation and disease become involved in the process. The reintroduction of natural predators would



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help stabilize the population of varmits and other non-domesticated species, but the cost to the rancher would out weigh it's potential benefits.

Man also is a product of nature and therefore hunting is a natural instinct. He is no longer required to rely upon his ability to hunt for the food he needs to survive, but his instinct to hunt is still there.



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THESIS STATEMENT

THESIS STATEMENT

The High Plains Game Ranch is a response to my interest in hunting. It also reflects my concern for the increase in population of varmits which has occurred since the introduction of livestock. The game ranch is a vacation and hunting lodge, with a primary focus on varmint shooting and big game hunting. The resort is located near a small man made lake at the south entrance into Devil's Pocket, 16 miles South East of Harlowton in Wheatland County, Montana. The lodge will act as the headquarters, much the same as an ordinary ranch, organizing all activities that will occur within the ranch boundaries. The headquarters will also include a number of support buildings such as a restaurant, a store, a garage and stables. The primary focus of this thesis will be to design the main lodge, the guest cabins, and support facilities, and their relationship to the chosen site. I intend to combine the skills and knowledge gained by living the ranch life and those I acquired in my course of studies here at Montana State University.



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PERSONAL INTENT

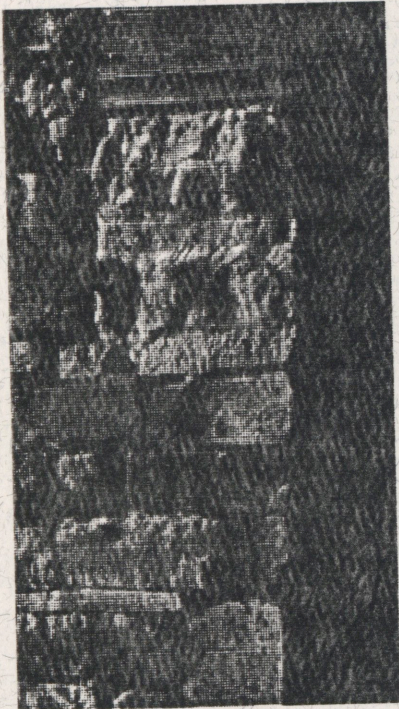
PERSONAL INTENT

It is my intention within this thesis to explore the relationship and interaction between the natural environment of the plains of the upper Musselshell with the built environment of early



settlers. The building style which I have chosen is very eclectic. It is derived from the vernacular of ranch buildings. Drawing

from building forms used by early settlers as well as those used currently. I have adapted the



rancher's concept of organization in the arrangement of the headquarters complex. I have chosen to combine some of the building types which early settlers brought with them from the Old World and have adapted to respond to the western climate. The buildings will have an eclectic aesthetic which I believe will reflect the image the targeted user has for the Montana prairie.

The site I have selected is both remote and secluded presenting the user with no other view of civilization. I want to give



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the user the impression of the emptiness and isolation the early settlers experienced. I will attempt to organize the built environment to allow the user to view nature and to feel the emptiness, beauty, variety and vastness of the area .

The prairie, because of its openness, seems very unchanging and monotonous, but if you explore it, you will discover a variety of interesting and unique places. The little coulee that looks like everything else

suddenly reveals an oasis of green, teeming with both plant and animal life when you take that next step.

There will be a bubbling spring coming out of a sheer rock wall, or the other side

of a hill will be covered by pine and juniper trees. I will attempt to explore the variety of the plains within my thesis.



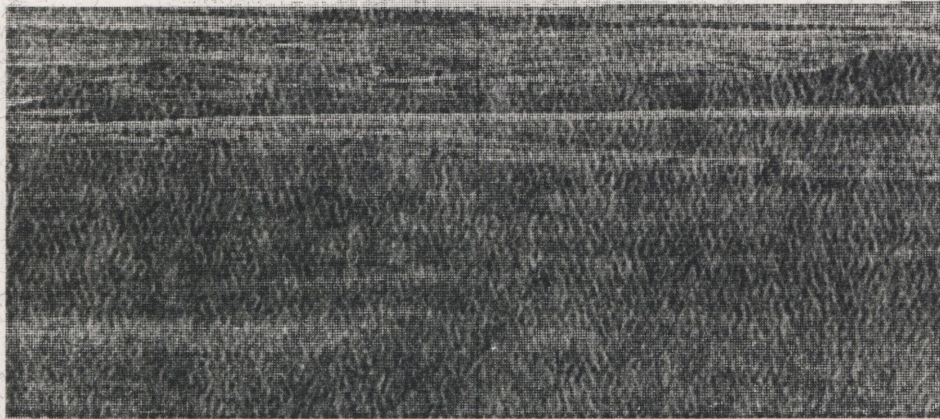
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GAME RANCH SCENARIO



THE HIGH PLAINS GAME RANCH SCENARIO

The best solution to the problem of hunting and over population of varmits and game animals is to change the perception of the situation to that of an opportunity instead of a problem. Members of Varmit Hunters Association of America travel from all over the United States and pay two to three hundred dollars a day to hunt prairie dogs, plus the cost of Food and lodging. Big game hunters pay seven thousand dollars for the opportunity to hunt whitetail deer at game ranches in Wisconsin.

With this in mind I propose to use these hunters to regulate the population of varmits and



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game animals to prevent nature from again stepping in with another disease. This would allow the ranch to capitalize upon a resource which has been previously over looked.

I propose to expand this project to encompass a change in the ranch production, from cattle and sheep, to elk and buffalo. By reintroducing elk and buffalo back onto a portion of the upper Musselshell River Basin, and working with the Montana Fish and Game on hunting of the existing deer and antelope populations, hunting could become a solution to the problem of overpopulation of the non-domesticated animals in the area.

By changing the ranch from producing cattle, sheep, and grain, to raising deer, antelope, elk and buffalo, the income for the ranch would be improved. The deer and antelope are already on the ranch in abundant numbers. The elk and buffalo would have to be purchased and introduced back into the ranch system.

The elk and deer antlers have an excellent market, so the animals that are not harvested by clients will also yield a substantial income. Elk require less pasture to graze on than do cattle, partly because elk are browsers and cattle are not.

The property proposed for the High Plains Game Ranch is 92,060 acres of prairie located in the upper Musselshell river basin, fifteen miles south-east of Harlowton Montana. The open hunting portion of the game ranch consists of 40,000 acres around the lodge site. The property for the Game Ranch is either owned by members of my family or is presently for sale.

This area is predominately cattle and sheep country, with some dryland farming where



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the soil and slope permit it. There are approximately 12,000 acres of prairie dogs within the proposed ranch property. Prairie dog population density is estimated at 60 per acre, for an estimated 720,000 prairie dogs within the proposed ranch.

Antelope populations in the area are estimated at one antelope per 40 acres, or over 4,000 antelope within the ranch boundaries. The deer population was estimated in 1984 as being 18 animals per square mile. In the eight years since then, deer populations have increased by approximately 12%, yielding an estimated 29,000 deer on the ranch.



This property is currently supporting 2,500 head of cattle and 3,600 head of sheep. With the conversion from cattle and sheep to elk and buffalo, 3,000 elk and 2,000 buffalo could easily be pastured without reaching the land's capacity.

Is this project economically feasible?

The gross income currently generated on the ranch property is \$1,242,000. This amount includes the income from cattle, sheep, and grain production. The income from harvesting just the elk antlers from 1500 bulls grosses \$3,000,000.

The hunting fees for bull elk and mature buffalo bulls would be \$10,000 per unit. Twelve hundred buck deer and antelope are currently being harvested annually from the area. A unit price of \$2,500 would be charged for each mature buck, deer or antelope. Income from the

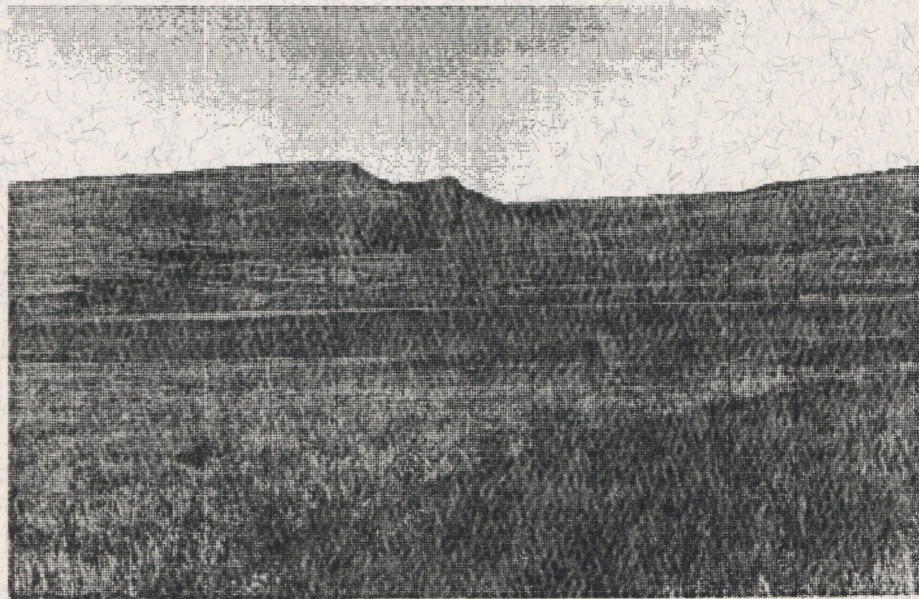


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varmit hunting I have projected at \$12,000 per week, using a rate of \$200 per day for each hunter. The income generated by the lodge and restaurant would be self sustaining at a minimum.

The possibility of increasing the income generated from the ranch property is substantial.

The potential exists to convert a chronic problem into an exciting opportunity.



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PROGRAM SUMMARY

PROGRAM SUMMARY

SPECIAL REQUIREMENTS:

Main Lodge 24,428 SF.

SF.

A. SUPPORT

4,100

FOYER	150
LOBBY	350
MAIN DESK	300
MANAGEMENT OFFICES	
MANAGER	130
BOOKING	120
GAME CONTROL	120
SECRETARY	120
FILING/STORAGE	120
WAITING	80
GUN VAULT	60
GUEST REST ROOMS	800
SAUNA & HOT TUB	300
CHANGING ROOMS (2)	400
LINEN STORAGE	100
GENERAL STORAGE	250
RECEIVING/LOADING	400
JANITORIAL	100
LAUNDRY	200

B. ROOMS

7,850

16 DOUBLE SUITES @ 350 SF. EA.	5,600
9 SINGLE SUITES @ 200 SF. EA.	250

C. CONFERENCE

800

40 PEOPLE @ 20 SF./	800
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D. RESTAURANT

2,250

KITCHEN	600
DINNING	1,200
FOOD STORAGE	
DRY	300
COLD	50
OFFICE	100



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E. LOUNGE**1,300**

LOUNGE	650
BAR	150
DANCE FLOOR	300
LIQUOR STORAGE	200

F. RECEPTION AND DISPLAY**1,200****G. GAME ROOM****500****TOTAL 13,850****HVAC @ 10% NET FLOOR AREA****1,745****STRUCTURE @ 5% NET FLOOR AREA****870****CIRCULATION @25% NET FLOOR AREA****4,360****TOTAL 6,978****5 GUEST COTTAGES 1097 SF each**

BED ROOMS (3)	150
LIVING ROOM	200 s.f.
KITCHEN/DINNING	200
BATH	100 s.f.
ENTRY	50 s.f.
DECK/HOT TUB	150

TOTAL 850**HVAC @ 10% NET FLOOR AREA****85****STRUCTURE @ 5% NET FLOOR AREA****34****CIRCULATION @25% NET FLOOR AREA****213****TOTAL 332****10 CABINS 770 SF each**

BED ROOMS (2)	100
LIVING ROOM	150
BATH ROOM	100
ENTRY	50
DECK	150

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	<u>TOTAL</u>	550
HVAC @ 10% NET FLOOR AREA	55	
STRUCTURE @ 5% NET FLOOR AREA	28	
CIRCULATION @25% NET FLOOR AREA	138	

<u>5 WORKERS CABINS</u>	<u>635 SF ea.</u>	<u>TOTAL</u>	220
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BED ROOM	100
BATH ROOM	80
LIVING/DINNING	100
KITCHEN	50
ENTRY	50
DECK	75

	<u>TOTAL</u>	455
HVAC @ 10% NET FLOOR AREA	45	
STRUCTURE @ 5% NET FLOOR AREA	22	
CIRCULATION @25% NET FLOOR AREA	113	

	<u>TOTAL</u>	180
<u>PRIVATE RESIDENCE</u>	<u>1,127 SF</u>	

BED ROOM (2)	250
BATH ROOM	80
LIVING	150
DINNING	100
KITCHEN	100
ENTRY	50
DECK / HOT TUB	75

	<u>TOTAL</u>	805
HVAC @ 10% NET FLOOR AREA	81	
STRUCTURE @ 5% NET FLOOR AREA	40	
CIRCULATION @25% NET FLOOR AREA	201	

	<u>TOTAL</u>	322
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STORE 910 SF

SPORTING GOODS	300
CLOTHES	200
GROCERY	100
RENTAL	50
GAS (out door function not included in total)	500

TOTAL 650

HVAC @ 10% NET FLOOR AREA
STRUCTURE @ 5% NET FLOOR AREA
CIRCULATION @25% NET FLOOR AREA

65
33
162

TOTAL 260

MEAT PROCESSING 1,890 SF

SKINNING	200 s.f.
CUTTING	200
COOLER	600
FREEZER	200
WRAPPING	100
REST ROOMS	50

TOTAL 1,350

HVAC @ 10% NET FLOOR AREA
STRUCTURE @ 5% NET FLOOR AREA
CIRCULATION @25% NET FLOOR AREA

135
67
338

TOTAL 540





MONEY PIT (a recreation center) **1,755 SF**

GAME ROOM	400
SNACK BAR	100
GIFT SHOP	150
LIQUOR BAR	50
REST ROOMS	100
STORAGE	500

TOTAL **1,300**

HVAC @ 10% NET FLOOR AREA
STRUCTURE @ 5% NET FLOOR AREA
CIRCULATION @20% NET FLOOR AREA

130
65
260

TOTAL **455**



STABLES **1,046 SF**

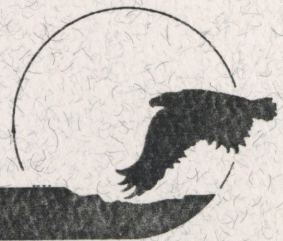
15 STALLS @ 150 SF	2,250
FEED STORAGE	
GRAIN 1,500 cu. ft.	150
HAY 10,000 cu. ft.	1,500
TACK ROOM	250
TRAILER STORAGE	450
CLEANING ROOM	100

TOTAL **805**

STRUCTURE @ 5% NET FLOOR AREA
CIRCULATION @30% NET FLOOR AREA

40
201

TOTAL **241**



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SHOP 2,000 SF

TOOL STORAGE	100	
CLEAN AREA	200	
2 SERVICE BAYS @ 400 s.f. each	800	
PART STORAGE	150	
REST ROOM	50	
	<u>TOTAL</u>	1,300

HVAC @ 10% NET FLOOR AREA	200	
STRUCTURE @ 5% NET FLOOR AREA	100	
CIRCULATION @ 20% NET FLOOR AREA	400	
	<u>TOTAL</u>	700



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PROJECT GOALS

PROJECT GOALS

The balance of nature on the prairie can be very fragile. The use of a trail once or twice a year is enough to maintain it in a visible way. In fact if someone drives across virgin grass in the fall it can be seen the next year. The uses suitable for a natural setting must be chosen with much care or they can disrupt the order of the area. My goal is to minimize the damage caused by man's continued presence in the area.

Areas can be selected where man can use his machines without causing the natural setting to become abused.

This leads to my second goal which is to return selected portions of the ranch property to a pre-twentieth century condition to allow guests at the ranch the option for an early west experience. This is a difficult task, one which would require the presence of predators within the ranch property. Because

ranch neighbors would resist the infusion of historic predators, care must be taken not to allow access for resident animals to the neighboring ranches. This would require the proper enclosure, but it can be accomplished.



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USER ANALYSIS

USER ANALYSIS

The targeted user for the High Plains Guest Ranch are hunters who want a trophy animal, but who aren't trophy hunters. They are encouraged to bring their friends and families with them to the ranch for a vacation.

To achieve a better understanding of the user, I will describe a day in the vacation of a typical visiting family.



TYPICAL USER'S DAY

A family of four, husband, Dr. Russell Knight, his wife, Diana, and their children, Daniel, and Lisa, are our subjects. Our family lives in Oak Ridge, a suburb of Chicago. The time period for this vacation is late August, just before school. The reason for this time is Russ and Daniel



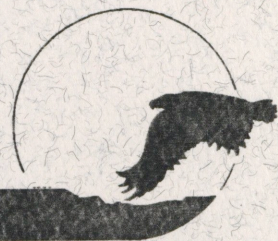
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both want to hunt for a trophy buck antelope. Russ has been hunting in Wyoming and Montana before, but these were solo experiences without his son. This time he brings the entire family to experience the western plains.

Dr. Knight is 38 years old, raised in a suburb of Boston and an avid "gun nut". He loves guns and hunting. Russ has been collecting them since he was a teenager. He loves to shoot his collection of guns at a range or in the field. His son, 15, is also into guns and hunting, but his priority is dirt bikes and girls. But both father and son agree that hunting for a trophy antelope with a bow is the ultimate thrill.

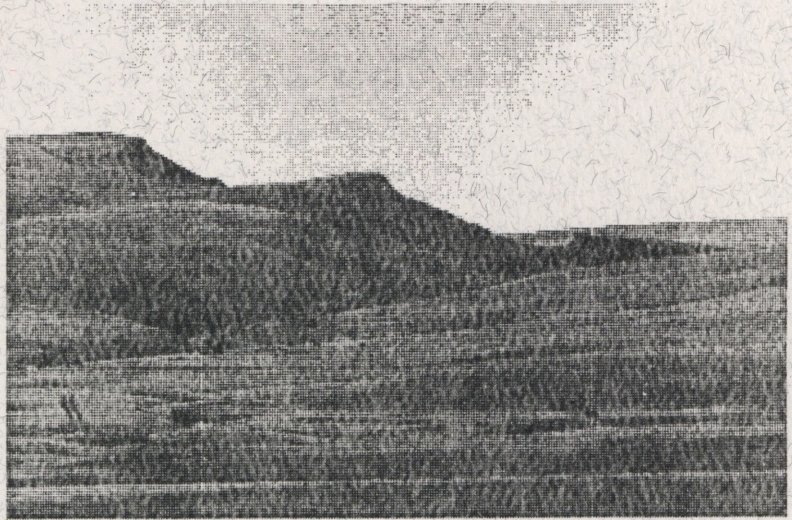
Diana is thirty five and isn't interested in guns or motorcycles at all. Her interests are directed toward quiet observation of nature and shopping. Lisa is fourteen and interested in reading, fashion, art, sports, riding horses, and boys.

Russ and Daniel have an early hunt so they are at breakfast by 4:30 a.m. They meet their guide, Ed, at 5:00 a.m. Ed takes them to a likely location to begin their hunt, gives them some last minute advice, and leaves them there. Russ had asked to hunt without a guide to give him some time alone with his son. But Ed will meet them at a specific location at noon with lunch and again at sunset to pick them up. If the hunters are successful, or if there is an emergency, they can contact the lodge by two way radio. Russ and Daniel are fairly familiar with the area they are hunting in because they were briefed and had a tour by air the previous day shortly after they arrived.



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Diana and Lisa get up at 7:00, eat a leisurely breakfast, and go to the stables. There they are given horses, to go for a riding tour around Devil's Pocket. They are accompanied by four other women and Debbie, their guide.



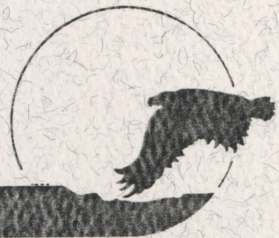
After the tour is over they decide to go for a swim and cool off.

Daniel is successful in his first hunt and has a nice buck antelope by 11:00 a.m. They



call the Ed on the radio and wait for him to arrive to take them and their prize back to the main ranch. Russ and Daniel meet Diana and Lisa for lunch, discuss what they have done in the morning and what they will do next. The men decide to hunt prairie dogs and the women want to go on a nature tour.

Russ and Daniel met Ed and two other men, Bob and John. Bob and John are friends from Indiana and they too have brought their families along for a vacation. Bob and John are also avid gun fans. Bob and John have brought a number guns from their collection out with them, including five fully automatic rifles which they ask Russ and Daniel if they would care to shoot later.



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When they arrive at the prairie dog town they load up and prepare to shoot. There are some guidelines established by Ed and the four start to hunt for prairie dogs from the Blazer. The top has been removed so that all four of the hunters may shoot without leaving the "rig". Ed drives the rig for the hunters while they shoot.

Hearing protectors which allow for normal sounds and conversation to be heard and provide protection from the report of the guns are used. The "dogs" are plentiful but not too close. Shooting them takes much skill and patience. The range which most of the "dogs" are at is about 350 yards. Because of the range there are frequent misses, but that makes the hits much sweeter. Bob and John are very excited and want to have their pictures taken with the "kill", so Ed obliges.

Diana and Lisa meet with some of the women they met in the horseback ride and get instructions on how to operate the four wheeler ATC's. The tour covers 35 miles of prairie and is very informal, they stop frequently along the way and enjoy seeing buffalo watering in Fish Creek. Just after seeing the buffalo, they arrive at a game station on the south side of the ranch.



The group decides to relax a bit and have a snack before they start back. On the trip back Diana and Lisa get to



see a group of young bull elk sparring with each other in preparation for the mating season. They arrive back at the ranch around four thirty and start getting ready for dinner.

Russ and Daniel are having a great time shooting their guns, and hunting prairie dogs and gophers, but around six o'clock they decide to head back. When they arrive back at the lodge the ladies are almost ready to go eat. After a quick shower and a change of clothes the guys are ready for something to eat.



Russ and his family meet Bob and John and their families in the restaurant. They have dinner together and swap lies about the events of the day. Bob and his wife, Alyce, have no children, but John and Linda have a boy and a girl, both teens. After dinner the teens slip away and head for the Recreation Center to meet some others and to have some fun hanging out. The adults retreat to the lounge and spend the evening listening to music, dancing, conversing, and bragging about how accurate their guns are.

Later in the evening Russ and Diana invite their new friends over to their cabin and spend the rest of the evening getting better acquainted and planning what they will do tomorrow.



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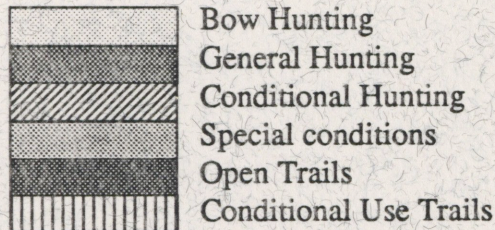
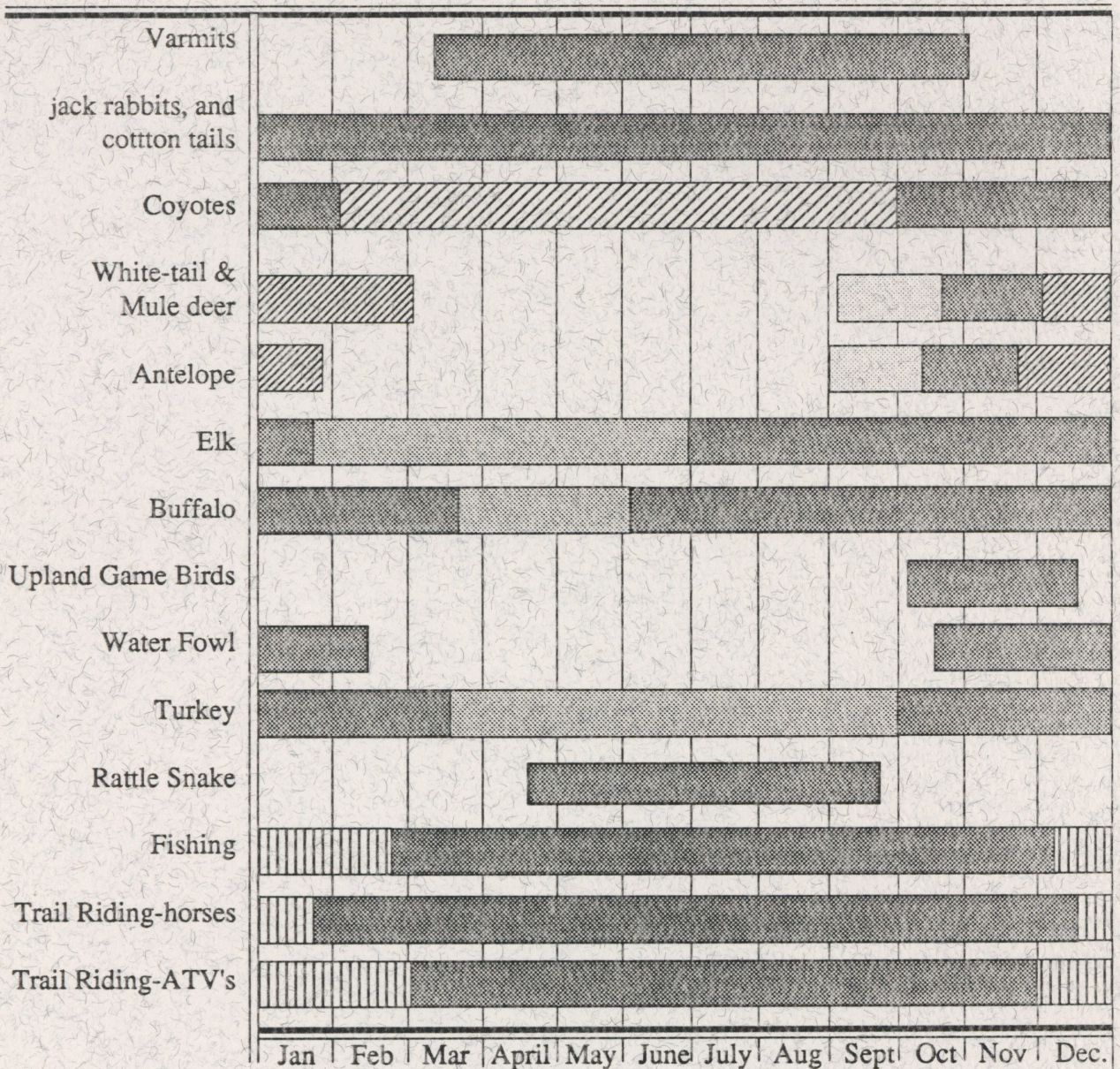
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CALENDAR OF EVENTS

CALENDER OF EVENTS



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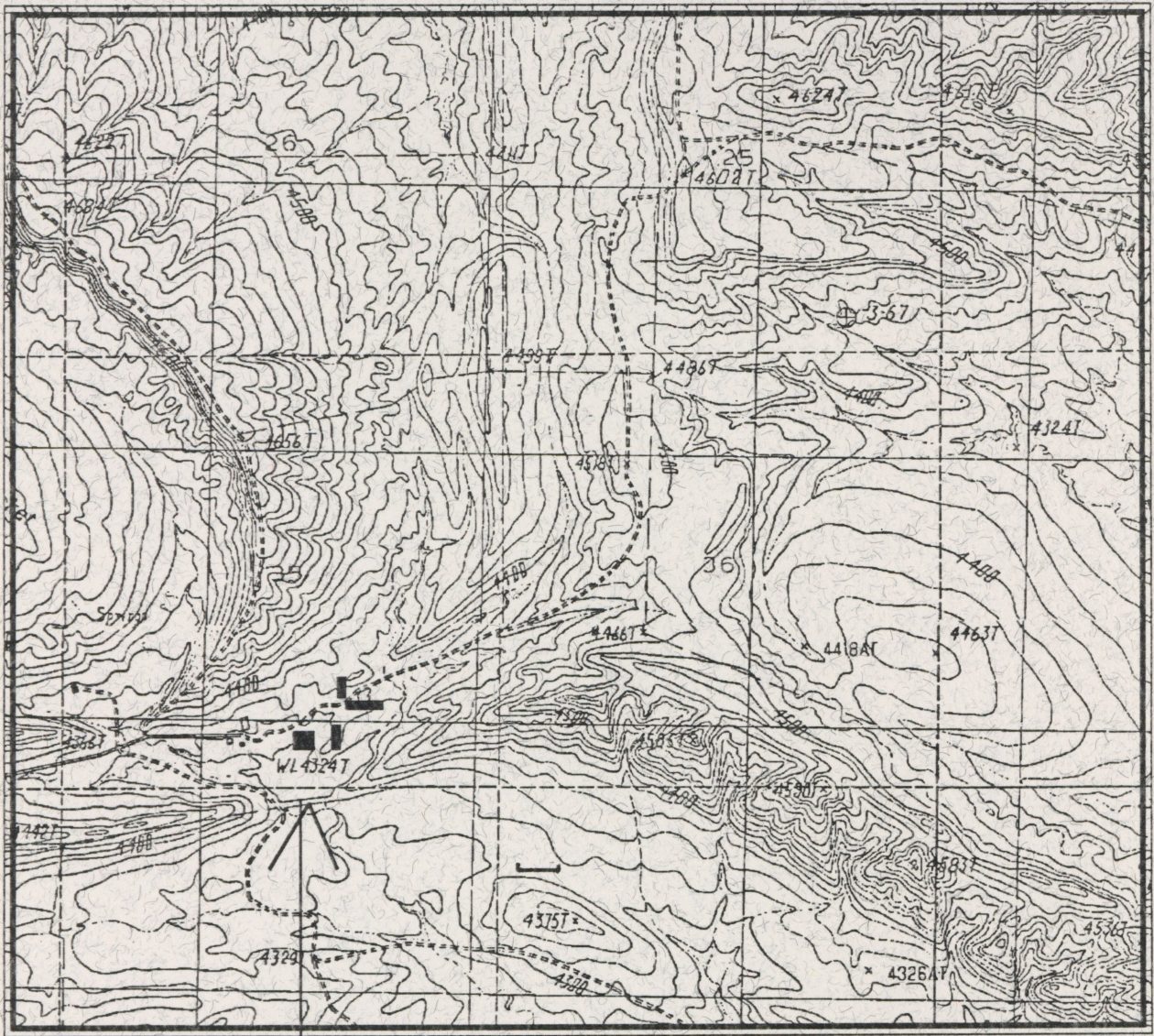
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SITE ANALYSIS

TOPOGRAPHY MAP
SHOWING THE IM-
MEDIATE AREA

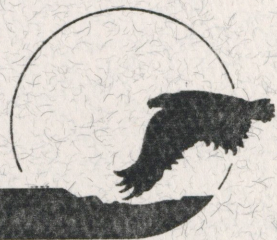


BUILDING SITE



SITE ANALYSIS

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SITE ANALYSIS

Waste Water Treatment

Because of the location of the proposed site, being just above a small reservoir that will be used for recreational activities, waste water has become a problem. Waste water treatment must be done on the site because of the remoteness of the project. There two possibilities for the treatment of the waste water: (1) private on-site treatment , and (2) on site septic field.

(1) Private On Site Treatment:

This option would be the installation of an on site treatment facility that would bring the quality of the waste water discharged up to an acceptable level by the EPA. Because of the low volume of waste water the lodge and facilities will discharge the cost of installation and maintenance would not make this economically feasible.

(2) Private Septic Field:

Due to the expanse of acreage available and the relatively low volume of waste water, the use of a septic field becomes the most feasible choice. The problem with the use of this system is theseptic field needs to be located north of the building site, which is at a higher elevation. With the pumping of the waste water up to the drain fields and the solids being removed from septic tanks located on the site, this problem could easily be over come. With the installation of water conserving fixtures and toilets the problem could be further reduced.



POTABLE WATER

Potable water is available at a number of springs and wells in the vicinity. The potable water for the lodge and support facilities can be obtained from a flowing spring located 1/4 of a mile to the west of the site. The water from the spring has continued to flow at the present rate of 32 gallons per minute since the spring was developed in 1961. The water test is not only potable, but tastes very good, and was used as a source of potable water by the rancher who previously lived at the spring.

RESERVOIR

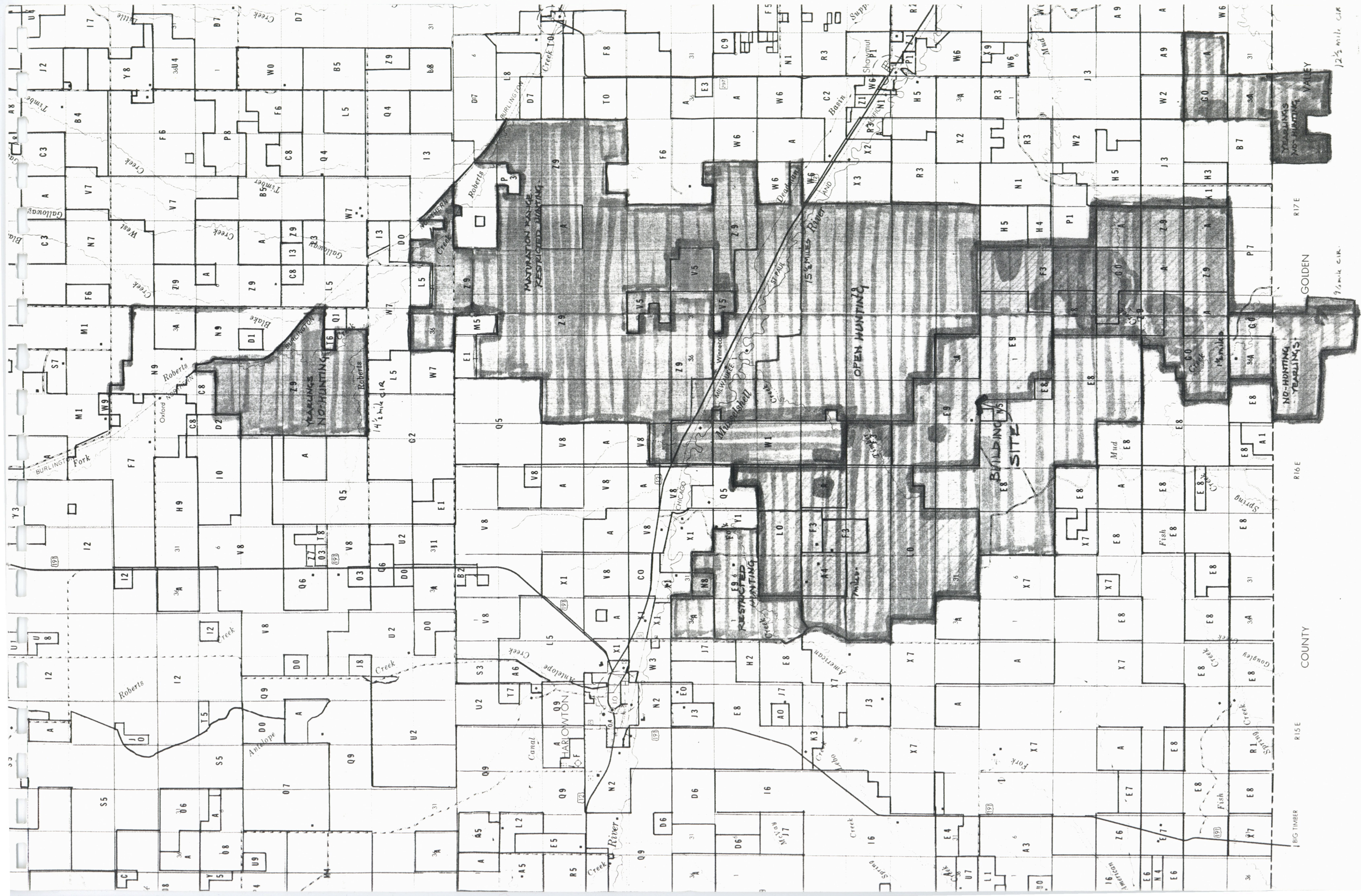
The reservoir at the building site is spring fed supplemented by runoff and has maintained a constant discharge of water through the over flow since it's construction in 1970. Stability is maintained because of the constant water flow from the springs. The water temperature created



by the springs ensures an environment within the reservoir capable of supporting fish, specifically trout.



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CLIMATIC DATA

CLIMATIC DATA

The climate in the upper Musselshell River basin has been referred to as a "banana belt", because of it's relatively mild winters. Western winds are quite frequent in the late fall and early winter. The snow levels are usually very low, with most of the winter snow blowing into the coulees and drifts. The western winds can be frequent but are seldom severe.

Humidity is very low. The average annual precipitation is eight inches, with less than half in snow. The snow is frequently melted during the winter because of chinook winds which can raise the temperature as much as 70 degrees in less than six hours.

The climate in general is very compatible with the production of game animals. The open winter allows foraging year round, winter feeding would be minimal.

Areas twenty miles to the east experience much wider swings in temperature and moisture. To the west, the mountains protect the area and split the winter storms. This allows for the quick change in temperatures which occur during the chinook.



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Runoff

Runoff is generally absorbed into the soil and isn't a consistent problem. The seasonal exceptions are the flash floods in the summer and fall. Rain, and/or hail comes too fast for the ground to absorb it, flooding the coulees and draws, eroding them away. The other exception is the chinook, which is usually worse for loss of moisture to the soil, because the ground remains frozen and moisture can not soak into it.



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BUILDING REGULATIONS

BUILDING REGULATIONS

County

Wheatland County doesn't have established local codes which would apply to this project. There are also no local zoning laws which would apply to this site.

Uniform Building Code

Because of there are no local building codes, or regulations, the Uniform Building Code will be used as a standard for this project.



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PHASING

PHASING

The reason for phasing this project is to accommodate the slow recovery time of the rangelands and the magnitude of the project. The actual construction of the architecture could be done in a single year, but the transformation of the ranch from a beef and sheep ranch into a game ranch is considerably more time consuming. I have scheduled the execution of the project in four phases. At the end of each phase the project could pause to allow the number of users to increase. Elk and buffalo need to be purchased as soon as the fencing is complete. This would allow the herds time to develop large bulls and to increase in number before much pressure is put on them from hunting. A profit could be achieved during the interim because buffalo and elk products are extremely marketable.

Phase 1: **Purchasing**

- Purchase the remaining land
- New fencing around the perimeter of the ranch in preparation for buffalo and elk.
- Reintroduction of buffalo and elk into the ranch.

Phase 2: **Beginning Construction**

- Construct the base lodge and ranch out building
- Planting native grasses and other vegetation





Phase 3:

Return of portions of the ranch property to a pre-twentieth century condition

- Remove cross fencing.
- Portions of the ranch reserved for the use of motorized vehicles and ATV.
Motorized vehicles prohibited on bulk of ranch.
- Phase out beef cattle on the ranch.

Phase 4:

The completion of the project!

- Construct the cabins and store
- Additional rooms added to the lodge.



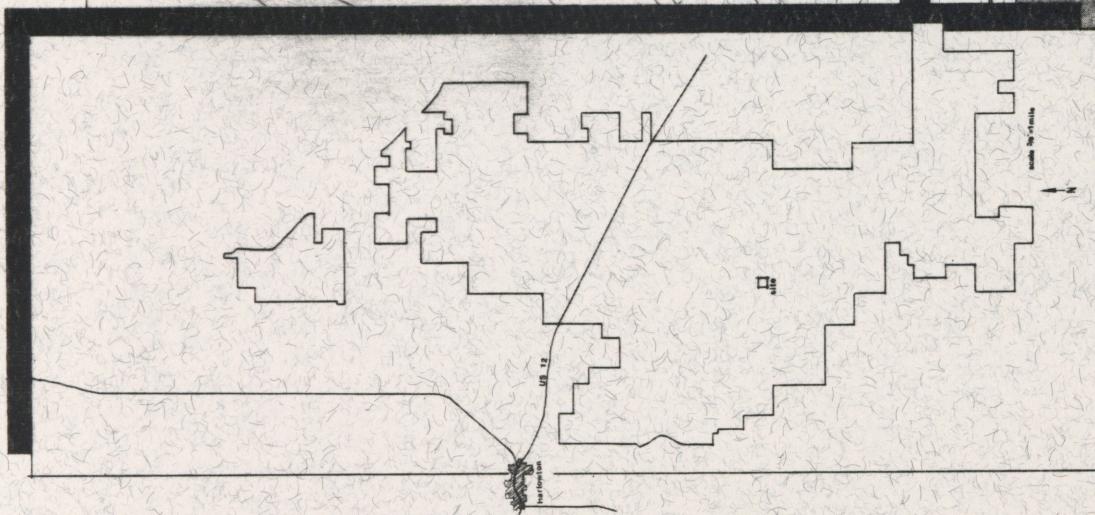
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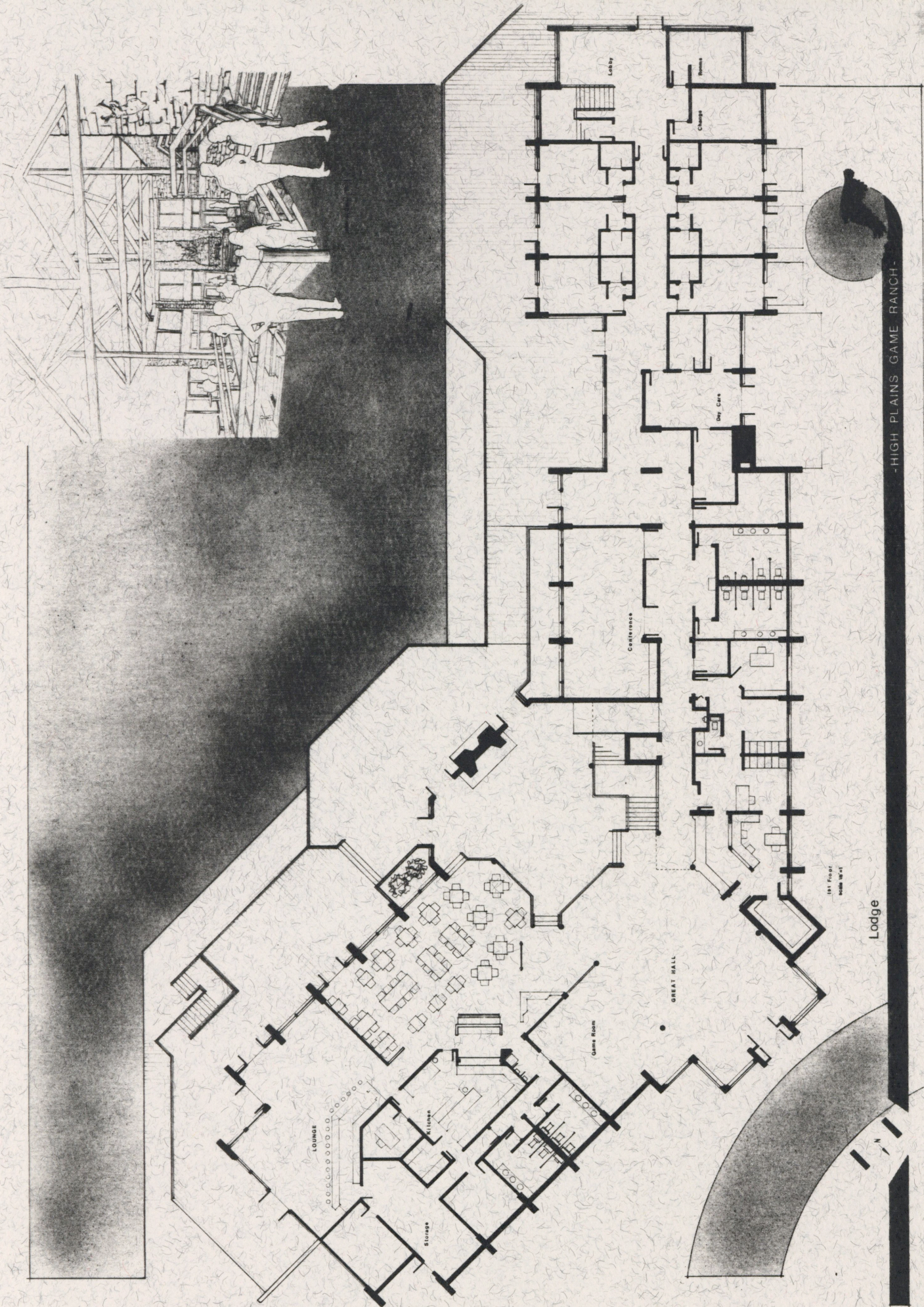
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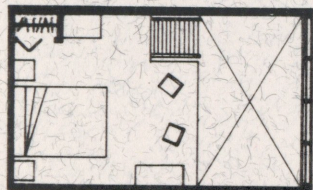


A Hunting Resort
by
Gary DeCock
Thesis
Spring '92

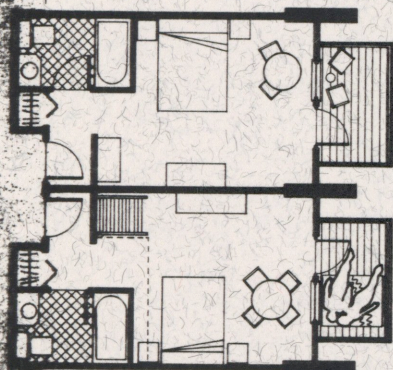


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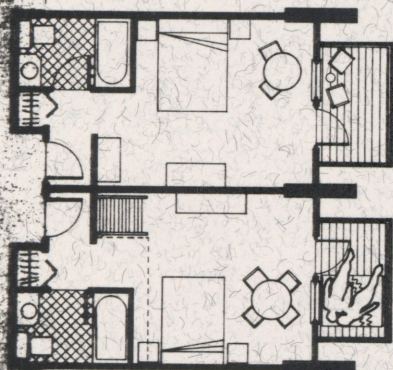




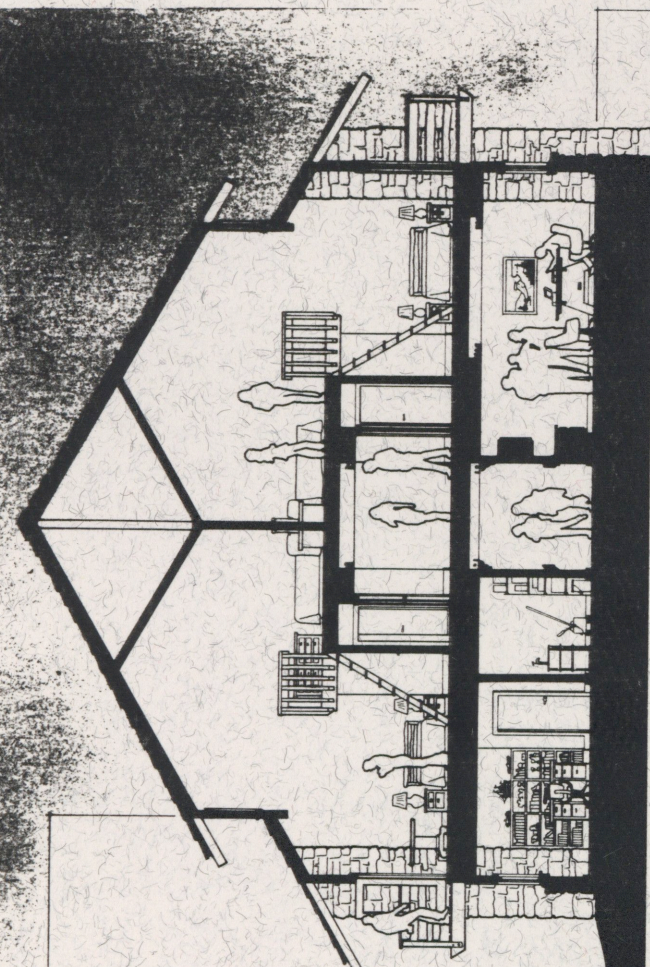
LOFT - A scale 1/8" = 1'-0"



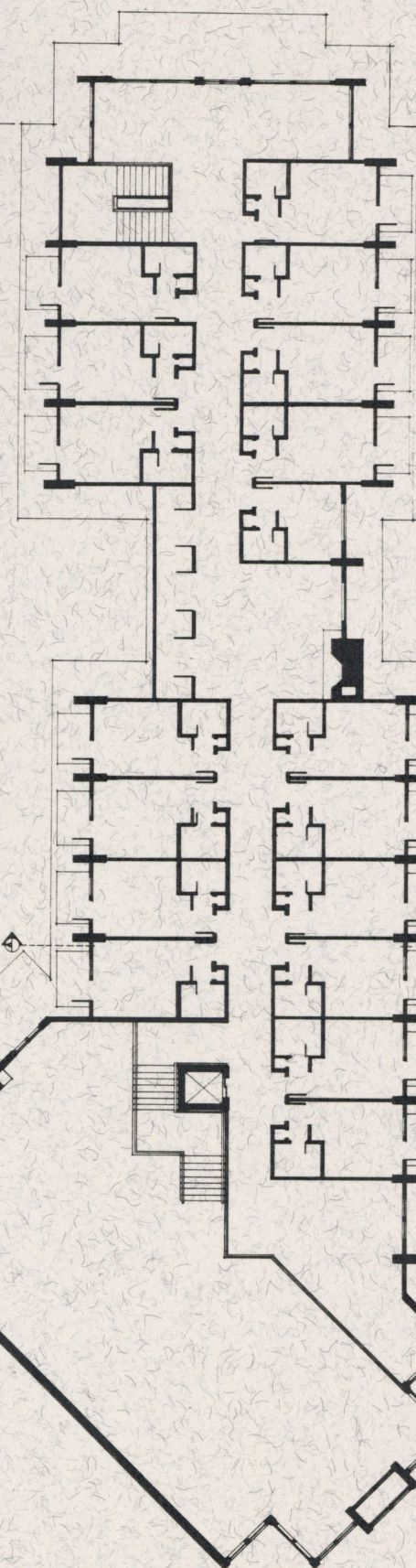
SUITE - A scale 1/8" = 1'-0"



SUITE - B scale 1/8" = 1'-0"



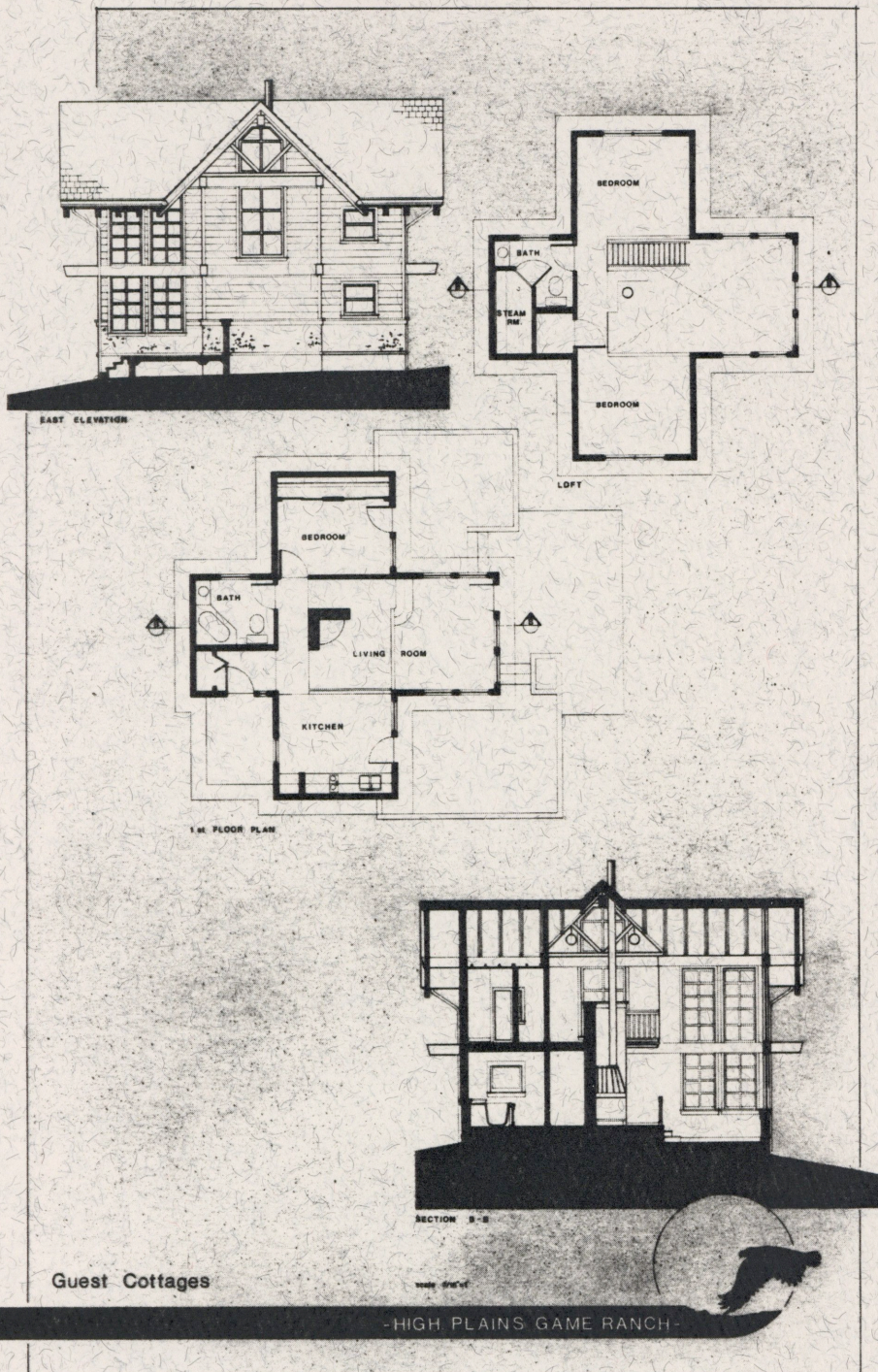
SECTION A - A scale 1/8" = 1'-0"



2nd FLOOR PLAN scale 1/8" = 1'-0"

Lodge

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SOURCES

SOURCES

1. U. S. Department of Fish, Wildlife and Parks, Lewis and Clark Office, Harlowton, Montana.
2. U. S. Soil Conservation Service, Wheatland County Office, Harlowton, Montana.
3. A. S. C. S., Wheatland County Office, Harlowton, Montana.
4. Mike Larson, National Varmit Shooting Assoc., Weippi, Idaho.
5. Richard Wheil, National Rifle Association, Flagstaff, Arizona.
6. David Fegal, Elk Investments, Belgrade, Montana.
7. Ed Breeding, Heart E Bar Ranch, Shawmut, Montana.
8. Jerry Brockbank, Trophy Hunter, Bozeman, Montana.
9. Dr. John Meyer, Varmit and Trophy Hunter, Lafayette, Indiana.
10. Dr. Bob Prediana, Varmit Hunter, Indianapolis, Indiana.
11. Dr. Lane Tait, Varmit Hunter, Ft. Smith, Arkansas.
12. Dr. Russel King, Varmit and Trophy Hunter, Bozeman, Montana.
13. Randy DeCock, Grand Duke Ranch, Harlowton, Montana.
14. Tom Lane, Investments, Livingston, Montana.

BIBLIOGRAPHY

Charles Moore. Gerald Allen. New York: Whitney Library of Design, 1980.

American Log Buildings. Terry G. Jordan. Chapel Hill: University of North Carolina Press, 1985.

The Complete Log House Book. Dale Mann. Toronto; New York: Mcgraw-hill Ryerson, 1979



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The Place of Houses. Moore, Allen, and Lyndon. New York: Holt, Rinehart and Winston, 1974.

American Log Homes. Arther Thiede and Cindy Teipner. Emmaus, Pa.: Rodale Press, 1986.

Montana Outdoors Magazine. various issues. Published by Montana Department of Fish, Wildlife and Parks., Helena, Montana.

Places for People. Jeanne M. Davern. New York: An Architectural Record Book, McGraw-Hill Book Company, Inc., 1976

Northwoods Wilderness Excursions. David W. Seabury. Bozeman: Architectural Thesis, Spring quarter, 1987.

A Guest Ranch. Craig W. Feldma. Bozeman: Architectural Thesis, Spring quarter, 1987

The Martins of Gunbarrel. Albert M. Martin. Caldwell, Idaho: Caxton Printers, 1959.

The Sea Ranch Condominium and Athletic Club. William Turnbull. Tokyo: A.D.A. edita Tokyo, 1976.

Montana's Homestead Era. Daniel N. Vichorek. Helena, Montana: Montana Magazine, 1987.

Gallatin Valley Homestead Survey. Kenneth W. Kersmizki and Joan L. Brownell, Bozeman, Montana: Museum of the Rockies, Montana State University, 1983.

Hotel Motel. Giampiero Aloï. Milano: Hoepli, 1970.

The Design of the Resort Motel. Errol Hill. 1961.

Grant Village, Yellowstone National Park. Don E. Breiner. 1962.

Hotels, Motels, and Condominiums: design planning and maintenance. Fred R. Lawson. London: Architectural Press; Boston: Cahners, 1976.

Motels, Hotels, Restaurants, and Bars. New York: F. W. Dodge Corp. 1960.



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