

8-22-89

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 84-301RR
MA 14089

THERMOPOLIS WASTEWATER TREATMENT PLANT (PART A)
THERMOPOLIS WATER TREATMENT PLANT (PART B)
(Name of Facility)

This permit hereby authorizes the applicant (name and address):

Town of Thermopolis
P. O. Box 603
Thermopolis, WY 82443

to construct, install, or modify a sewage treatment facility improvement
project and water treatment facility improvement project

facility according to the procedures and conditions of the

application No. 84-301RR. The facility is located in

Section 36, T43N, R95W

in the County of Hot Springs,

in the State of Wyoming. This permit shall be effective for a period of two (2)

years (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

The authority to construct granted by this permit does not mean or imply that the Wyoming Department of Environmental Quality guarantees or insures that the permitted facility, when constructed, will meet applicable discharge permit conditions or other effluent or operational requirements.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit. The Permittee understands that it is solely responsible to any third parties for any liability arising from the construction or operation of the facility described herein. By the issuance of this permit, the State does not in any way waive its sovereign immunity.

The permittee shall allow authorized representatives from the Department of Environmental Quality, Water Quality Division, upon the presentation of credentials and dur-

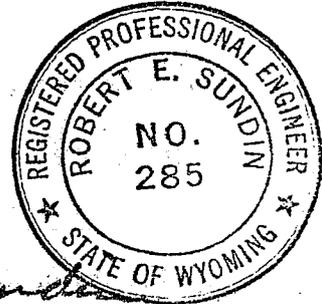
ing working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

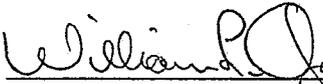
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, 210 Lincoln, Lander, Wyoming 82520; telephone, 332-3144.

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties established pursuant to any applicable State law or regulation.

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

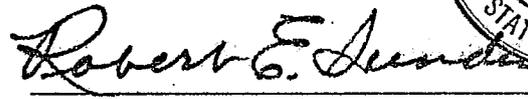
AUTHORIZED BY:





Administrator
Water Quality Division
1479

A circular seal for a Registered Professional Engineer. The outer ring contains the text "REGISTERED PROFESSIONAL ENGINEER" at the top and "STATE OF WYOMING" at the bottom, separated by two stars. The inner circle contains the name "WILLIAM L. GARLAND" and the number "1479".



Director
Dept. of Environmental Quality

August 16, 1984

Date of Issuance

This permit does not supercede the requirements for obtaining any permit from local agencies.

EB:dcn

TELEPHONE REVIEW

TO: #84-301R File--Thermopolis Wastewater
FROM: Ed Baruth *Ed*
DATE: August 9, 1984
SUBJECT: Telecon

On August 9, 1984 I called Mr. Ed Roth of Engineering Sciences in Denver. I thanked him for the soils report he had previously forwarded and reminded Mr. Roth that we were still awaiting a response to our last review.

EB:dcn

C

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER QUALITY DIVISION
210 LINCOLN
LANDER, WYOMING 82520
PHONE: (307) 332-3144

PROJECT: Thermopolis Wastewater Treatment Plant (Part A)
Thermopolis Water Treatment Plant (Part B)

ENGINEER: Engineering Science Inc.
10 Lakeside Lane
Denver, CO 80212

OWNER: Town of Thermopolis
P. O. Box 603
Thermopolis, WY 82443

WATER QUALITY DIVISION REFERENCE NUMBER: #84-301

REVIEWING ENGINEER: Ed Baruth, P.E., Northwest District Supervisor *Ed*

DATE OF REVIEW: July 16, 1984

ACTION: Not authorized.

COMMENTS: Thank you for your recent submittal detailing the proposed improvements to the Town of Thermopolis Wastewater and Water Treatment Plants. The plans and specifications, and previously submitted design calculations for the modifications should meet the needs.

Before we issue the permit to construct, please consider the following:

1. Could you please provide this department with a copy of the soils report.
2. Please forward proposed pump curves and/or information.
3. Our new Chapter XI Rules and Regulations require the preparation of an Operation and Maintenance manual for all new processes and equipment. Please utilize the existing O&M manual if possible and, if so desired by the Town of Thermopolis, this will avoid duplication of materials. Please contact the Town of Thermopolis for actual needs on this modification.

EB:dcn

C

PERMIT TO CONSTRUCT

review
file
7-6-84

- New
- Renewal
- Modified

Permit No. 84-302
SEE SPECIAL CONDITION

Municipal Sewage Sludge Land Application Facility
(Name of Facility)

This permit hereby authorizes the applicant (name and address):

City of Sheridan

P.O. Box 848

Sheridan, WY 82801

to construct, install, or modify a sewage sludge land application facility according to the procedures and conditions of the application No. 84-302. The facility is located in Sections 25, 26 and 36 of T56N, R84W in the County of Sheridan, in the State of Wyoming. This permit shall be effective for a period of five (5) years (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

The authority to construct granted by this permit does not mean or imply that the Wyoming Department of Environmental Quality guarantees or insures that the permitted facility, when constructed, will meet applicable discharge permit conditions or other effluent or operational requirements.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit. The Permittee understands that it is solely responsible to any third parties for any liability arising from the construction or operation of the facility described herein. By the issuance of this permit, the State does not in any way waive its sovereign immunity.

The permittee shall allow authorized representatives from the Department of Environmental Quality, Water Quality Division, upon the presentation of credentials and during working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

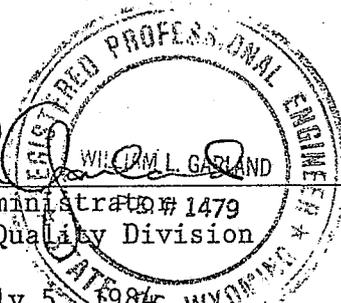
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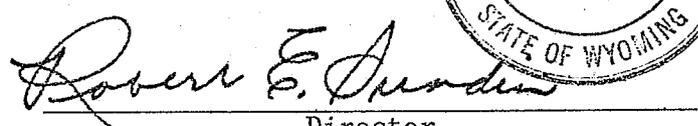
Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties established pursuant to any applicable State law or regulation.

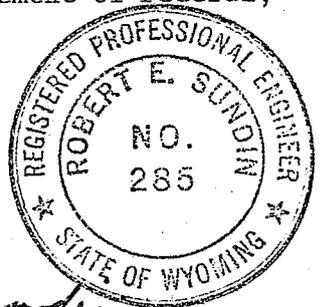
The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:


WILLIAM L. GASLAND
Administrative # 1479
Water Quality Division
July 5, 1984
Date of Issuance




Director
Dept. of Environmental Quality



This permit does not supercede the requirements for obtaining any permit from local agencies.

Condition to Permit to Construct #84-302

This permit is issued contingent on the receipt of the additional information requested in the plan review of June 25, 1984.



THE STATE OF WYOMING

84-302

ED HERSCHLER
GOVERNOR

Department of Environmental Quality
Water Quality Division

1111 EAST LINCOLNWAY

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

June 25, 1984

Michael D. Robertson
City of Sheridan
P. O. Box 848
Sheridan, WY 82801

RE: Sludge Management Plan

Dear Mike:

Enclosed please find my review of the city's draft sludge management plan. The following deficiencies are noted:

1. Sludge analysis incomplete, as stated;
2. Available phosphorus required to complete the soil analysis;
3. Groundwater analyses not submitted;
4. Site management plan needs to be developed.

Generally, this is a good first draft which is supported by good soil analyses and geotechnical investigations. I am sending along an application for a permit to construct a waste treatment facility, by which this facility will have to be permitted. I suggest that you have it completed as soon as possible and signed by a registered engineer. It must be filled out in duplicate. I am also sending along a copy of the final Chapter XI Rules and Regulations for your reference to several comments. I would anticipate that on submission of a revised plan addressing the state deficiencies, the issuance of the permit should be timely, to coincide with DEQ's final review in July. The most pressing item is the background analyses for groundwater and control of surface water in the central portion of the site.

If I can be of any help in completing these requirements please give me a call.

Sincerely,

Edward J. Fanning
Water Quality Soil Specialist

EJF/ad

cc: Alan Edwards
Dick Lennox

Specific Comments - City of Sheridan Sludge Management Plan

June 25, 1984

E. J. Fanning
Water Quality Soil Specialist

I. Sludge Analysis

- A. Future monthly sludge analysis reports should include all the metals listed in the schedule for the first years, dropping back to a quarterly analysis for the five indicator metals in year two. In this case, sludge analyses were initiated in January, 1984 and should be continued at the first year level of intensity through December, 1984.
- B. Other constituents omitted from the analyses in Appendix Five include: percent volatile solids and percent vs. reduction, sodium adsorption ratio (SAR), and PCB's and other persistent organics.

II. Soil Analyses

The soil analyses appear very thorough, lacking only in available phosphorus. This deficiency was discussed in a phone conversation with Mike Robertson on Tuesday, June 19, and is being corrected. The soil sampling sites should be located on a site map, stated or marked in the field, and included with the analyses in a section of the appendix.

III. Groundwater Monitoring

No background analyses for groundwater quality have been submitted. Test holes #4 and #6 were cased with PVC pipe and should be sampled immediately and analyzed for all parameters on page 9 of Chapter VIII of the Water Quality Rules and Regulations (once again, see column 6 of the monitoring schedule). Test hole #8 (Fig #2, Chea & Associates) should be redeveloped as a monitoring well, in addition to holes #4 and #6, all wells meeting the construction standards in Part G of Chapter XI, Water Quality Rules and Regulations (enclosed).

IV. Site Management Plan

- A. A statement of the site management goals and techniques must be developed to assess the potential effects of a long term sludge management program. Examples of intended goals are: "The land application site will be grazed by X number of cattle, sheep or horses on a rotational basis", or "the land application site will be moved periodically for native hay and to decrease the probability of range fires".
- B. Mention is made of access restriction by a barbed wire fence (Part III A) with Appendix Six references. However, no further mention of the fence is made. My concern is for the type of fence construction; i.e., will it exclude young livestock and game animals for the intended one month period after sludge application? I have fence design specifications for the type of fence needed for this site.

Also, if the City wishes to set up its sludge application system on a rotational pasture basis to more closely manage the site for a greater economic return, I would suggest a let-down suspension fence which is generally a low maintenance design for cross-fencing. These kinds of decisions should be made up front, but are only suggestions.

- C. The site management plan should address several specific items, including the presence of seasonal surface water accumulation in the SE1/4, SE1/4 of Section 25. This area must be excluded from sludge applications unless the drainage pattern is routed around the site by means of a diversion ditch.

Also, the application of sewage sludge to frozen or snow-covered ground with a slope greater than 3 percent will require the installation of a runoff collection at the base of the slope. (See Chapter XI, Part E, Section 54 d.i.). Essentially, this mode of operation will have to be confined to very slight slopes to avoid additional expense in setting up the system.

V. Sewage Sludge Application Rates

The land application site is native grass rangeland, some of which, in the low lying areas might be managed for hay production.

The crop yield goal, therefore, is 0.80 tons/acre dryland grass production based on hay yields for non-leguminous hay in Sheridan County (Wyoming Agricultural Statistics, 1982).

The crop nitrogen requirement is estimated at 32 lbs of nitrogen/acre for these soils which have an average nitrate residual of 4.69 mg/kg in the surface 6 inches.

$$\begin{aligned} & \text{lbs of available N/ton sludge solids} \\ & = (\% \text{ Ni} \times 20) + (\% \text{ No} \times 4) \\ & = 0.0848 (20) + 4.8127 (4) \\ & = 1.696 + 19.248 \\ & = 20.944 \text{ lbs available N/ton solids} \\ & = 21 \text{ lbs/ton} \end{aligned}$$

Sludge solids application rate

$$= \frac{\text{Crop N requirement} - \text{soil nitrate residual}}{\text{lbs available N/ton solids}}$$

$$= \frac{32 \text{ lbs/acre} - 9.39 \text{ lbs/acre}}{21 \text{ lbs N/ton solids}}$$

$$= \frac{22.61 \text{ lbs/acre}}{21 \text{ lbs/ton solids}}$$

Dry application rate = 1.08 tons solids/acre

Liquid application rate

Sludge generation from digestors
= 22,000 gals/day
= 8,030,000 gals/year at
1.21% solids

8,030,000 gals/yr x 8.34 lbs/gal
= 66,970,200 lbs of liquid
sludge or 33,485 wet tons

66,970,200 lbs x 0.0121
= 810,339.42 lbs solids/year
or 405 dry tons/year

1.08 dry tons/acre/year = 0.0121 x
x = 89.25 wet tons/acre/year
or $\frac{178,512 \text{ lbs/acre}}{8.34 \text{ lbs/gal}}$

Liquid application rate = 21,404 gallons sludge/acre/year

8,030,000 gallons/year are generated on a 125 acre site at the above application rate, 2,675,500 gallons could be applied per year. This is approximately one third of the total volume generated.

Soil Hydraulic Loading =
 $\frac{21,404 \text{ gals/acre/year}}{7.481 \text{ gals/ft}^3}$

= $\frac{2,861 \text{ ft}^3/\text{acre/year}}{43,560 \text{ ft}^2/\text{acre}}$

= 0.0657 ft/year x $\frac{12 \text{ in.}}{\text{ft.}}$

= 0.79 inches of additional
moisture per year due
to liquid sludge application

Sludge Storage Capacity

Digestors = 350,000 gallons or 16 days generation

Sludge Drying Beds = 48,000 gallons or 2.2 days generation

Belt Filter Press will process an average day's generation in 4.5 hours

An annual flow chart optimizing land application of dried stabilized sludge from the beds and the press during the winter-spring of the year and land application of liquid digested sludge during the summer - fall of the year prove advantageous.

Cadmium Application Rate

$$3.40 \text{ mg/kg Cd} \times 0.002 = 0.0068 \text{ lbs Cd per ton solids}$$

$$\frac{0.44 \text{ lbs/acre (maximum annual Cd addition)}}{0.0068 \text{ lbs/ton}}$$

= 64.7 tons solids/acre to reach the maximum annual cadmium loading therefore, the nitrogen application rate of 1.08 dry tons/acre applies.

Maximum metal application rates

The cation exchange capacity of all soil samples exceeds 15 meq/100g, therefore the highest allowable EPA metal loadings apply.

$$\begin{aligned} \text{Lead} &= \frac{2,000 \text{ lbs/acre}}{588.37 \text{ mg/kg} \times 0.002} \\ &= 1,699.61 \text{ tons solids/acre} \end{aligned}$$

$$\begin{aligned} \text{Zinc} &= \frac{1,000 \text{ lbs/acre}}{870.50 \text{ mg/kg} \times 0.002} \\ &= 574.38 \text{ tons solids/acre} \end{aligned}$$

$$\begin{aligned} \text{Copper} &= \frac{500 \text{ lbs/acre}}{593 \text{ mg/kg} \times 0.002} \\ &= 421.58 \text{ tons solids/acre} \end{aligned}$$

$$\begin{aligned} \text{Nickel} &= \frac{200 \text{ lbs/acre}}{70.80 \text{ mg/kg} \times 0.002} \\ &= 1,412.42 \text{ tons solids/acre} \end{aligned}$$

$$\begin{aligned} \text{Cadmium} &= \frac{20 \text{ lbs/acre}}{3.40 \text{ mg/kg} \times 0.002} \\ &= 2,941.17 \text{ tons solids/acre} \end{aligned}$$

Site Life, years, as limited by the copper loading

$$= \frac{421.58 \text{ tons solids/acre}}{1.08 \text{ tons solids/acre/year}}$$

$$= 390 \text{ years}$$

VI. Correction of Statement on Page 6

The ability of the soil to retain a given metal loading is largely dependent on the maintenance of a slightly acid to basic pH (>6.5) in which range the solubility of most metals is exponentially reduced. Failure to maintain the soil pH in this range even after waste disposal to the site has been terminated may result in a gradual remobilization of metals that were previously precipitated in the root zone and/or adsorbed on soil colloids if the original background pH was lower than 6.5.

VII. Amount of Additional P₂O₅ and K₂O Fertilizer needed

1.08 dry tons sludge/acre x 1.2 % x 45.8 = 5936 lbs P₂O₅ /acre

15 lbs/acre is the P₂O₅ recommendation for a crop yield goal of 0.80 - 1.0 tons/acre. Available phosphorus was not determined in the soil analysis submitted. Therefore, no estimate of soil phosphorus status can be made at this time. The amount of P₂O₅ supplied by the sludge however, indicates a potential for phosphorus accumulation. Since phosphorus generally is most available at a soil pH of 6.5, soil phosphorus should be monitored at five year intervals.

Potassium, as K₂O

1.08 tons/acre x 0.8% K x 24 = 20.74 lbs/acre

Mean soil K residual for the surface 6 inches is 121.25 mg/kg
121.25 mg/kg = 242.79 lbs/ac K₂O

Approximately 20 lbs/acre K₂O is recommended for a one ton yield goal. Although this amount is supplied by the nitrogen application rate, the soil K₂O residual is sufficient, and would require no additional K₂O.

7-20-84

PERMIT TO CONSTRUCT

New
 Renewal
 Modified

Permit No. 84-303

Foil Pack, Building 837
(Name of Facility)

This permit hereby authorizes the applicant (name and address):

F.E. Warren AFB Civil Engineer

90 CSG/DE

F.E. Warren AFB, WY 82005

to construct, install, or modify a wastewater collection system and grease trap facility according to the procedures and conditions of the application No. 84-303. The facility is located in Section 35, T14N, R67W in the County of Laramie, in the State of Wyoming. This permit shall be effective for a period of two (2) years (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

The authority to construct granted by this permit does not mean or imply that the Wyoming Department of Environmental Quality guarantees or insures that the permitted facility, when constructed, will meet applicable discharge permit conditions or other effluent or operational requirements.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit. The Permittee understands that it is solely responsible to any third parties for any liability arising from the construction or operation of the facility described herein. By the issuance of this permit, the State does not in any way waive its sovereign immunity.

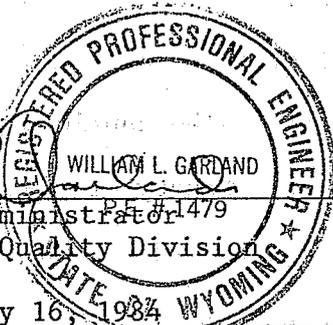
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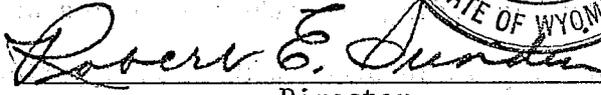
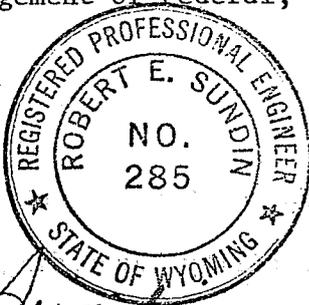
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Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties established pursuant to any applicable State law or regulation.

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:


WILLIAM L. GARLAND
Administrator PE #1479
Water Quality Division

July 16, 1984
Date of Issuance


ROBERT E. SUNDIN
Director
Dept. of Environmental Quality


This permit does not supercede the requirements for obtaining any permit from local agencies.

cc: Jordon C. Holland
F.E. Warren AFB Civil Engineering Squadron
90 CSG/DEE
F.E. Warren AFB, WY 82005

9-10-84

PERMIT TO CONSTRUCT

Permit No. 84-304R
MA 14089

- New
- Renewal
- Modified

F.E. Warren AFB Sewer System Modifications
(Name of Facility)

This permit hereby authorizes the applicant (name and address):

Base Civil Engineer

90 CSG/DE

F.E. Warren AFB, WY 82005

to construct, install, or modify a municipal wastewater collection system facility according to the procedures and conditions of the application No. 84-304R. The facility is located in Sections 27, 28, 34 and 35, T14N, R67W in the County of Laramie, in the State of Wyoming. This permit shall be effective for a period of two (2) years (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

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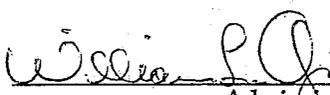
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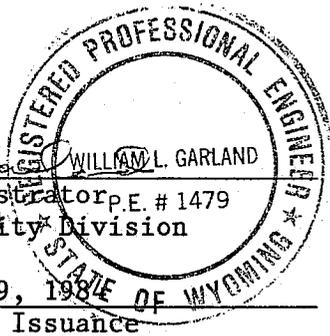
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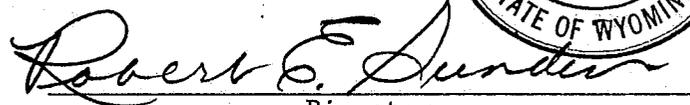
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AUTHORIZED BY:


WILLIAM L. GARLAND
Administrator P.E. # 1479
Water Quality Division
August 29, 1984
Date of Issuance




Robert E. Sundin
Director
Dept. of Environmental Quality



This permit does not supercede the requirements for obtaining any permit from local agencies.

cc: Jordon Holland
90 CSG/DEE
F.E. Warren AFB, WY 82005

8-10-84

Review of Plans and Specifications

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY DIVISION
1111 East Lincolnway
Cheyenne, Wyoming 82002

PROJECT: Warren AFB Sewer System Improvements, Laramie Co.

ARCHITECT OR ENGINEER: Jordon C. Holland, 90 CSG/DE
F.E. Warren AFB, WY 82005

APPLICANT: Base Civil Engineer, 90 CSG/DE
F.E. Warren AFB, WY 82005

WATER QUALITY DIVISION REFERENCE NUMBER: 84-304

REVIEWING ENGINEER:  Leroy C. Feusner, P.E.

DATE OF REVIEW: August 9, 1984

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

Provide three copies of the material/construction specifications. These documents must carry the seal or signature of a professional engineer licensed in the State of Wyoming. One of the original project design engineers, John Baker/Baker, Sweeney and Associates, indicated to me that specifications had been written for this project and were provided to base civil engineering personnel.

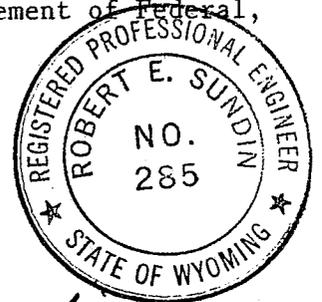
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AUTHORIZED BY:



William L. Garland

Admin. Director
Water Quality Division
PE # 1479
October 1984

Date of Issuance

A circular seal for a Registered Professional Engineer in the State of Wyoming. The outer ring contains the text "REGISTERED PROFESSIONAL ENGINEER" at the top and "STATE OF WYOMING" at the bottom, separated by two stars. The inner circle contains the name "WILLIAM L. GARLAND" and the number "PE # 1479".

Robert E. Sundin

Director
Dept. of Environmental Quality

This permit does not supercede the requirements for obtaining any permit from local agencies.

xc: Lawrence T. Price
HWS, Inc.
P.O. Box 727
Newcastle, WY 82701

Water Quality Division
Groundwater Section
Permit Application Review

Normal -
Returned to
Sheridan
8/30/84

Application Number 84-306

Date Submitted For Review 8-17-84

Name and Location of Facility UPTON OUTFALL SEWER & LAGOON
S 35 T 48N R 75W
S 2 T 47N R 75W
WESTON CO.

I have reviewed the plans and specifications with regard to all aspects of ground-water quality and find the following:

No Comment. The submittal is consistent with current ground-water protection procedures and requirements.

Comments attached.

Signed Richard Hennep
Title Eng. Eval.
Date 8-30-84

Approved 8/30/84
(Date)

ajm
(Signed)
Groundwater Control Supervisor

Norma



REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY DIVISION
2161 COFFEEN AVE., SUITE 301
SHERIDAN, WYOMING 82801

PROJECT: Upton Outfall Sewer and Lagoon

ARCHITECT OR ENGINEER: Lawrence T. Price
H-W-S, Inc.
P.O. Box 727
Newcastle, Wyoming 82701

WATER QUALITY DIVISION
REFERENCE NUMBER: 84-306

REVIEWING ENGINEER: Rich Ruyle

DATE OF REVIEW: August 16, 1984

ACTION: Not Authorized

COMMENTS:

- 1.) As I understand it, the old lagoon will continue to receive some flow directly through the existing 10 inch sewer. Can you determine the flow split between the old and new lagoons so that the loading rate and detention time can be calculated for each?
- 2.) Manhole 9 on sheet 4 appears to have the wrong elevation listed.
- 3.) The amount of cover over the sewer on either side of manhole 8 is deficient. Is there any way it can be increased to four feet?
- 4.) Even though PVC sewer is indicated on the plans, I cannot find a standard for it in the specifications.
- 5.) Chapter XI of our regulations requires a dike compaction of at least 95% of maximum density rather than the 90% listed on page 4 of Section 601 in the specifications.
- 6.) Riprap will have to be provided for the interior slopes of the lagoons unless it can be demonstrated to us that it is not needed.
- 7.) Since the effluent from cell 2 of the new lagoon drops more than two feet after entering the existing manhole (sheet 9), it should actually be designed as a drop manhole.

Review of Plans and Specifications
Upton Outfall Sewer and Lagoon, 84-306
August 16, 1984
Page Two

- 8.) Can the outfall line from the existing lagoon be laid on one grade? This would be the preferred option over the use of elbows.
- 9.) Multi level drawoff is necessary for the final outlet structure. I am not certain that use of a scum baffle will achieve this. Specifically, how is the baffle suspended in the outlet structure? Is the baffle level adjustable?
- 10.) Flow measurement must be accurate within 10%. Can you verify that use of the outfall weir for flow measurement will meet this requirement?
- 11.) Each cell should be able to be isolated by the use of bypass piping and valves. This does not appear to be the case.
- 12.) The application is currently being reviewed by the Groundwater Section in Cheyenne.

Many of the above comments are open to interpretation. I will call you next week to discuss them.

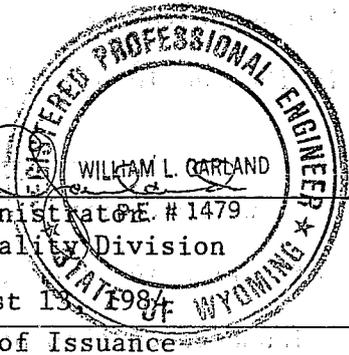
during working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

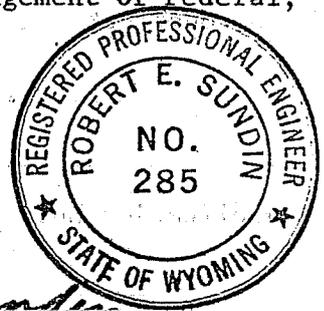
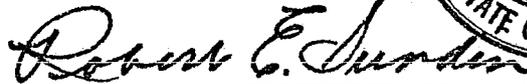
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, 2161 Coffeen Avenue, Suite 301, Sheridan, Wyoming 82801; telephone, 672-6457.

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties established pursuant to any applicable State law or regulation.

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:



Administrator # 1479
Water Quality Division
August 13, 1984
Date of Issuance



Director
Dept. of Environmental Quality

This permit does not supercede the requirements for obtaining any permit from local agencies.

xc: RCH & Associates, w/plans

11-9
84-308

THE STATE



OF WYOMING

ED HERSCHLER
GOVERNOR

Department of Environmental Quality

Administration

TELEPHONE 307-777-7937

HERSCHLER BUILDING
122 WEST 25TH STREET
CHEYENNE, WYOMING 82002

November 6, 1984

Jack A. Young
Wastewater Treatment Division Manager
Cheyenne Board of Public Utilities
P.O. Box 1469
Cheyenne, WY 82003

RE: Cheyenne Crow Creek Wastewater Treatment Plant, Old Sludge Drying Pits

Dear Mr. Young:

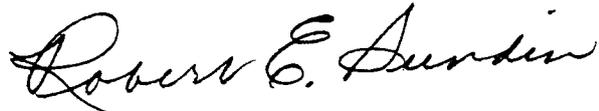
This is in response to your letter of October 23, 1984 concerning Mr. Norman's comments regarding the sludge drying pits at the Crow Creek Wastewater Treatment Plant. The concern for the reclamation of the sludge drying pits arose through the review of the Stage I plans and specifications for upgrading the Crow Creek Wastewater Treatment Plant (EPA Grant No. C560243-21, DEQ/WQD Ref. No. 84-308R). The WQD staff stated their concern in a review letter of August 7, 1984 to Black & Veatch (copy to Carroll Aamold, BPU). The consultants response did not adequately address the problem. Again the WQD staff stated their concern in a review letter of September 27, 1984 to Black & Veatch (copy to Carroll Aamold, BPU). The City's engineering consultant responded in a telephone conversation that the reclamation of the sludge pits should not be included in the EPA grant. The consultant suggested that the WQD approach the City directly concerning the sludge pits. The WQD construction grants staff stated that the improvements to the Crow Creek Wastewater Treatment Plant are scheduled to be completed by next July or August. Since these improvements include new sludge drying beds, it appears that the reclamation of the old pits could be completed by next fall.

Since City of Cheyenne officials had knowledge of the above project review correspondence and had not initiated any verbal or written correspondence to resolve the problem, the WQD formally notified city officials to implement a proposal for elimination of the old sludge drying beds when the new facilities have been completed. To ignore this problem during the project review process was not considered appropriate. Water Quality Division personnel are available to meet with Cheyenne officials to further discuss any proposals for elimination of the old sludge dry beds and to work with them in reaching an implementation schedule. This meeting should be scheduled immediately by city officials to resolve any further misunderstandings.

Jack A. Young
November 6, 1984
Page 2

We hope this resolves your concerns and that the DEQ and Cheyenne BPU can continue to have a good working relationship.

Sincerely,

A handwritten signature in cursive script that reads "Robert E. Sundin". The signature is written in dark ink and is positioned above the printed name and title.

Robert E. Sundin
Director

RES/TSN/nc



Department of Environmental Quality
Water Quality Division

HERSCHLER BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

October 29, 1984

Mr. Herman Noe, Director
Board of Public Utilities
P.O. Box 1469
Cheyenne, WY 82001

RE: City of Cheyenne, Wyoming, EPA Grant No. C560243-21, DEQ/WQD Reference
No. 84-308R, Advertisement for Bids

Dear Mr. Noe:

The plans and specifications for the subject project have been reviewed by this office. The permit to construct is forwarded herewith. The project includes the Crow Creek facility upgrade, the South Cheyenne interceptor and the waterline to the Dry Creek facility. The City of Cheyenne is therefore authorized to advertise for bids for this work.

Also forwarded herewith is a checklist of items that need to be submitted to this office for review when the bids are opened. The City is cautioned that construction contracts may not be awarded until the bidding documents have been reviewed and approved by the Environmental Protection Agency. Please advise this office of the times and locations of any pre-bid meetings that may be scheduled.

If you have any questions on the above, please contact this office at (307) 777-6351.

Sincerely,

A handwritten signature in cursive script that reads "Alan Edwards".

Alan Edwards
Engineering/Grants Evaluator

GAE/nc

cc: EPA, Denver
Gary Shimp, Black and Veatch, Denver
James Murphy, DEQ, Cheyenne
Grant File

10-30-84

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 84-308R
 EPA C560161-01
 MA 14089

Cheyenne Stage I Water & Wastewater Improvements
 (Name of Facility)

This permit hereby authorizes the applicant (name and address):

Cheyenne Board of Public Utilities

P.O. Box 1469

Cheyenne, WY 82003

to construct, install, or modify improvements to Crow Creek Wastewater Treatment Plant, interceptor sewer from South Cheyenne Water & Sewer District to Cheyenne's wastewater system, and water line extension to Dry Creek Wastewater Treatment Plant according to the procedures and conditions of the application No. 84-308R. The facility is located in Section 6, T13N, R65W and Sections 1, 2, 3, 10, 11, T13N, R66W in the County of Laramie, in the State of Wyoming. This permit shall be effective for a period of two (2) years (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

The authority to construct granted by this permit does not mean or imply that the Wyoming Department of Environmental Quality guarantees or insures that the permitted facility, when constructed, will meet applicable discharge permit conditions or other effluent or operational requirements.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit. The Permittee understands that it is solely responsible to any third parties for any liability arising from the construction or operation of the facility described herein. By the issuance of this permit, the State does not in any way waive its sovereign immunity.

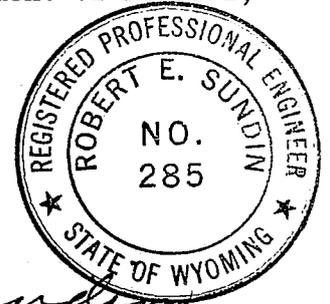
The permittee shall allow authorized representatives from the Department of Environmental Quality, Water Quality Division, upon the presentation of credentials and during working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

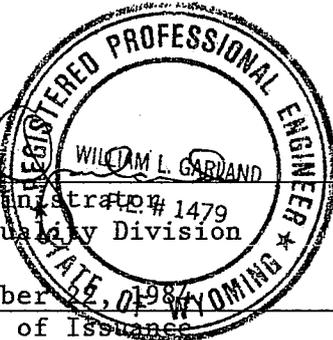
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, Herschler Building, 122 W. 25th, Cheyenne, Wyoming 82002; telephone, 777-7781.

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties established pursuant to any applicable State law or regulation.

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:




William L. Garwand
Administrator # 1479
Water Quality Division
October 15, 1987
Date of Issuance

Robert E. Sundin
Director
Dept. of Environmental Quality

This permit does not supercede the requirements for obtaining any permit from local agencies.

cc: Gary F. Shimp
Black & Veatch, Engineers-Architects
1400 South Potomac Street, Suite 200
Aurora, CO 80012



THE STATE OF WYOMING

ED HERSCHLER
GOVERNOR

Department of Environmental Quality
Water Quality Division

HERSCHLER BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

September 4, 1984

Mr. Gary Shimp, P.E.
Black & Veatch
1400 South Potomac Street, Suite 200
Aurora, CO 80012

RE: South Cheyenne Interceptor Sewer, DEQ/WQD Ref. No. 84-308 EPA Grant
No. C560161-01, Occupational Health and Safety Review of Plans and
Specifications, Stage 1, Wastewater Systems Improvements

Dear Mr. Shimp:

The Wyoming Occupational Health and Safety office has completed their review of the subject plans and specifications. A copy of their review comments are included herewith and should be incorporated in your revised plans and specifications. If you have any questions in this regard, please contact me at (307) 777-6351.

Sincerely,

Alan Edwards

Alan Edwards
Engineer/Grants Evaluator

GAE/nc
Enclosures

cc: Carroll Aamold, City of Cheyenne (w/enclosure)
Grant File



Occupational Health and Safety

CHEYENNE, WYOMING 82002

H.B. ANDERSON, M.D.
CHAIRMAN
L. KEITH HENNING
FLOYD J. HENRY
J.D. MULLINAX
JENNIE PARKER
JAMES ZANCANELLA, PH.D.
RON BAGBY

DONALD D. OWSLEY
HEALTH AND SAFETY ADMINISTRATOR
(307) 777-7786

August 31, 1984

Alan Edwards
Engineer/Grants Evaluator
Water Quality Division
Herschler Building
122 W. 25th
Cheyenne, Wyoming 82002

Dear Mr. Edwards:

Attached are our comments on the plans review of the Stage I, Wastewater Systems Improvements, South Cheyenne Interceptor Sewer, water line to Dry Creek Plant, Crow Creek Plant Improvements, Wyoming Reference 84-308.

1. Page B1:19, add after Part 1926, OSHA Rules for Construction, Chapter XVII of Title 29 Code of Federal Regulations, Wyoming Occupational Health and Safety Rules and Regulations, "General", and Wyoming Occupational Health and Safety Rules and Regulations, "Construction".

Paragraph 4, after Occupational Safety and Health Act of 1970, add:
and the Wyoming Occupational Health and Safety Act.

2. Sheet 12 of 18, view $\frac{E}{B}$ at A-8 indicates $\frac{1}{2}$ " handrail; I am relatively sure that this is a typo and should be $1\frac{1}{2}$ " handrail.
3. Sheet 4 of 18 at A-5 - Manhole step vertical spacing 1'4" typical, cannot exceed 12", General rules, Chapter IV, Sec. 7.b(1)(e), page 9, with a minimum diameter of 1 inch, 7 inch minimum clearance in back of ladder and minimum width of 1'4" at the rungs or steps.
4. Sheet 17 of 18, Section B-1, rear door swing on main control panel is 2' feet. Work space requirements from 0-150 and 151-300 volts shall be not less than 3 feet. Wyoming General Rules, Chapter XIX, Sec. 3.g, Page 290.

Recommendations: applicator of coal tar base paints, pre-treatments, etc., must be made aware of the requirements for personal protective equipment required for application with spray equipment. PEL for this suspected carcinogen is $.2\text{mg}/\text{m}^3$.

August 31, 1984
Alan Edwards
Page 2

Please contact the department if I can be of further assistance.

Yours for employee health and safety,

J. T. Chambers
For: Donald D. Owsley
Administrator

DDO:1j

Plans returned
to Tom N/Alan E.

WATER QUALITY DIVISION
GROUNDWATER SECTION
PERMIT APPLICATION REVIEW

APPLICATION NUMBER 84-308

DATE SUBMITTED FOR REVIEW 8-13-84

NAME AND LOCATION OF FACILITY Cheyenne Wastewater System
Improvements

I have reviewed the plans and specifications with regard to all aspects of groundwater quality and find the following:

- No comment. The submittal is consistent with current groundwater protection procedures and requirements.
- Comments attached.

SIGNED P. Puzel

TITLE _____

DATE 8-16-84

APPROVED 8/17/84
(Date)

QJM
Groundwater Control Supervisor



Department of Environmental Quality
Water Quality Division

HERSCHLER BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

August 14, 1984

Mr. Gary Shimp
Black & Veatch
1400 South Potomac Street, Suite 200
Aurora, CO 80012

RE: South Cheyenne, Plans and Specifications, DEQ/WQD Ref. No. 84-308, EPA
Grant No. C560161-01

Dear Mr. Shimp:

Forwarded herewith please find the biddability and constructibility comments of the Corps of Engineers dated August 10, 1984. Please incorporate these comments in the final plans and specifications.

The plans and specifications have also been reviewed by the State of Wyoming Department of Fire Prevention and Electrical Safety. Their comments are as follows:

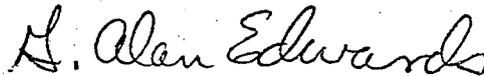
1. The bonding of the 120/240 V lighting panel to the metal piping inside the flow metering manhole should be assured with the size according to Table 250-94 of the National Electrical Code. This item is covered in the specifications, page 16A-6f, but it is not indicated on the one line drawing on sheet 15.
2. The wiring methods employed for the flow sensing element installation located in the flow metering manhole shall be compatible to Class I, Division I, requirements of NEC. It is my understanding that the flow sensing element operates on a 4-20 ma signal which is intrinsically safe, therefore, suitable for this installation. If copies of manufacturers information affirming this is available, we would appreciate receiving a copy. This will be provided to the Fire Prevention and Electrical Safety office for their information.

The DEQ groundwater section is currently completing their review. Their comments will be forwarded upon completion of their review.

Mr. Gary Shimp
August 14, 1984
Page 2

Please forward 6 copies of the final plans and specifications for review. The additional set will be provided to OSHA whose review is required for projects of this type. If you have any questions on the above, please contact this office at (307) 777-7781.

Sincerely,



G. Alan Edwards
Engineering/Grants Evaluator

GAE/nc
Enclosures

cc: Carroll Aamhold, Cheyenne BPU, Box 1469, Cheyenne, WY 82003 (w/encl.)
Art Buffington, S. Cheyenne Water & Sewer District, 908 Drew Court,
Cheyenne, WY 82007 (w/encl.)
Grant File (w/original enclosure)

8-7-84

THE STATE OF WYOMING



ED HERSCHLER
GOVERNOR

Department of Environmental Quality
Water Quality Division

HERSCHLER BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

August 7, 1984

Mr. Gary Shimp
Black & Veatch
1400 South Potomac Street, Suite 200
Aurora, CO 80012

RE: Cheyenne, Wyoming, Stage I, Plans and Specifications, DEQ/WQD Ref.No.
84-308, EPA Grant No. C560161

Dear Mr. Shimp:

This office has reviewed the preliminary plans and specifications for the Cheyenne, Wyoming, Stage I improvements. These improvements include a new waterline to the Dry Creek plant, a new interceptor from the South Cheyenne plant to the existing Crow Creek interceptor, and plant modifications to the Crow Creek facility. These comments include those by Tom Norman, District Engineer and Jim Murphy and me of the construction management group. The Corps of Engineers comments will be forwarded when we receive them. The Corps of Engineers comments will be forwarded when we receive them.

The two sets of plans and specifications on file in this office are being forwarded to the State Electrical Engineer and to the DEQ groundwater section for review. Their comments will be forwarded upon our receipt of same.

Our comments are as follows:

Plans

1. Does the city have the cleaning equipment capable of cleaning the 1450 feet of sewer siphon between the manholes?
2. What are the existing and design average flows for the siphon? A 3 fps minimum velocity must be achieved once a day with average flows.
3. Will ductile iron sewer pipe (ASTM A746-77) be used?
4. Should the AWWA specification for ductile iron pipe also be identified for water mains (i.e., AWWA C151)?
5. Sheet 2 - Based upon general notes 2 and 3, the slope of the line from existing manhole at station 0+00 to the flow measuring manhole would be $(41.50-40.28) \div (27'-3''-2'') = 5.55\%$. This is based upon the elevation figured as the vertical difference from centerline to centerline and the distance would be from inside

face to inside face of manholes. If the fall were assumed to be 1.22' and the distance is 27', the slope would be 4.52%. The slope on the plans is shown as 4.88%.

6. Sheet 3 - The length and slope is not shown on the profile from station 46+00 to 46+80.
7. Sheets 2 and 3 - Is there a limitation on maximum deflection or degree of bend at transition sections for the siphon?
8. Sheet 4 - Inlet and outlet manholes and cleanouts show 10-inch DIP sewer lines. Where is the transition made to PVC? The specifications Section 2B indicates iron pipe would be used for the siphon but the plans indicate PVC to be used at this location.
9. Sheet 4 - On the siphon inlet manhole, section view the detail referenced as A/5 should be C/5.
10. Sheet 4 - Flow metering manhole:
 - a. It is assumed that it is intended to encase inlet and outlet lines in cast-in-place base with concrete to extend at least 3-inches above piping. No top reinforcement is indicated above the piping.
 - b. There is a light double line shown above the flume. It is not known what this represents. Is it intended to put a grating over the flume?
 - c. Does the flume manufacturer have a limitation on upstream or downstream bends for flow measurement restrictions? There is a bend immediately downstream from this manhole.
11. Sheet 2 - Flume is misspelled on plan section at station 0+27.
12. Sheet 4 - Will there be top reinforcement over the inlet and outlet lines in the siphon manholes?
13. Sheet 4 - What is the concrete dimension under the 24-inch PVC for the outlet siphon manhole, section view?
14. Sheet 5 - What is the height of the electrical control structure and the dimensions of the electrical cabinet?
15. Sheet 6 - No plug detail is shown for 12X12X12 tee at station 2+47.
16. Sheet 8 - No stationing is given for the 6-inch gate valve at the digester control building. Is there a minimum distance this should be located from the wall for future access and maintenance considerations?
17. Can the plant operate without water for short periods of time? For example, is there a back-up water supply for seal water? If not, consideration should be given to plugging the tees in such a way as to minimize or eliminate shutting the line down when future connections are made.
18. Horizontal curve data is given for curves #1 and #2. Is there maximum curve or deflection data for vertical curves for water mains?

19. The waterline is to be laid to match the existing grade. Is there a specific note prohibiting laying water lines in such a way as to create high points at other than designated points?
20. Sheet 9 - No size is indicated for the casing pipe.
21. Sheet 9 - On detail A/6, why is the vent pipe to be installed outside of the fence? Wouldn't this be better protected from cattle and vehicles inside the fence? The vent would be installed outside of the right-of-way at this location. Can this be done under the current right-of-way agreements?
22. Sheet 9 - Pressure reducing valve station: The waterline elevation where entering the building is 5900.60 and the elevation at the point of connection, station 0+00, is about 5977.00. This will create a positive head at the building even if the main is shut down at the point of connection but possibly not if there is a water main break on the line to the plant? Should a backflow preventer be installed to help avoid cross-connections?
23. What design data was used to size the digested sludge pump and the drying beds? A quick calculation shows that the beds may be sized for 2.4 square-feet per population equivalent (each population equivalent contributing 0.17 pounds of BOD per day).
24. State of Wyoming, Water Quality Rules and Regulations, Chapter XI, prohibit the return of supernatant from either the digester or the drying beds to the primary clarifier. Sheet 10 of the plans indicate that this is where it is returned to.
25. Where will the sludge from the drying beds be stored prior to being used by the City on the park system?
26. Sheet 10 - There is an existing sludge line that goes north out of the primary settling basin into the control building. What is this line used for?
27. There are some existing drying beds directly west of the existing sludge beds. Are there plans to reclaim these as part of this project?
28. Sheet 10 - There is a misspelled word in note 3.
29. Sheet 10 - Not all lines are noted as being new where new lines are anticipated. An example is the electrical lines from the control building and digester gas mixing building.
30. Sheet 11 - In section 6/11, it is assumed that the sand thickness above the drain is intended to be 3-inches not 3-feet as indicated.
31. Sheet 11 - Are the bottom of the concrete trough or 4-inch perforated PVC drain in the drying beds to be sloped to enhance drainage?
32. Sheet 11 - In section 4/11, the bend elevation of the 4-inch decant line is shown as 5964.00. It appears that this elevation may conflict with the water line at centerline elevation of 5964.75 in section 3/11.

33. Sheet 12 - In section 4/12, it is assumed the top of footing elevation is 5968.33. This is based upon the elevation and dimension of section 1/12. Consideration should be given to adding key elevations on individual sections for clarity during bidding.
34. Sheet 12 - A Jen-Air 70 CW fan is indicated with no "or equal" clause given.
35. Sheet 12 - A Hydromatic SP40A1 sump pump is shown with no "or equal" clause given.
36. Sheet 12 - Would isolation pads be necessary for vibration under the digested sludge pump?
37. Sheet 12 - section 5/12:
 - a. How far does the concrete for the sump which is to be poured under the floor and footing extend? No dimension is given as to how far from the sump walls this concrete will extend horizontally.
 - b. The invert elevation of the drain pipe is 5967.33. Will this interfere with the bottom horizontal reinforcement or forming for the concrete for the sump?
38. Sheet 13 - Slide gate installation: There is a small note stating "Note: Typ 2 places." It is assumed that there are to be two slide gates installed, one for each dosing chamber. Should this be expanded on for clarity during bidding?
39. A minimum depth of cover for the new 4-inch waterline and 6-inch digested sludge lines at the Crow Creek facility is not identified on the plans. Also, is there a specific prohibition of high points in the line?
40. On page 10, the backflow preventer is shown to be installed on the new 4-inch waterline. Detail sheet 13 shows the backflow preventer to be installed on the existing 4-inch waterline. A previous design memo expressed the need to install the preventer on the existing water main because of potential cross-connections in the plant. Should the backflow preventer be installed on the existing line prior to the junction with the new waterline?
41. Is the method for controlling the sump pump in the digested sludge building identified on the plans or specifications?

Specifications

1. The new EPA boiler plate dated August 1, 1983, copy enclosed, needs to be inserted in the specifications.
2. The latest wage determination will need to be obtained and inserted in the specifications prior to bidding.
3. Consideration should be given to inserting a sample change order form in the specifications.
4. High density polyethylene (PE) pipe is not one of the approved materials listed in the Chapter XI regulations.

5. Specifications could not be found for the following:
- a. Sand and gravel materials and installation for sludge drying beds.
 - b. Perforated PVC drainline for sludge drying beds.
 - c. Ventilation fan for digested sludge pump station.
 - d. Sump pump for digested sludge pump station.
 - e. Tunnel or casing pipe for waterline.
 - f. Instrumentation specification for digested sludge pump station.
 - g. Disinfection of new waterlines.

Are these included and if not, do they need to be included?

3. A specific statement should be included that by-passing will not be allowed during construction.
4. Is the new plant piping to be color coded in accordance with OSHA standards.

General

1. What is the percent removal of BOD and TSS currently achieved at the Crow Creek facility or expected to be achieved at design capacity?
2. A question regarding the accuracy of the flow measurement at the Crow Creek facility was raised during facility planning. Has this been resolved and, if so, are there any adjustments needed to the design flows presented in the facility plan?
3. An application for permit to construct will need to be submitted with the final plans and specifications.

Please review the above comments and make any changes that may be necessary. Five copies of the plans and specifications should be submitted when final plans are submitted. If you have any questions, please contact this office at (307) 777-7781.

Sincerely,



G. Alan Edwards
Engineering Grants Evaluator

GAE/nc

cc: Carroll Aamhold, Assistant Director, Cheyenne BPU, P.O. Box 1469, Cheyenne, WY 82003
Tom Norman, DEQ/WQD, Cheyenne

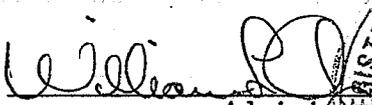
during working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

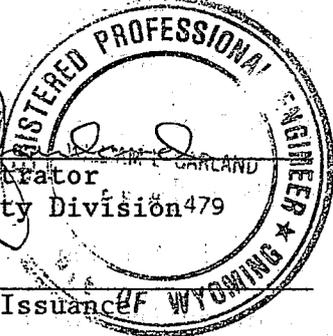
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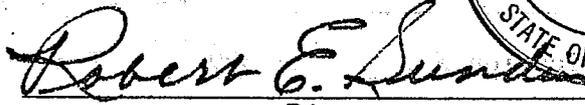
Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties established pursuant to any applicable State law or regulation.

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AUTHORIZED BY:


Adminisrator
Water Quality Division 479
July 31, 1984
Date of Issuance




Director
Dept. of Environmental Quality



This permit does not supercede the requirements for obtaining any permit from local agencies.

JB:dcn

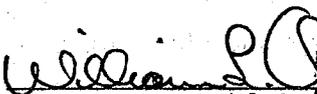
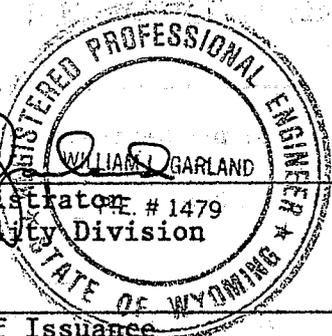
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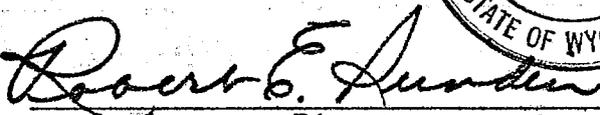
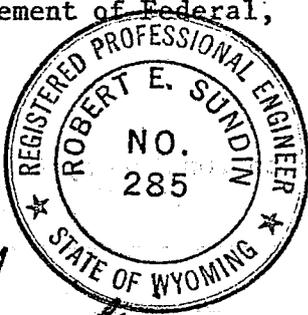
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AUTHORIZED BY:



Administrator # 1479
Water Quality Division
July 18, 1984
Date of Issuance



Director
Dept. of Environmental Quality

This permit does not supercede the requirements for obtaining any permit from local agencies.

* CONDITION ON PERMIT *

Before backfilling around the waste treatment system, the Washakie County Planner in Worland is to be contacted at 347-2741 for an inspection of the system. A minimum time frame of 48 hours prior notification is required.

EB:dcn

cc: Don Wolford, Washakie County Planner

TELEPHONE REVIEW

TO: Kevin Jones
516 Sage St.
Evanston, WY 82930
(307) 389-4359

FROM: Ed Baruth *Ed*

DATE: July 13, 1984

SUBJECT: Girl Scouts U.S.A. - National Center West
#84-310

Please provide a detail of the cover on the leach field distribution boxes.

EB:dcn

C



Department of Environmental Quality
Water Quality Division

210 LINCOLN STREET

LANDER, WYOMING 82520

TELEPHONE 307-332-3144

August 2, 1984

Town of Mountain View
P. O. Box 249
Mountain View, WY 82939

RE: Aeration System for Sewage Treatment
Facility, Permit Application #84-311

Dear Mayor and Council:

A Permit to Construct can't be issued for the surface aeration system that was shown in permit application #84-311 since it is my understanding that the aerators have already been installed.

However, since it appears that the aeration system installed meets the intent of the applicable standards and regulations, this letter is issued as authorization of the as built construction.

For future reference, please note that the construction of or modification to any wastewater treatment or collection facility, as well as any public water supply system, must receive a permit from this office prior to the construction.

Feel free to contact either Jack Bedessem or me if you have any questions.

Respectfully,

A handwritten signature in cursive script that reads "Jeff Hermansky".

Jeff Hermansky
Water Quality Evaluator

JH:dcn

xc: Dale E. Peterson, P.E.
Plans #84-311

8-7-84

PERMIT TO CONSTRUCT

New
 Renewal
 Modified

Permit No. 84-312R

* CONDITION ON PERMIT *

CHEVRON U.S.A. CARTER CREEK GAS PLANT
PUMPER SHACK DISPOSAL FIELD

(Name of Facility)

This permit hereby authorizes the applicant (name and address):

Chevron, U.S.A.

P. O. Drawer AA

Evanston, WY 82930

to construct, install, or modify a septic tank - leach field

_____ facility according to the procedures and conditions of the
application No. 84-312R. The facility is located in _____

NW $\frac{1}{4}$ SE $\frac{1}{4}$ Section 9, T.16N., R.119 W.

_____ in the County of Uinta,

in the State of Wyoming. This permit shall be effective for a period of two (2)
years (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

The authority to construct granted by this permit does not mean or imply that the Wyoming Department of Environmental Quality guarantees or insures that the permitted facility, when constructed, will meet applicable discharge permit conditions or other effluent or operational requirements.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit. The Permittee understands that it is solely responsible to any third parties for any liability arising from the construction or operation of the facility described herein. By the issuance of this permit, the State does not in any way waive its sovereign immunity.

The permittee shall allow authorized representatives from the Department of Environmental Quality, Water Quality Division, upon the presentation of credentials and

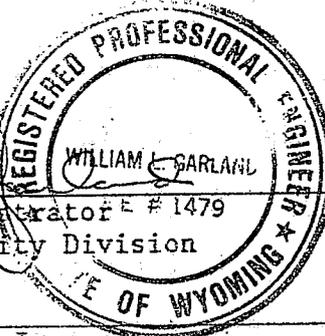
during working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

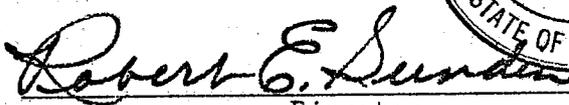
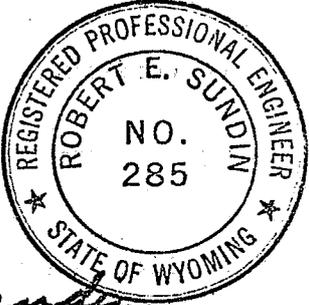
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, 210 Lincoln, Lander, Wyoming 82520; telephone, 332-3144.

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties established pursuant to any applicable State law or regulation.

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:



WILLIAM L. SARLAND
Administrator # 1479
Water Quality Division
STATE OF WYOMING



ROBERT E. SUNDIN
NO. 285
STATE OF WYOMING
Director
Dept. of Environmental Quality

July 31, 1984
Date of Issuance

This permit does not supercede the requirements for obtaining any permit from local agencies.

* CONDITION ON PERMIT *

The permittee shall notify the representative of the Uinta County Sanitarian of the day construction is scheduled to commence and the estimated completion date of this project. Final inspection of the installed system is required before backfilling. The authorized representative in your area can be contacted at the following address:

William Cates
Uinta County Sanitarian
P. O. Box 895
Evanston, WY 82930

JH:dcn

MEMORANDUM

TO: Plans #84-312
FROM: Jeff Hermansky *JH*
DATE: July 24, 1984
SUBJECT: Phone Review

On July 24, 1984 I spoke with Kevin Jones regarding Chevron's Carter Creek Gas Plant Pumper Shack disposal field. We discussed the following items:

1. What pipe material will be used for the sewer from the building to the septic tank and from the tank to the disposal field?
2. I recommended that the disposal field be between 0 and 3" per 100 ft.
3. Four copies of the plans are required.
4. All septic tanks must have a 6" minimum diameter cleanout that extends to the ground surface and is capped.

JH:dcn

AC

7-3

PERMIT TO CONSTRUCT

Permit No. 84-313R
SEE SPECIAL CONDITIONS

- New
 Renewal
 Modified

George Smith Water System Renovation
(Name of Facility)

This permit hereby authorizes the applicant (name and address):

George Smith

P.O. Box 4009

Jackson, WY 83001

to construct, install, or modify a septic tank/leach field facility according to the procedures and conditions of the application No. 84-313R. The facility is located in Section 32, T41N, R116W in the County of Teton, in the State of Wyoming. This permit shall be effective for a period of two (2) years (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

The authority to construct granted by this permit does not mean or imply that the Wyoming Department of Environmental Quality guarantees or insures that the permitted facility, when constructed, will meet applicable discharge permit conditions or other effluent or operational requirements.

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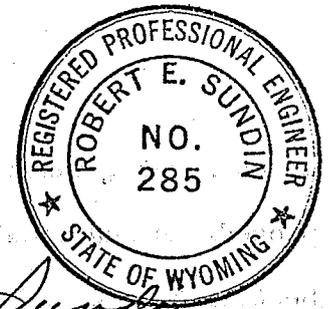
The permittee shall allow authorized representatives from the Department of Environmental Quality, Water Quality Division, upon the presentation of credentials and during working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, 210 Lincoln, Lander, Wyoming 82520; telephone, 332-3144.

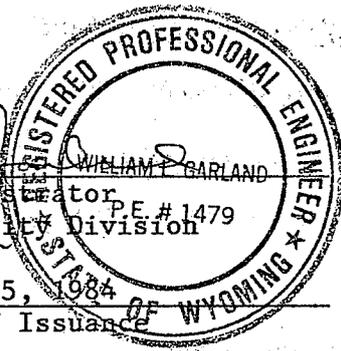
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AUTHORIZED BY:



Robert E. Sundin
Director
Dept. of Environmental Quality



William Garland
Administrator
Water Quality Division
PE # 1479

July 25, 1984
Date of Issuance

This permit does not supercede the requirements for obtaining any permit from local agencies.

Condition to Permit to Construct #84-313R

Before backfilling is completed around the wastewater treatment system, the applicant is to contact Mr. Joe Chalfant, Teton County Planner, for his inspection of the facility. Please give Mr. Chalfant 48 hours notice.

Your property is located within the Town of Jackson's planning area for possible future service by the Jackson wastewater collection system. The permit is issued with the condition that the permitted septic tank/leach field be abandoned and connection be made to the Jackson collection system when service is made available to your property.

EB/nc

REVIEW OF PLANS AND SPECIFICATIONS
WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER QUALITY DIVISION
210 LINCOLN
LANDER, WYOMING 82520
PHONE: (307) 332-3144

PROJECT: George Smith Wastewater System Renovation

ENGINEER: Jorgensen Engineering
P. O. Box 1142
Jackson, WY 83001

OWNER: George Smith
P. O. Box 4009
Jackson, WY 83001

WATER QUALITY DIVISION REFERENCE NUMBER: #84-313

REVIEWING ENGINEER: Ed Baruth ^{Ed} and Jack Bedessem

DATE OF REVIEW: July 16, 1984

ACTION: Not authorized.

COMMENTS: As previously discussed with Jack Bedessem and me via telecon, the following items need to be addressed in your septic system design:

1. New sewer services appear to be needed.
2. Please consider the strength of the perforated drain pipe with the possible traffic loads.
3. Please verify water line - septic system separation distances.
4. Please provide a fourth copy of the plans for Teton County files and use.
5. Please specify actual trench width.
6. What material is proposed for septic tank inlet and outlet piping?
7. Please arrange for proper cleanout spacing between the trailers and the septic system.

EB/JB:dcn

ABC

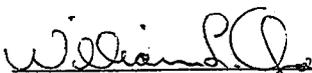
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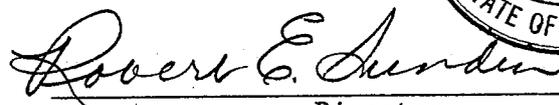
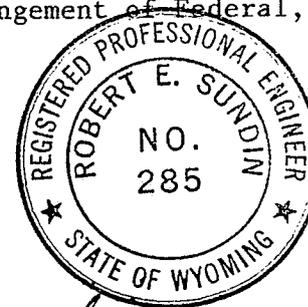
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AUTHORIZED BY:


WILLIAM P. GARLAND
Administrator
Water Quality Division
P.E. # 1479



ROBERT E. SUNDIN
Director
Dept. of Environmental Quality


August 28, 1984
Date of Issuance

This permit does not supercede the requirements for obtaining any permit from local agencies.

* CONDITION ON PERMIT *

The inlet of the construction authorized by this permit is to provide facilities for the interim water production/distribution and sewage collection/treatment/disposal, until such time that water production and final sewage collection utilities are available through the Cody systems.

EB:dcn

cc: Leslie Reiter, EPA Denver (47 Units)

REVIEW OF PLANS AND SPECIFICATIONS
WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER QUALITY DIVISION
210 LINCOLN
LANDER, WYOMING 82520
PHONE: (307) 332-3144

PROJECT: Cooper Subdivision

ENGINEER: Bruce E. McKee, P.E.
P. O. Box 1653
Red Lodge, MT 59068

OWNER: James Allemand
P. O. Box 388
Midwest, WY 82643

WATER QUALITY DIVISION REFERENCE NUMBER: #84-314R

REVIEWING ENGINEER: Ed Baruth, P.E. *Ed*

DATE OF REVIEW: August 8, 1984

ACTION: Not authorized.

COMMENTS:

1. Apparently there is some confusion on the status of hooking the proposed Cooper Subdivision water distribution and sewage collection systems into the Town of Cody facilities some time in the future.

Unless the applicant can provide this office with a written agreement between Cody and himself on how this service will be handled, the design of the Cooper Subdivision improvements will have to be classified as potentially permanent by this office. Specifically, the applicant will need to provide adequate water storage (or backup power generation as an option).

EB:dcn

cc: City of Cody
Tim Morrison, Park County Planner

ABC

Returned
to Larkin
8-6-84

WATER QUALITY DIVISION
GROUNDWATER SECTION
PERMIT APPLICATION REVIEW

APPLICATION NUMBER 84-314

DATE SUBMITTED FOR REVIEW _____

NAME AND LOCATION OF FACILITY Cooper Subdivision
Sewage Treatment Facility

I have reviewed the plans and specifications with regard to all aspects of groundwater quality and find the following:

- () No comment. The submittal is consistent with current groundwater protection procedures and requirements.
- Comments attached.

SIGNED P. Pined

TITLE _____

DATE 8-3-84

APPROVED 8/3/84
(Date)

ajm
Groundwater Control Supervisor

MEMORANDUM

TO: Ed Baruth
FROM: Phil Pucel *phl*
DATE: August 3, 1984
SUBJECT: Cooper Subdivision, Cody, WY, Sewage Treatment and Disposal, S28 & 33, T53N, R101W, DEQ/WQD Ref. No. 84-314

The potential for impacts to groundwater was evaluated through the use of the available well logs listed below:

Section 28, T53N, R101W:

<u>1/4-1/4</u>	<u>Permit No.</u>	<u>Depth</u>	<u>SWL</u>	<u>USE</u>
NW/SW	P10814W	50'	30'	DOM
SE/SW	P27776W	85'		DOM
SE/SW	P31281W	100'	72'	DOM
SW/SE	P15893W	100'	65'	DOM
SW/SE	P23723W	100'	80'	DOM
SW/SE	P54009W*	105'	58'	DOM

*Confined conditions, first water-bearing strata is at 75'.

Section 33, T53N, R101W:

<u>1/4-1/4</u>	<u>Permit No.</u>	<u>Depth</u>	<u>SWL</u>	<u>USE</u>
NE/NW	P31921W	95'	38'	MIS
SW/NE	P58241W	50'	11.5'	DOM
SW/NE	P39123W	52'	20'	DOM
SW/NE	P35229W	107'	58'	DOM

Although a definite determination is not possible with available information, several shallow wells may be subject to water quality degradation, such as P10814W, P31921W, P58241W, and P39123W. Key pieces of information would include the direction of groundwater flow and the static water levels expressed in terms of MSL (mean sea level).

As is shown on the well summarization, there is an inconsistency in the depth to water in the area. This inconsistency is probably due to perched water found on discontinuous clay lenses in the otherwise uniform boulder and gravel deposit. A better understanding of topography and distance between the proposed lagoon and wells would alleviate the informational problems.

Due to the expected 3-year life of the lagoon, the impact would be negligible provided that separation distances are sufficient.

cc: Tony Mancini

TELEPHONE REVIEW

TO: Bruce McKee
FROM: Ed Baruth *Ed*
DATE: July 27, 1984
SUBJECT: Cooper Subdivision #84-314

1. Please add specifications for infiltration and deflection testing on the sewer lines.
2. Please add the needed hi level, level control for sewage pumping station.
3. Please add the design engineers stamp and signature.
4. Fire flow must be provided if hydrants are to be installed. If the City of Cody requires the installation of hydrants without fire flows available, let's get together on the phone and work out a compromise for now.

EB:dcn

ABC

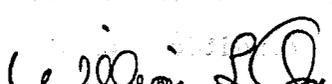
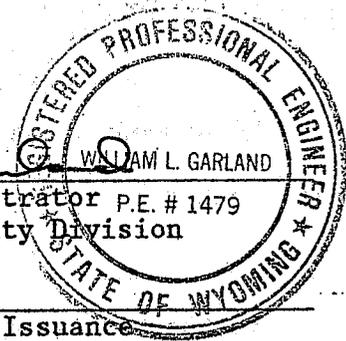
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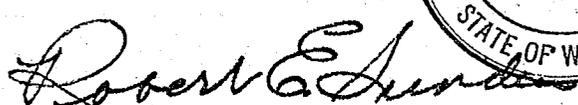
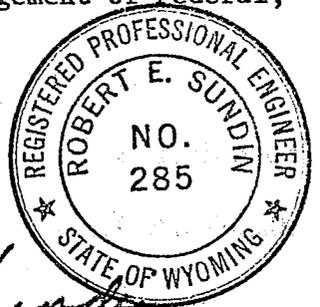
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AUTHORIZED BY:


WILLIAM L. GARLAND
Administrator P.E. # 1479
Water Quality Division



Director
Dept. of Environmental Quality


July 19, 1984

Date of Issuance

This permit does not supercede the requirements for obtaining any permit from local agencies.

EB:dcn

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER QUALITY DIVISION
210 LINCOLN
LANDER, WYOMING 82520
PHONE: (307) 332-3144

PROJECT: Creekside Village Townhouses

ENGINEER: Mountain Engineering
P. O. Box 3154
Jackson, WY 83001

OWNER: H & N Construction Co.
Box 19327
San Diego, CA 92119

WATER QUALITY DIVISION REFERENCE NUMBER: #84-315

REVIEWING ENGINEER: Ed Baruth, P.E., Northwest District Supervisor

DATE OF REVIEW: July 10, 1984

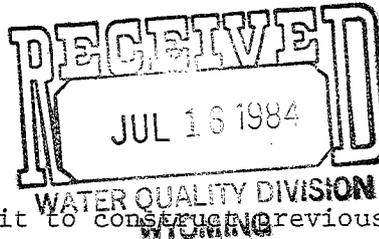
ACTION: Not authorized.

COMMENTS:

1. We will delete the application for permit to construct previously received. Find attached all copies you originally sent to us.
2. The six inch sewer main is acceptable on the dead end lines only if the town of Jackson is receptive to the change. Please verify their attitude on this.
3. The service connections you seem to have shown need to be reconsidered. Cleanouts are needed (if acceptable to the Town of Jackson) on the end of your 6" sewer mains. Further, all four inch services are to be individually tapped into the main. This is probably what you intended, but sheet 214 is confusing. Please clarify this.
4. The minimum slope for six inch sewer main is 0.6 ft/100 feet.

EB:dcn

cc: Town of Jackson--Attention: Rod Capel



Ed

7-31

PERMIT TO CONSTRUCT

New
 Renewal
 Modified

Permit No. 84-316R
SEE SPECIAL CONDITION

Brost Septic Tank Disposal System
(Name of Facility)

This permit hereby authorizes the applicant (name and address):

Tuffy and Brenda Brost

730 Park

Thermopolis, WY 82443

to construct, install, or modify a single septic tank/leach field for two individual residences facility according to the procedures and conditions of the application No. 84-316R. The facility is located in Section 24, T43N, R95W in the County of Hot Springs, in the State of Wyoming. This permit shall be effective for a period of two (2) years (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

The authority to construct granted by this permit does not mean or imply that the Wyoming Department of Environmental Quality guarantees or insures that the permitted facility, when constructed, will meet applicable discharge permit conditions or other effluent or operational requirements.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit. The Permittee understands that it is solely responsible to any third parties for any liability arising from the construction or operation of the facility described herein. By the issuance of this permit, the State does not in any way waive its sovereign immunity.

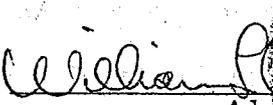
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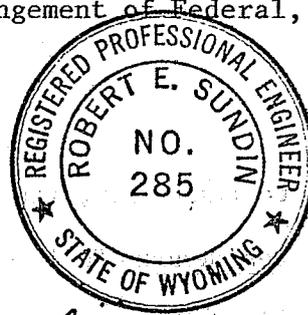
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, 210 Lincoln, Lander, Wyoming 82520; telephone, 332-3144.

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The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:


WILLIAM L. GARLAND
P.E. # 1479
Administrator
Water Quality Division
STATE OF WYOMING
July 19, 1984
Date of Issuance



Director
Dept. of Environmental Quality

This permit does not supercede the requirements for obtaining any permit from local agencies.

Condition to Permit to Construct #84-316R

Before backfilling the septic system, the applicant or his agent shall contact the Hot Springs County Planner, Mr. George Dearborn, at 864-2732 for his possible inspection. A minimum of 24 hours prior notification is suggested.

cc: George Dearborn, Hot Springs County Planner

EB/nc

REVIEW OF PLANS AND SPECIFICATIONS

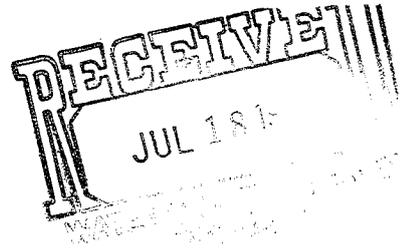
WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER QUALITY DIVISION
210 LINCOLN
LANDER, WYOMING 82520
PHONE: (307) 332-3144

PROJECT: Brost Septic Tank Disposal System

ENGINEER: Albert Lambiase
Consulting Engineer
P. O. Box 1250
Thermopolis, WY 82443

OWNER: Tuffy and Brenda Brost
730 Park
Thermopolis, WY 82443



WATER QUALITY DIVISION REFERENCE NUMBER: #84-316

REVIEWING ENGINEER: Ed Baruth, P.E., Northwest District Supervisor *Ed*

DATE OF REVIEW: July 16, 1984

ACTION: Not authorized.

COMMENTS:

1. Please indicate the location of the drinking water well and any other well within 100 feet of the disposal pond.
2. Why did you take 0.6 times your planned wastewater volume? Our regulations only allow this in the case of evapotranspiration or lagoon systems.
3. Please provide details of the actual septic tank. Further, if available, could you include the name of the manufacturer?

EB:dcn

AC

Kerna



THE STATE OF WYOMING

ED HERSCHLER
GOVERNOR

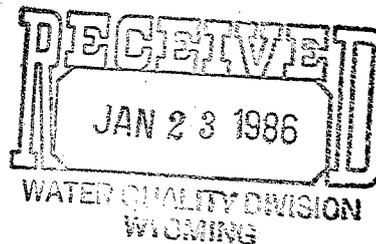
Department of Environmental Quality
Water Quality Division

HERSCHLER BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

January 21, 1986



Etna Ward LDS Church
Etna, WY 83118

Dear Gentlemen:

Your application for Etna Ward LDS Church (WQD No. 84-317) is considered inactive under the assumption that you do not wish to proceed with the permit to construct process.

This project has not been permitted. Construction of this facility without a permit is a violation of the Environmental Quality Act and punishable with fines not to exceed \$10,000 per day of violation. If you wish to reconsider construction of this facility, then application procedures pursuant to Chapter III, Water Quality Rules and Regulations, must be followed.

Sincerely,

William L. Garland
Administrator

WLG/BL/jw



1-21 pb ✓
Norma

Department of Environmental Quality
Water Quality Division

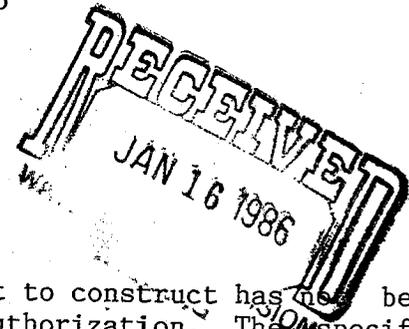
210 LINCOLN STREET

LANDER, WYOMING 82520

TELEPHONE 307-332-3144

January 13, 1986

Etna Ward LDS Church
Etna, WY 83118



Dear Gentlemen:

Our records indicate your application for a permit to construct has been resubmitted to this office for review and authorization. The specific information for this proposed project is:

Facility Name: Etna Ward LDS Church

DEQ/WQD Reference Number: 84-317

Engineering Consultant: ---

DEQ/WQD Review Engineer: Jack Bedessem/Bill Locke

Date of DEQ/WQD Review: 8-24-84

Please indicate below the status of this project and return this form to our office.

The application will not be resubmitted as the proposed project has been cancelled.

The application will be resubmitted within thirty (30) days.

The facility has been constructed, or is under construction. As built construction plans and specifications will be submitted within thirty (30) days.

Other Remarks: _____

You are reminded that the construction, installation, or modification of any sewage system, treatment works, disposal system, or other facility capable of causing or contributing to pollution, or public water supply system without a Permit to Construct is a violation of Wyoming State Statutes, and is punishable with a fine not to exceed \$10,000 for each day of violation. Unless the Water Quality Division review engineer receives information concerning the status of this project within fifteen (15) days of the receipt of this letter, follow-up action will be taken.

Sincerely,

A handwritten signature in cursive script that reads "Bill Locke".

Bill Locke, P.E.
Water Quality Engineer

BL/jw

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER QUALITY DIVISION
210 LINCOLN
LANDER, WYOMING 82520
PHONE: (307) 332-3144

PROJECT: Etna Ward LDS Church

ENGINEER: None Selected

OWNER: Etna Ward LDS Church
Etna, Wyoming 83118

WATER QUALITY DIVISION REFERENCE NUMBER: #84-317

REVIEWING EVALUATOR: Jeff Hermansky



DATE OF REVIEW: August 2, 1984

ACTION: Not authorized.

COMMENTS: The plans that were submitted lack some of the information necessary for authorization. The following questions and comments need to be addressed before a permit to construct can be issued:

1. The plans must be signed by a professional engineer licensed in Wyoming. All applications for wastewater treatment facilities, except single family private residences, must be submitted through an engineer.
2. The application form must be signed by someone who is legally authorized to represent the Etna Ward LDS Church.
3. What is the basis for the design? How many people are to be served by the proposed facility during a peak period?
4. There are no plans of the proposed facility. Drawings are needed showing the site, the septic tank and leach field layout, distances between the tank/field and buildings, property lines, wells and any waterways. Include any details necessary to clearly show what is proposed.
5. The percolation rate of the soil where the disposal field is to be constructed must be determined. A field can't be accurately sized without this information.
6. I would be very surprised to find that the highest groundwater or impervious layer is 200 feet from the surface in Etna. This needs to be clarified.



... of Plans and Specifications

...a Ward LDS Church #84-317

August 2, 1984

Page Two

7. The access to septic tanks must be 20 inches as a minimum dimension. There also must be a riser pipe to the surface for a cleanout. The cleanout must be at least 6 inches and be capped at the surface.

8. The septic tank inlet and outlet pipes must be schedule 40 PVC if they are to be plastic.

9. Please submit 4 copies of the plans when you respond to this review.

Feel free to contact either Jack Bedessem or me if you have any questions.

JH:dcn

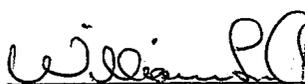
ing working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

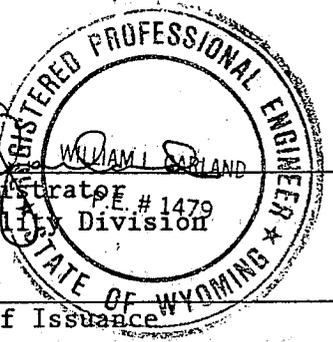
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, 210 Lincoln, Lander, Wyoming 82520; telephone, 332-3144.

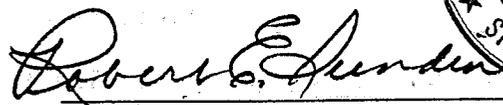
Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties established pursuant to any applicable State law or regulation.

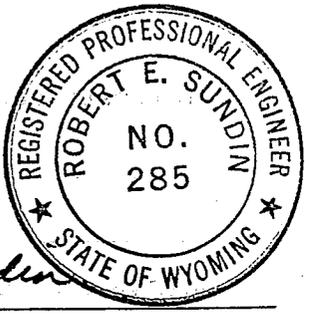
The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:



Admin. 
Water Quality Division
August 23, 1984
Date of Issuance



Director
Dept. of Environmental Quality


This permit does not supercede the requirements for obtaining any permit from local agencies.

JH:dcn

MEMORANDUM

TO: Plans #84-318

FROM: Jeff Hermansky *JH*

DATE: Phone Review of Chevron Potable Water Line

SUBJECT: August 3, 1984

On August 3, 1984, I conducted a phone review with Leon Kjellgren of Johnson-Fermelia & Crank, Inc. We discussed the following questions and comments I had relative to the Chevron fertilizer plant potable water line:

1. Why isn't there a drain line shown for the low point at station 42+00?

Leon feels it's not needed since it's only a minor low spot and the water will, for the most part, siphon out of the pipe.

2. I noted that detail A on sheet 8 of 13 should incorporate an $11\frac{1}{4}^\circ$ bend on the 2nd tee.

Leon said it is to receive a bend at that location.

3. A detail of the highway boring/pipe sleeve is needed.
4. The air release valve piping must extend to at least one foot above grade and be provided with a screened, downward-facing elbow.
5. I said that check valves are needed in the booster pump discharge lines.

Leon said that the check valve is part of the pump control valves.

6. I asked Leon to give me more information regarding the pump characteristics, TDH, and friction loss in the pipeline.
7. I told Leon that AWWA C-600 requires that pressure tests be conducted at 1.5 times working pressure at the point of testing.

Leon said that he didn't want the pressure test to exceed 350 psi, the maximum working pressure the pipes are designed for.

I asked for the manufacturer's recommendations for testing of their pipes.

8. I recommended that for a 23,000 foot pipeline, tablet disinfection be removed from the specifications.

Leon felt that tablets were the best way to disinfect since there would be inadequate head to achieve flushing velocity in the pipe--therefore, keeping the pipe clean would be a top priority if tablets were used.

AC

Memorandum
Plans #84-318
August 3, 1984
Page Two

Leon told me the plant will have a total of 220 employees. The maximum number on a shift will be 150 employees. He is using 22,500 gallons per day as design demand.

JH:dcn

xc: Leon Kjellgren

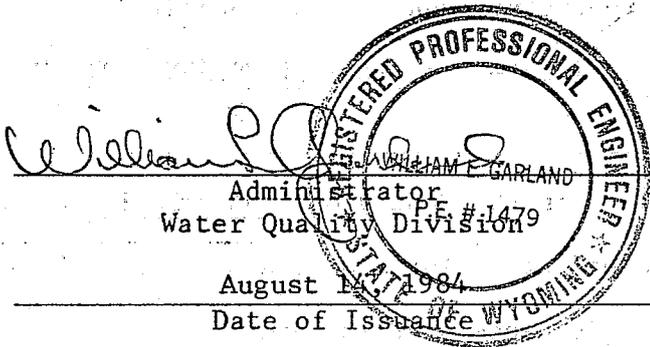
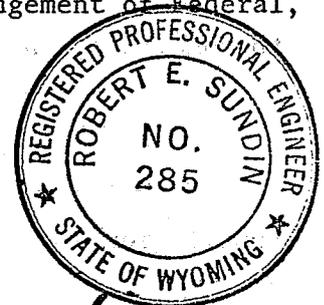
during working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, 2161 Coffeen Avenue, Suite 301, Sheridan, Wyoming 82801; telephone, 672-6457.

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties established pursuant to any applicable State law or regulation.

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:



William E. Garland

Administrator
Water Quality Division
August 14, 1984
Date of Issuance

Robert E. Sundin

Director
Dept. of Environmental Quality

This permit does not supercede the requirements for obtaining any permit from local agencies.

xc: Western Water Consultants
P.O. Box 3042
Sheridan, WY 82801

WATER QUALITY DIVISION
GROUNDWATER SECTION
PERMIT APPLICATION REVIEW

Usama
Ret. to Standard
7/18

APPLICATION NUMBER

14-319

DATE SUBMITTED FOR REVIEW

7/18/84

NAME AND LOCATION OF FACILITY

WYNDER MISS TAYSON STATION No. 6

Sediment Traps T56-1, T56-2

Sec. 33 TSON R71W

Campbell Co.

I have reviewed the plans and specifications with regard to all aspects of groundwater quality and find the following:

- No comment. The submittal is consistent with current groundwater protection procedures and requirements.
- Comments attached.

SIGNED

Richard L. Lunn

TITLE

Env. Eng.

DATE

7-18-84

APPROVED

7/18/84

(Date)

ajm

Groundwater Control Supervisor

THE STATE OF WYOMING

ED HERSCHLER
GOVERNOR

Department of Environmental Quality
Water Quality Division

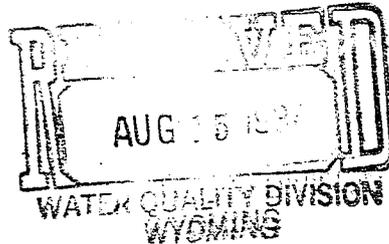
2161 COFFEEN AVENUE,
SUITE 301

SHERIDAN, WYOMING 82801

TELEPHONE 307-672-6457

August 14, 1984

Mary A. Bliszc
Thunder Basin Coal Company
P.O. Box 406
Wright, Wyoming 82732



Dear Mary:

I have reviewed the plans for Flood Control Structures FCS-B3 and FCS-G1 at Coal Creek Mine. According to my phone conversation with Bill Almos on August 14, 1984, the reservoirs will receive runoff from undisturbed areas. In addition, any effluent from the structures will flow to the mine pit and eventually be routed through an NPDES discharge point. For both of these reasons, no Permit to Construct is required from the Water Quality Division for the Flood Control Structures.

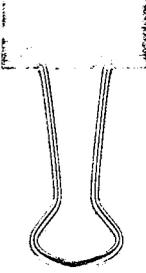
If you have any questions, please call me.

Sincerely,

A handwritten signature in cursive script that reads "Rich Ruyle".

Rich Ruyle
Environmental Engineer

RR:ls



WATER QUALITY DIVISION
GROUNDWATER SECTION
PERMIT APPLICATION REVIEW

*Norm
Ret. to Sheridan
7/10*

APPLICATION NUMBER 84-320

DATE SUBMITTED FOR REVIEW 7-17-84

NAME AND LOCATION OF FACILITY Coal Creek Mine Flood Control
FCS 33 Reservoir
Sec. 16 T. 46N R. 70W
Campbell Co.

I have reviewed the plans and specifications with regard to all aspects of groundwater quality and find the following:

- No comment. The submittal is consistent with current groundwater protection procedures and requirements.
- Comments attached.

SIGNED *Richard Lennig*
TITLE *Env. Eval*
DATE *7-18-84*

APPROVED *7/18/84*
(Date)

ajm
Groundwater Control Supervisor

during working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

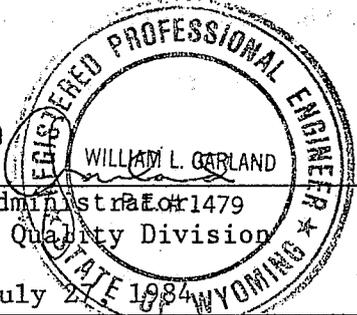
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, 2161 Coffeen Avenue, Suite 301, Sheridan, Wyoming 82801; telephone, 672-6457.

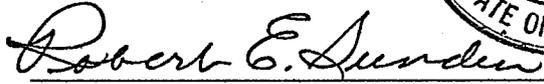
Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties established pursuant to any applicable State law or regulation.

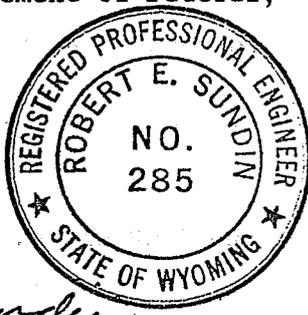
The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:


WILLIAM L. GARLAND
Administrator 1479
Water Quality Division
July 25 1984
Date of Issuance




Director
Dept. of Environmental Quality



This permit does not supercede the requirements for obtaining any permit from local agencies.

11-26



THE STATE OF WYOMING

ED HERSCHLER
GOVERNOR

Department of Environmental Quality
Water Quality Division

HERSCHLER BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

November 25, 1985

Mr. James S. Wailes
Simons, Li & Associates, Inc.
P.O. Box 1816
Fort Collins, CO 80522

RE: O & M Manual for Wastewater Facilities, Riverside, Wyoming, DEQ/WQD
Ref. No. 84-322R

Dear Mr. Wailes:

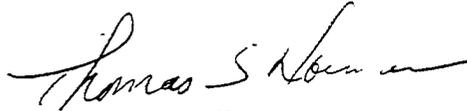
The following comments are in regard to the O & M manual for the Riverside wastewater facilities.

1. The manufacturer's literature in the appendices needs to clearly designate the specific equipment for Riverside. The make, model, etc. need to be highlighted and/or any other models and makes should be deleted.
2. A blank daily log form should be included which identifies specific items to check during their rounds.
3. The NPDES requirements were not thoroughly discussed. Items similar to the groundwater monitoring program must be included (i.e., how, when, and where to sample; reporting; parameters and limits, etc.).
4. Flow measurement needs to be addressed.
5. Staffing needs (certification, renewal, number of people) must be included.
6. Emergency operation should include power outages, valve positions, notification, spills of chemical into system, upsets, etc. The name and numbers of health emergencies, DEQ notification, equipment supplies, etc. should be specified.
7. Warranties, bonds and service contracts should be identified.
8. The practice of burying manhole lids is not a good maintenance practice.
9. The optimum operation of the chlorinator should be explained. Trade-off of costs and minimum chlorine residual versus disinfection to meet permit requirements should be clarified.

Mr. James S. Wailes
November 25, 1985
Page 2

Please address the above comments to finalize the O & M manual.

Sincerely,



Thomas S. Norman
Water Quality Engineer

TSN/nc

cc: Mayor Carpenter, Riverside

11-5-85



THE STATE OF WYOMING

ED HERSCHLER
GOVERNOR

Department of Environmental Quality
Water Quality Division

HERSCHLER BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

November 4, 1985

Mr. Paul Clopper, P.E.
Simons, Li & Associates, Inc.
P.O. Box 1816
Fort Collins, CO 80525

RE: Riverside Wastewater Treatment Ponds, Permit to Construct No. 84-3²²~~32~~

Dear Paul:

This letter is to confirm our conversation of November 1, 1985 concerning the operational groundwater monitoring requirements for the Town of Riverside, Wyoming. It will be necessary for field measurements of temperature, pH, and conductivity to be made quarterly. The results need not be submitted but must be kept on or near the site to allow review during inspections. Analyses for trace metals will not be necessary, thus alleviating the need for a filtering device.

Please feel free to contact me if you have further questions.

Sincerely,

Tim Holbrook
Groundwater Engineering Evaluator

TH/nc

10-18



THE STATE OF WYOMING

ED HERSCHLER
GOVERNOR

Department of Environmental Quality
Water Quality Division

HERSCHLER BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

MEMORANDUM

TO: Tom Norman, Water Quality Engineer
FROM: Tim Holbrook, Groundwater Engineering Evaluator TH
DATE: October 17, 1985
SUBJECT: Groundwater Monitoring, Riverside Wastewater Lagoon, Reference No. 84-322

I have completed a review of lagoon design and the recently submitted groundwater baseline data and offer the following comments concerning the operational groundwater monitoring program to be submitted in the O&M Manual:

1. The as built designs for the monitor wells are needed. Screened interval elevations, gravel or sand packing used, and well development procedures employed are needed for the boreholes that were converted to monitoring wells.
2. "As built" drawings for the under drain system should be submitted. So WQD can determine if it should be monitored and at what frequency during the operational phase.
3. The location of well TH-20 as shown on the original plans is not the same as the location shown on the November 1984 map titled "Groundwater Monitoring Well Location". The correct location should be clarified.
4. Total dissolved solids has apparently been reported as "ROE" on the water analysis sheets. To eliminate any confusion over the analytical technique, TDS should be reported as TDS on the sheets, not ROE. A reference is needed for the analytical technique used for phenol. The baseline results for wells TH-20 and TH-3 have exceeded the DEQ and EPA drinking water quality standards (.001 mg/l) for phenol. An analytical method with a detection limit of .001 mg/l is recommended for phenol.
5. The baseline groundwater level data provided cannot indicate seasonal variation as it was not collected throughout the year. In the operational monitoring program, water levels should be measured quarterly for each well prior to purging the well bore.
6. A groundwater sampling protocol should be included in the O&M Manual. The protocol and sample handling, preservation and storage procedures should be consistently applied and clearly described in the O&M Manual.

7. The abbreviated parameter list proposed by Simons, Li & Associates for operational groundwater monitoring is acceptable.

TH/nc

cc: File on Riverside Wastewater Treatment Lagoon

9-17-84

PERMIT TO CONSTRUCT

Permit No. 84-322R

- New
- Renewal
- Modified

Riverside Wastewater Collection & Stabilization Pond
(Name of Facility)

This permit hereby authorizes the applicant (name and address):

Town of Riverside

P.O. Box 94

Encampment, WY 82325

to construct, install, or modify a municipal wastewater collection system, pump station, and 2-cell discharging stabilization pond facility according to the procedures and conditions of the application No. 84-322R. The facility is located in Section 1, T14N, R84W and Section 36, T15N, R84W in the County of Carbon, in the State of Wyoming. This permit shall be effective for a period of two (2) years (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

The authority to construct granted by this permit does not mean or imply that the Wyoming Department of Environmental Quality guarantees or insures that the permitted facility, when constructed, will meet applicable discharge permit conditions or other effluent or operational requirements.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit. The Permittee understands that it is solely responsible to any third parties for any liability arising from the construction or operation of the facility described herein. By the issuance of this permit, the State does not in any way waive its sovereign immunity.

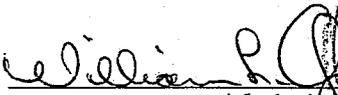
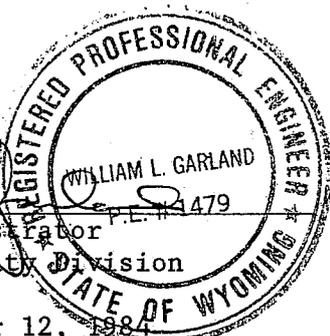
The permittee shall allow authorized representatives from the Department of Environmental Quality, Water Quality Division, upon the presentation of credentials and during working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

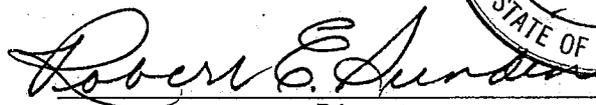
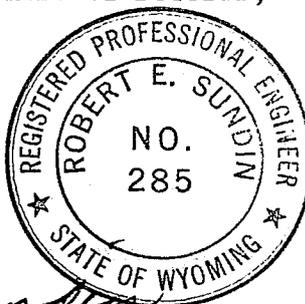
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, Herschler Building, 122 W. 25th, Cheyenne, Wyoming 82002; telephone, 777-7781.

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties established pursuant to any applicable State law or regulation.

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:



WILLIAM L. GARLAND
P.E. #1479
Administrator
Water Quality Division
September 12, 1984
Date of Issuance



ROBERT E. SUNDIN
NO. 285
Director
Dept. of Environmental Quality

This permit does not supercede the requirements for obtaining any permit from local agencies.

cc: Daryl Simons
Limons, Li & Associates
1780 Westland Road
Cheyenne, WY 82001



THE STATE OF WYOMING

ED HERSCHLER
GOVERNOR

Department of Environmental Quality
Water Quality Division

HERSCHLER BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

September 13, 1984

Scott Kenner
Simons, Li & Associates
1780 Westland Road
Cheyenne, WY 82001

RE: Riverside Wastewater Facility, DEQ/WQD Ref. No. 84-322

Dear Scott:

Enclosed is the permit to construct for the Riverside wastewater facility. Just a reminder, there are four items that were agreed upon that need to be finalized prior to start-up of the treatment facility.

1. Manhole ventilation equipment and a portable generator must be purchased.
2. O & M manual must be finalized.
3. A certified operator must be on staff.
4. Baseline groundwater monitoring data must be gathered and a monitoring schedule established. Attached is a schedule that was used for Baggs. This would be applicable to Riverside also.

Sincerely,

Thomas S. Norman

Thomas S. Norman
Engineering Evaluator

TSN/nc
Enclosures

cc: Town of Riverside
P.O. Box 94
Encampment, WY 82325

8-14-84

Review of Plans and Specifications

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY DIVISION
1111 East Lincolnway
Cheyenne, Wyoming 82002

PROJECT: Riverside Wastewater Collection and Treatment, Carbon Co.

ARCHITECT OR ENGINEER: Daryl Simons, Simons, Li & Assoc. Inc. % Scott Kenner
1780 Westland Road, Cheyenne, WY 82001

APPLICANT: Town of Riverside
P.O. Box 94, Encampment, WY 82325

WATER QUALITY DIVISION REFERENCE NUMBER: 84-322

REVIEWING ENGINEER: Thomas S. Norman *T. Norman*

DATE OF REVIEW: August 10, 1984

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

1. Pump Station

- a. Once the cover is removed from the pump tank, the whole manhole becomes a hazardous work area. Therefore the entire manhole is considered a wetwell. The regulations require that valves not be located in wetwells and that the pumps be able to be removed without entering the wetwell.
- b. Standby power or portable pumps are required for reliability.
- c. Ventilation is required with portable blowers being permitted provided the wetwell is designed for their use.
- d. Has the hydrostatic uplift been evaluated on the lift station?
- e. With the current design, the manhole cover should be water tight or raised. Any water that enters the manhole will not be able to be removed as it will collect on top of the pump tank.
- f. The high level alarm and lag pump on controls should be set at the same level. Otherwise both pumps will have to fail before the alarm goes off. This does not allow any time for maintenance before sewage starts backing up into the sewer and into homes.
- g. All electrical equipment in the wetwell must meet NEC requirements for Class I, Division I, Groups C and D areas.

2. Lagoon

- a. The geotechnical report shows that groundwater was 1.5 to 5.5 feet below the ground and not 7125.0 as shown on sheet 19. This will have an impact on design, installation, and maintenance of the liner.

- b. Most of the sheet numbers on "See Standard Detail on Sheet ____" are incorrect.
- c. Is the 25 year and 100 year flood elevation known?
- d. How will access be obtained to the outlet structures?
- e. How will flow be measured?

3. Chlorination

- a. Is there a method of access into the contact basin for cleaning?
- b. The latest edition of Standard Methods should be used. Any method of Chlorine detection should be allowed.

4. An operation and maintenance manual is required prior to plant startup. A draft is necessary at 50% of completion.

5. Section 15012, part 1.03 of the specifications calls out the State Health Department and County Health Department. These agencies do not have any jurisdiction.

6. A condition will be placed on the permit issued that a groundwater monitoring program be instituted prior to construction in order to establish background levels prior to any contamination activities and remain in place when the system is placed in operation. Initial monitoring should consist of all Chapter VIII parameters with the operational monitoring phase being reduced to parameters which would indicate leakage from the lined lagoons. The two boreholes notes on the plans, if properly installed as monitor wells (i.e., IAW Chapter XI) will suffice as downstream wells; however, an additional well on the upstream side of the lagoons would also be required.

Sampling parameters for the operational monitoring phase should include, at a minimum, the following:

- a. Groundwater elevation in the monitor well.
- b. pH
- c. Temperature
- d. Nitrate as N
- e. Ammonia as N

A sampling protocol or standard operating procedure should be approved by this office prior to implementation of the monitoring system.

Water Quality Division
Groundwater Section
Permit Application Review

*Permit
Returned to
Township*

Application Number 84-322

Date Submitted For Review 7-27-84

Name and Location of Facility Town of Riverside
Wastewater Collection & Stabilization Pond
St. T14N, R84W
S36, T15N R84W

Carbon Co.

I have reviewed the plans and specifications with regard to all aspects of groundwater quality and find the following:

- No Comment. The submittal is consistent with current groundwater protection procedures and requirements.
- Comments attached.

Signed Richard Hennep
Title Env. Eval
Date 8-7-84

Approved 8/17/84
(Date)

gjm
(Signed)
Groundwater Control Supervisor



Department of Environmental Quality
Water Quality Division

HERSCHLER BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

M E M O R A N D U M

TO: A. J. Mancini
Groundwater Supervisor

FROM: R. J. Lennox, 
Engineering Evaluator

DATE: August 10, 1984

SUBJECT: Town of Riverside, Wastewater Collection and Treatment
Facilities; 84-322

1. The plans and specifications as presented by Simons, Li and Associates, Inc. do not cover the operational aspects of the Riverside Wastewater Collections and Treatment Facilities, therefore a groundwater monitoring plan has not been discussed. However, the plans do indicate that the aspect of monitoring has been considered in that sheet no. 18 indicates that boreholes TH-20 and TH-22 are to be encased with slotted PVC for future monitoring.
2. As pointed out in the enclosed report by Chen and Associates, Inc., the groundwater table in the area of the lagoon system is very high (1.5 to 5.5 ft below natural ground surface); additionally, the ground in this area is considered very permeable.
3. It is recommended that a condition be placed on any permit issued that a groundwater monitoring program be instituted prior to construction in order to establish background levels prior to any contamination activities and remain in place when the system is placed in operation. Initial monitoring should consist of all Chapter VIII parameters with the operational monitoring phase being reduced to parameters which would indicate leakage from the lined lagoons. The two boreholes noted above if properly installed as monitor wells (ie. IAW Chapter XI) will suffice as downstream wells; however, an additional well on the upstream side of the lagoons would also be required.

Sampling parameters for the operational monitoring phase should include:

- a. groundwater elevation in the monitor well
- b. pH
- c. temperature
- d. Nitrate as N
- e. Ammonia as N

A sampling protocol or standard operating procedure should be approved by this office prior to implementation of the monitoring system.

RJL/ml

PERMIT TO CONSTRUCT

New

Permit No. 84-323RR

Renewal

Modified

Diamond Horseshoe Wastewater Facility
(Name of Facility)

This permit hereby authorizes the applicant (name and address):

Curt Blount

P.O. Box 1008^{11/4/8}

Laramie, WY 82070

to construct, install, or modify a improvements to the commercial wastewater treatment facility according to the procedures and conditions of the application No. 84-323RR. The facility is located in Section 16, T16N, R73W in the County of Albany, in the State of Wyoming. This permit shall be effective until May 1, 1985.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

The authority to construct granted by this permit does not mean or imply that the Wyoming Department of Environmental Quality guarantees or insures that the permitted facility, when constructed, will meet applicable discharge permit conditions or other effluent or operational requirements.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit. The Permittee understands that it is solely responsible to any third parties for any liability arising from the construction or operation of the facility described herein. By the issuance of this permit, the State does not in any way waive its sovereign immunity.

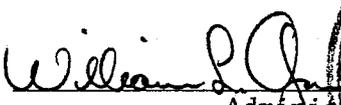
The permittee shall allow authorized representatives from the Department of Environmental Quality, Water Quality Division, upon the presentation of credentials and during working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

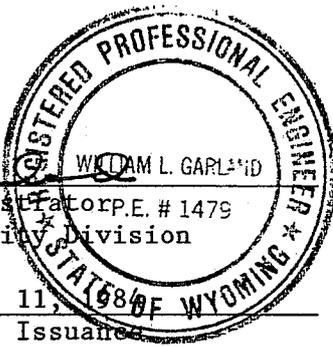
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, Herschler Building, 122 W. 25th, Cheyenne, Wyoming 82002; telephone, 777-7781.

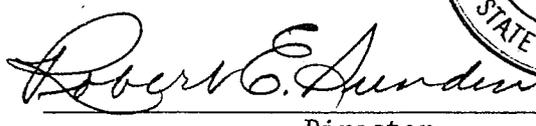
Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties established pursuant to any applicable State law or regulation.

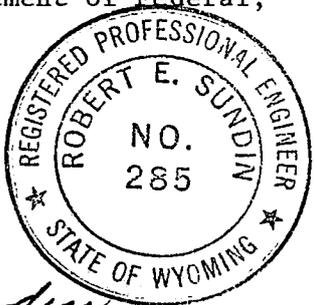
The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:


WILLIAM L. GARLAND
Administrator P.E. # 1479
Water Quality Division
November 11, 1980
Date of Issuance




Director
Dept. of Environmental Quality



This permit does not supercede the requirements for obtaining any permit from local agencies.

cc: Donald R. Lamb
Associated Engineers
609 South 2nd Street
Laramie, WY 82070



THE STATE OF WYOMING

ED HERSCHLER
GOVERNOR

Department of Environmental Quality
Water Quality Division

HERSCHLER BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

November 15, 1984

Curt Blount
Diamond Horseshoe
P.O. Box ~~1008~~ 1148
Laramie, WY 82070

Tim Schutz
Wyoming Technical Institute
Box 906
Laramie, WY 82070

Robert Yeoman & Yeoman Construction
Box 880
Laramie, WY 82070

RE: Diamond Horseshoe Wastewater Facility, DEQ/WQD Ref. No. 84-323RR

Gentlemen:

The Department of Environmental Quality, Water Quality Division, has reviewed your application package #84-323RR for a permit to construct a commercial wastewater collection and treatment system located in Section 16, T16N, R73W, Albany County. The Water Quality Division has determined that your system is in substantial compliance with the Water Quality Division's minimum design standards provided that the improvements in the attached permit to construct are made.

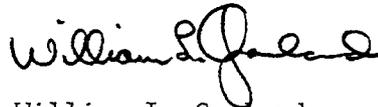
Besides all the conditions that were identified through this project's correspondence, the following condition is also placed on your system to meet the requirements of the Laramie Wastewater Facility Plan:

The intent of the construction authorized by this permit is to provide facilities for the interim treatment of wastewater until such time that treatment is available through a regional wastewater system. The Laramie Step I Wastewater Facility Plan requires that treatment be provided through a regional system. The facilities authorized by this permit will be operated until August 1, 1987 or until services are available through the approved regional system, whichever is sooner. These facilities will then be abandoned or integrated into the regional system in accordance with the requirements of the Facility Plan, unless the City of Laramie and Albany County jointly authorize an additional three year extension.

Curt Blount
Tim Schutz
Robert Yeoman & Yeoman Construction
November 15, 1984
Page 2

Since a permit to construct cannot be issued for facilities that are already constructed, this letter will serve as authorization for your system provided that the improvements in the attached permit to construct are completed by May 1, 1985. This also serves to inform you that the Notices of Violation (Docket Nos. 1333-83 through 1336-83) issued on November 16, 1983 have been satisfied.

Sincerely,



William L. Garland
Administrator

WLG/TSN/nc
Enclosures

cc: Donald Lamb, Associated Engineers, 609 South 2nd St., Laramie, WY 82070
Tom Curren, Albany County Planning Office, 405 Grand Ave., Laramie, WY 82070

Review of Plans and Specifications

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY DIVISION
1111 East Lincolnway
Cheyenne, Wyoming 82002

PROJECT: Diamond Horseshoe Wastewater Facility, Albany Co.

ARCHITECT OR ENGINEER: Don Lamb, Associated Engineers
609 S. 2nd Street, Laramie, WY 82070

APPLICANT: Curt Blount
P.O. Box 1008, Laramie, WY 82070

WATER QUALITY DIVISION REFERENCE NUMBER: 84-323R

REVIEWING ENGINEER: Thomas S. Norman *T.S. Norman*

DATE OF REVIEW: September 24, 1984

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

1. The plans were not signed or sealed by a Wyoming registered professional engineer. We also need 3 sets of all plan sheets.
2. The type and strength of pipe material and manholes was not stated.
3. More information is needed on the separation between the water and sewer lines to determine if the minimum separation requirements are met.
4. This type of wastewater collection system (septic tanks/small diameter sewers) is not specifically covered by our Chapter XI regulations and therefore falls under Section 5 of Chapter XI. Section 5 outlines specific information that must be addressed in order for us to review it. Basically you need to establish what is good engineering practice on this type of collection system and then identify any areas that need improving (i.e., installing septic tanks on the effluent from buildings #2 and #4).

You need to establish:

- a. Why small diameter sewers can be used instead of the required 8-inch sewers?
- b. What are the minimum sewer velocities that can be allowed?
- c. Why can cleanouts be used instead of manholes?
- d. Why are manholes not required at changes in direction?
- e. Can the sewer lines handle the expected design flow? What are the design flows?
- f. Is there adequate sewer cleaning equipment available that can reach all the lengths, angles and sizes shown.

5. If the water system ever has 20 service connections, it becomes a public water supply and must meet DEQ's minimum requirements. To connect 20 or more service connections to a central water supply requires a permit to construct. If the mobile home park ever reaches the 8 space, I believe there would be at least 20 service connections.

cc: Tim Schutz
WY Technical Institute
Box 906
Laramie, WY 82070

Review of Plans and Specifications

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY DIVISION
1111 East Lincolnway
Cheyenne, Wyoming 82002

PROJECT: Diamond Horseshoe Wastewater Facility, Albany Co.

ARCHITECT OR ENGINEER: Don Lamb, Associated Engineers
609 S. 2nd Street, Laramie, WY 82070

APPLICANT: Tim Schultz, WY Technical Institute
Box 906, Laramie, WY 82070

Curt Blount, Diamond Horseshoe
502 University, Laramie, WY 82070

WATER QUALITY DIVISION REFERENCE NUMBER: 84-323

REVIEWING ENGINEER: Thomas S. Norman *T.S. Norman*

DATE OF REVIEW: August 16, 1984

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

1. An application form (enclosed) needs to be completed and submitted to us.
2. I do not agree with some of the design rationale. For example, to include lagoon storage as part of the maximum design capacity is incorrect. The storage is only available for one year and starting the second year this expected capacity is not available. The available capacity can only be based on inflow minus outflow (evaporation plus seepage). Storage is only necessary to get through the months of minimum evaporation and seepage.

It is almost impossible to design a lagoon system that fluctuates with the water table. Even if the percolation rate of the soil is known, the rise or fall of the water table greatly outweighs the percolation capacity of the soil.

The one main conclusion from the data presented is that there is quite a bit of additional capacity. It appears that the use of septic tanks has prevented the build-up of a sludge blanket and that the sandy soil is allowing the wastewater to pass as fast as the groundwater (river) level allows. The seepage test with the steel pipe shows that a 6-inch head provides a significant increase in seepage losses.

From strictly a hydraulic standpoint, I would say that the lagoons may handle 1.5-2.0 times their existing design flow (i.e., future capacity of 2-4 million gallons per year). This is based on the following assumptions:

- a. The existing design flow of 4.4 MGY produces only 2 feet of wastewater in the lagoon. There is an additional 3.4 feet of capacity in the north cell along with the south cell not being used at all.

- b. Septic tanks are and will be adequately sized to prohibit a clogging mat on the lagoon bottom.
 - c. Any increased head should increase seepage to the river.
 - d. Sufficient head is available in the lagoon at all times to overcome high water levels in the river.
3. Some improvements that should be made are:
- a. Overflow device into the south cell.
 - b. Monitor influent flow quantities.
 - c. Monitor wastewater depths in the lagoon versus river water depths.
 - d. All new hook-ups must have an adequately sized septic tank and existing tanks must be pumped periodically.
4. Our groundwater section is concerned with the chemicals used at the Wyoming Technical Institute and the current method of disposal. As part of the sewer "as built", an inventory of petroleum wastes, chemicals, cleaners, solvents, etc. should be made. Information needed is types of chemicals, manufacturers, amounts, disposal practices, names of disposal contractors, etc.
5. I am available to discuss these comments at your convenience.

Plans
returned to
Tom N
8-10-84

WATER QUALITY DIVISION
GROUNDWATER SECTION
PERMIT APPLICATION REVIEW

APPLICATION NUMBER 84-323

DATE SUBMITTED FOR REVIEW 7-12-84

NAME AND LOCATION OF FACILITY Diamond Horseshoe, Wyoming TECHNICAL
INSTITUTE
LARAMIE, WY

I have reviewed the plans and specifications with regard to all aspects of groundwater quality and find the following:

- No comment. The submittal is consistent with current groundwater protection procedures and requirements.
- Comments attached.

SIGNED P. Paul

TITLE _____

DATE 7-24-84

APPROVED 8/9/84
(Date)

AMM
Groundwater Control Supervisor

MEMORANDUM

TO: Tom Norman
FROM: Phil Pucel *phl*
DATE: August 10, 1984
SUBJECT: Diamond Horseshoe and Wyoming Technical Institute Lagoon, S1/2 Section 16, T16N, R73W

1. The limited amount of data derived from the shallow aquifer indicates that appropriate measures should be taken to protect the groundwater. Even though TDS and Sulfates' levels in the Smith well exceed the Class I standard, the analysis does not show dangerous levels of any parameters analyzed. In fact, water of worse quality is used domestically in the Laramie area. The wide variability in the data from the various sources implies that background quality is not definitively determined. Degradation of this aquifer is not recommended.
2. The current usage of these wells should be noted (domestic, stock, etc.).
3. It is recommended that wastes from the Technical Area be collected and analyzed in batches prior to disposal into the lagoon. The high permeability of the underlying soils and the hydraulic connection between the waste stream, the shallow aquifer, and the river warrant protection against the disposal of persistent and toxic wastes.
4. Given the high rate of infiltration, it is recommended that ammonia levels in the pond be determined since this parameter is more likely to be of concern than nitrates.

8-10-84



THE STATE OF WYOMING

ED HERSCHLER
GOVERNOR

*Department of Environmental Quality
Water Quality Division*

- HERSCHLER BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

August 10, 1984

James E. Heron
Box 1213
111 Arrow Road
Glenrock, WY 82637

RE: Small Wastewater Treatment and Disposal System, DEQ/WQD Ref. No. 84-324

Dear Mr. Heron:

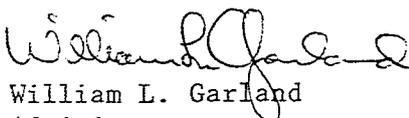
Your plans for an existing small wastewater treatment and disposal system have been received. At our request, Deborah Standard, of the Converse County Health Department, made an on-site inspection and found that the system showed no signs of failure and has apparently been functioning properly since its construction several years ago. Ms. Standard also indicated that the second trailer has been disconnected from the system and that there is no intent to reconnect another trailer.

Under state regulations and our present agreement with Converse County facilities involving connecting more than one residence to a system requires a permit from this office. It is also necessary that such a system be designed by a registered professional engineer. Facilities involving a single residence do not require an engineered system and can be permitted by Converse County.

Since the system has already been constructed, we cannot issue a permit to construct. However, since our review has found this system to be in substantial compliance with rules and regulations and the system has apparently been operating properly for several years, we are hereby accepting it for the record. Should you ever wish to connect another trailer to the system it would be necessary to have a design submitted by a registered engineer.

If you have any questions about this, please feel free to contact this office at 777-7781.

Sincerely,


William L. Garland
Administrator

WLG/LR/nc

cc: Deborah Standard, Converse Co. Health Dept., 127 N. 5th St., Douglas, WY 82633



Department of Environmental Quality
Water Quality Division

HERSCHLER BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

November 15, 1984

Curt Blount
Diamond Horseshoe
P.O. Box 1008
Laramie, WY 82070

Tim Schutz
Wyoming Technical Institute
Box 906
Laramie, WY 82070

Robert Yeoman & Yeoman Construction
Box 880
Laramie, WY 82070

RE: Diamond Horseshoe Wastewater Facility, DEQ/WQD Ref. No. 84-323RR

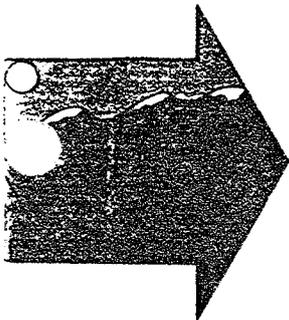
Gentlemen:

The Department of Environmental Quality, Water Quality Division, has reviewed your application package #84-323RR for a permit to construct a commercial wastewater collection and treatment system located in Section 16, T16N, R73W, Albany County. The Water Quality Division has determined that your system is in substantial compliance with the Water Quality Division's minimum design standards provided that the improvements in the attached permit to construct are made.

Besides all the conditions that were identified through this project's correspondence, the following condition is also placed on your system to meet the requirements of the Laramie Wastewater Facility Plan:

The intent of the construction authorized by this permit is to provide facilities for the interim treatment of wastewater until such time that treatment is available through a regional wastewater system. The Laramie Step I Wastewater Facility Plan requires that treatment be provided through a regional system. The facilities authorized by this permit will be operated until August 1, 1987 or until services are available through the approved regional system, whichever is sooner. These facilities will then be abandoned or integrated into the regional system in accordance with the requirements of the Facility Plan, unless the City of Laramie and Albany County jointly authorize an additional three year extension.

84-323RR



ASSOCIATED ENGINEERS

Donald R. Lamb, Ph.D., P.E.

William E. Grenier, P.E., L.S.

609 S. 2nd Street

Laramie, Wyoming 82070

Phone (307) 742-6271

October 8, 1984

Mr. Tom Norman
State of Wyoming
Department of Environmental Quality
Water Quality Division
Herschler Building, 4th Floor West
Cheyenne, Wyoming 82002

RE: DIAMOND HORSESHOE WASTEWATER FACILITY, ALBANY COUNTY
WATER QUALITY DIVISION REFERENCE NUMBER: 84-323R

Dear Mr. Norman:

Enclosed are three (3) signed sets of Plans and attached sheets for the above referenced project.

The Sewer Lines are constructed of PVC Pipe, meeting Standard ASTM D2729. The manholes are four (4) feet in diameter and constructed using reinforced concrete, manhole risers and cones.

Mr. Chet Carter, Maintenance Foreman at Wyoming Technical Institute, reports that all water lines which he knows of at this site are buried to a depth of five (5) feet or more. Considering this information and comparing to information available, regarding the sewer lines, as shown on the accompanying map, the minimum distance separating the water and sewer lines (where their horizontal paths intersect) is a vertical distance of at least 18 inches.

The Diamond Horseshoe Wastewater Facility requires septic tanks before effluent is discharged to the collection system. Since septic tanks are used, no solids are discharged to the collection system and four (4) inch diameter sewer lines may be used to carry the liquid effluent.

Since the effluent is liquid only, cleanouts, instead of manholes, can be used. The cleanout will allow for insertion of sewer cleaning equipment if necessary. Installation of cleanouts at changes in direction of the sewer pipe facilitates the use of sewer cleaning equipment.

Recognizing that this wastewater system is in place without the benefit of initial design, it could be estimated that the design flow for this system is eight (8) times the actual flow.

The critical section of the system is that portion of the 4 inch PVC Sewer line connecting the manhole South of the Mobile Home Park to the manhole approximately 150 feet to the Southwest. This line is approximately 150 feet long and drops 1.0 feet between manholes, for an average slope of approximately .0067.

The estimated effluent flow through this section is predicted in the Lagoon Report on Page 4.

Yeoman Residence	375 gpd
Two Additional Residences @350 gpd	700 gpd
Wyoming Technical Inst.	<u>11,000 gpd</u>

12,075 gpd or 0.0186 cfs Average

Using Manning Equation and assuming $n=.013$, $d=0.33'$, $Q=0.0186$ cfs, $S=0.0067$

$$\begin{aligned} \frac{2}{AR^3} &= \frac{Qn}{1.49S^{\frac{1}{2}}} \\ &= \frac{(0.0186)(0.013)}{1.49 (.0067)^{\frac{1}{2}}} \\ &= .0020 \end{aligned}$$

$$\frac{\frac{2}{AR^3}}{\frac{8}{d^3}} = \frac{.0020}{(.33)^{2.67}} = .0382$$

(From Tables for Normal Depth, Chow)

$$\frac{y}{d_0} = .24$$

$$T = (.33)(.24) = .0792$$

$$\Delta = 2 \cos^{-1} \left(\frac{.165 - .0792}{.165} \right) = .117.34^\circ$$

$$\begin{aligned} A \text{ sector} &= \frac{\Delta}{360} \cdot \frac{\pi D^2}{4} - \frac{1}{2} R^2 \sin \Delta \\ &= .0158 \end{aligned}$$

$$V = \frac{Q}{A} = \frac{.0186}{.0158} = 1.18 \text{fps}$$

Since only liquid effluent is to be carried by the collection system, this velocity is acceptable.

Assume peak flow is 8 times greater than average flow.

$$AR^{\frac{2}{3}} = \frac{8(.0186)(.013)}{1.49 (.0067)^{\frac{1}{2}}}$$

$$= .0159$$

$$\frac{AR^{\frac{2}{3}}}{\frac{8}{d^3}} = \frac{.0159}{.33^{\frac{8}{3}}} = .3050$$

Using Chow:

$$\frac{y}{d_0} = .78$$

$$y = .257$$

$$\triangle = 2 \cos^{-1} \left(\frac{.257 - .165}{.165} \right)$$

$$= 111.89^\circ$$

$$A = \frac{\pi \cdot 33^2}{4} - \left(\frac{\triangle}{360} \frac{\pi D^2}{4} - \frac{1}{2} R^2 \sin \triangle \right)$$

$$= .0715 \text{ s.f.}$$

$$v = \frac{Q}{A} = \frac{8(.0186)}{.0715} = 2.08$$

This sewer line can handle a flow of at least 8 times the average flow.

If eight (8) mobile homes are added to the Mobile Home Park, DEQ approved septic tanks must be installed. The peak flow which the system could handle would be slightly less than 8 times the peak flow in that situation.

With regard to sewer cleaning equipment, the Diamond Horseshoe has previously used the City of Laramie equipment, which can clean reaches up to 400 lineal feet. The Wyoming Technical Institute has previously used only a plumber's snake inserted from cleanouts within the buildings to handle their plumbing problems. If the septic tanks are monitored regularly, as will be required by the permit, no sewer pipe plugging (due to solids) will occur.

Buildings, 2, 4, and 8, along with a mobile home are not shown to have septic tanks. The lines from Buildings 2 and 4 serve only floor drains or sumps and lavatory sinks. No solids enter the collection system from Buildings 2 and 4. In Building 8, use of the water closets will be discontinued by November 15, 1984. The mobile home in the Mobile Home Park will be moved by November 15, 1984.

Buildings 10, 11, and 12 are served by one septic tank. An additional 1,000 gallon capacity septic tank will be installed in series with the existing tank prior to November 15, 1984.

In addition, the following improvements will be completed and maintained by the Diamond Horseshoe Wastewater Facility:

- a) A 6-inch diameter pipe will be placed as an overflow device for the North Cell to overflow into the South Cell at the 102.4 feet elevation.
- b) Water depth staffs will be installed, referenced to the elevation benchmark 100.0 feet at the top of the 6-inch PVC outfall for the North Cell, and in the Laramie River on the East side.
- c) A water meter will be installed on the water system serving the Diamond Horseshoe, the Yeoman complex, and Wyoming Technical Institute, Inc.
- d) All new hook-ups to this system will have water meters with remote displays.
- e) See Paragraph 3 above.
- f) The plywood cover on the manhole North of the Mobile Home Park will be replaced with a standard, metal manhole cover.
- g) The manholes North of WTI Diesel Training Building and West of WTI Parts Center will be cleaned, the 4-inch PVC pipes will be trimmed and the manholes will be regouted to provide a smooth channel through the manholes.
- h) A DEQ approved septic tank will be installed for any mobile home using the Mobile Home Park West of the present maintenance building at Wyoming Technical Institute.

Also enclosed is a letter from Tim Schutz, regarding Wyoming Technical Institute's plans for the 8-space Mobile Home Park West of Highway 30.

If you have further questions regarding this system, please do not hesitate to contact us.

Cordially,

ASSOCIATED ENGINEERS



Donald R. Lamb, P.E., Ph.D.
Wyoming P.E. No. 215

DRL:1sc
Encs.

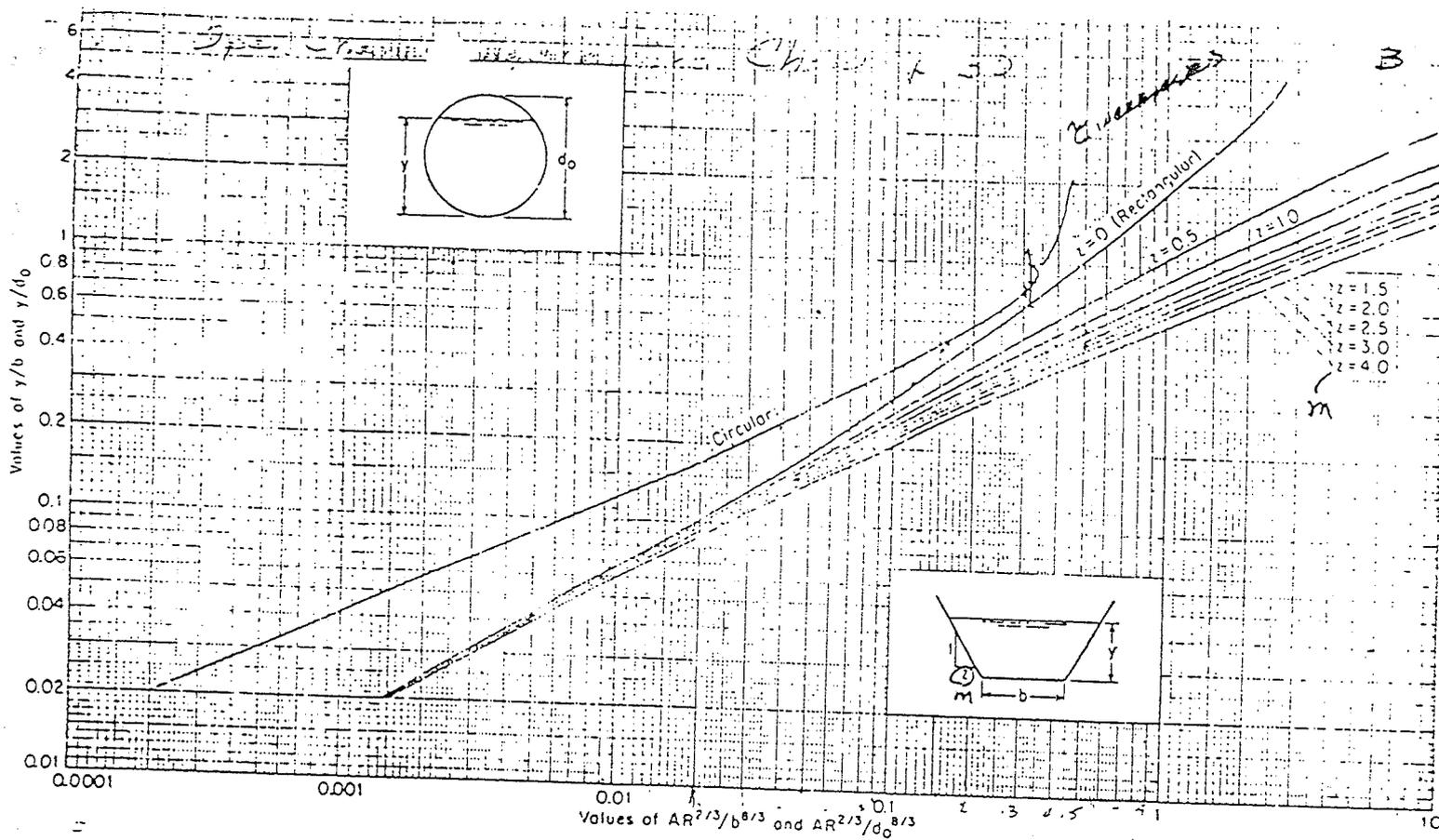


FIG. 6-1. Curves for determining the normal depth.

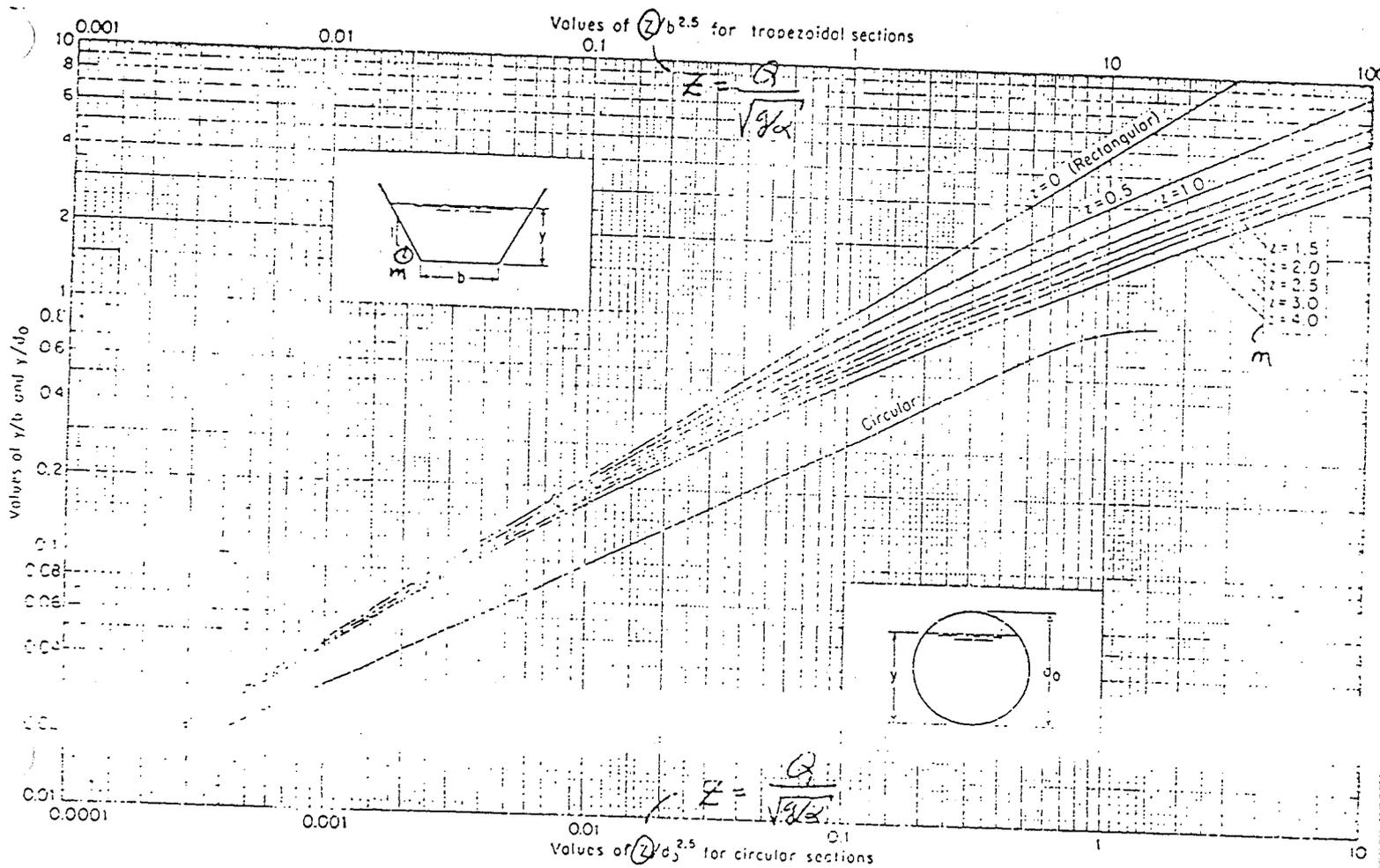


FIG. 4-1. Curves for determining the critical depth.

9-5-84



THE STATE OF WYOMING

ED HERSCHLER
GOVERNOR

Department of Environmental Quality
Water Quality Division

HERSCHLER BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

September 4, 1984

Z & S Construction
P.O. Box 310
Kimball, NE 69145

Dear Sir:

On August 20, 1984, a status letter was sent to you concerning a permit to construct, reference number 84-325, facility name Z & S Produced Water & Drilling Fluids Disposal Reservoir, Laramie County. The application is considered inactive and is being returned under the assumption that the applicant does not wish to proceed with the permit to construct process.

This project has not been permitted. Construction of this facility without a permit is a violation of the Environmental Quality Act and punishable with fines not to exceed \$10,000 per day of violation. If this project has already been constructed, it is your responsibility to immediately contact this office for further instruction. If you wish to reconsider construction of this facility, then application procedures pursuant to Chapter III, Water Quality Rules & Regulations, must be followed.

Sincerely,

LeRoy C. Feusner, P.E.
Southeast District Supervisor
Water Quality Division

LCF/nc

cc: James D. Voeller, AVI Engineers, 1700 Westland Rd., Cheyenne, WY 82001
John Erdman, A.G.'s Office

Review of Plans and Specifications

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY DIVISION
1111 East Lincolnway
Cheyenne, Wyoming 82002

PROJECT: Z & S Produced Water and Drilling Fluid Disposal Reservoir, Laramie Co.

ARCHITECT OR ENGINEER: James D. Voeller, AVI Engineers
1700 Westland Road, Cheyenne, WY 82001

APPLICANT: Z & S Construction, P.O. Box 310
Kimball, NE 69145

WATER QUALITY DIVISION REFERENCE NUMBER: 84-325

REVIEWING ENGINEER: LeRoy C. Feusner, P.E. 

DATE OF REVIEW: August 20, 1984

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

1. Move the Cell 1 inlet structure to the northeast corner of the cell to prevent short-circuiting and to reduce water turbulence in the initial receiving cell.
2. Construct a concrete diked apron of sufficient size and diameter around the inlet structure to contain splashes and sloppy truck emptying practices.
3. Change the design of the Cell 1 inlet pipe. The existing design will not allow efficient oil removal in the inlet structure. An inverted siphon (lower end of pipe in inlet structure) will easily facilitate oil removal in the inlet structure. Discharge pipe in Cell 1 must be provided a concrete apron spillway to the bottom of the cell. Invert elevation in Cell 1 should be set at a level to allow adequate operation with optimum volume of water in Cell 1.
4. How will recovered oil from the inlet structure be disposed?
5. Provide riprap protection for all interior dike sides on both cells.
6. Empty all fluids for disposal at this facility through the inlet structure.
7. Change the design of the cell interconnecting pipe. An inverted siphon with the lower end in Cell 1 will provide better system operation. The invert elevation in Cell 1 should be about 4-5 feet above the cell floor, and the invert elevation in Cell 2 might be placed about 14-15 feet above floor level. Discharge pipe in Cell 2 must be provided with a concrete apron and energy dissipation device at the bottom of the cell.
8. The correct edition of the Wyoming Public Works Standard Specifications is the 1984 Edition.
9. Based upon WQD experience, a 30 mil PVC liner with cover material is not recommended for an oilfield pond disposal system. A more suitable lining material for this type of containment is a 30 mil reinforced chlorinated polyethylene

liner. Cover material is not a necessary prerequisite for this liner; however, protective riprap will be required for protection from ice/liner under-base erosion control. Liner manufacturer specifications must be followed for the bedding material of any liner material.

10. Based upon the geology at this particular site, a leak detector system will not be required if the 30 mil reinforced chlorinated polyethylene liner is used. Based upon the WQD experience with PVC liner exposure to the ultraviolet light in sunlight, both cover material and a leak detection system will be required. If the 30 mil PVC liner is still proposed, submit a design for the leak detection system which will allow for monitoring/sampling of any accumulated fluid.

To Leroy 8-20-84

WATER QUALITY DIVISION
GROUNDWATER SECTION
PERMIT APPLICATION REVIEW

APPLICATION NUMBER 84-325

DATE SUBMITTED FOR REVIEW 8/3/84

NAME AND LOCATION OF FACILITY ZANO S PRODUCTION WATER AND DRILLING
FLUID DISPOSAL RESERVOIR
SEC 36 T. 16N R. 65W
LARAMIE COUNTY

I have reviewed the plans and specifications with regard to all aspects of groundwater quality and find the following:

- No comment. The submittal is consistent with current groundwater protection procedures and requirements.
- Comments attached.

SIGNED Thomas R. Williams
TITLE GROUNDWATER COMPLIANCE SPECIALIST
DATE 8/20/84

APPROVED 8/20/84 (Date) ajm
Groundwater Control Supervisor



*Department of Environmental Quality
Water Quality Division*

HERSCHLER BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

M E M O R A N D U M

TO: LeRoy Feusner, Southeast District Supervisor

THRU: A.J. Mancini, Groundwater Control Supervisor

FROM: Thomas R. Williams, Groundwater Compliance Specialist **TRW**

DATE: August 20, 1984

SUBJECT: Z & S Production Water and Drilling Fluid Disposal Reservoir Permit
Application Number 84-325

I have reviewed the Z & S production water and drilling fluid disposal reservoir permit application number 82-325 with regards to groundwater protection. The applicant proposes to line the pond with 30 mil polyvinyl chloride and one foot of cover material to prevent seepage of disposal water to the groundwater.

I contacted Stuart Lange, a regional manager with Watersaver Company, Inc. of Denver, Colorado. Watersaver Company, Inc. is one of three companies suggested by the applicant for supplying and installing the liner. Mr. Lange does not recommend that a 30 mil polyvinyl chloride liner with cover material be used for containment of oilfield production water and drilling fluid. A more suitable lining material for this type of containment reservoir is a 30 mil reinforced chlorinated polyethylene liner. Another alternative is lining the bottom of the pond with a 30 mil chlorinated polyethylene liner and using a 30 mil reinforced chlorinated polyethylene liner on the side slopes of the pond. Cover material is not a necessary prerequisite for either of these lining alternatives.

If the applicant continues to recommend the installation of a polyvinyl chloride liner, I advise that a leak detection system should be required. This system should be capable of determining what part of the pond the leak is occurring. If the polyvinyl chloride liner and the leak detection system is the preferred option, a regular monitoring program to check the system for fluid accumulation should be included as a condition of the permit to construct.

Polyvinyl chloride is subject to deterioration from ultraviolet light. If a polyvinyl chloride liner is used, it should be made clear in the permit that the liner should be checked regularly to insure that the cover material is not removed. If the liner is exposed, the exposed area should be repaired and covered immediately.



Department of Environmental Quality
Water Quality Division

HERSCHLER BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

June 13, 1985

CERTIFIED

Mr. Harold Wilkenson
Continental MHP
2107 S. 4th Avenue
Cheyenne, WY 82007

RE: Permit to Construction Application #84-326RRRR, Continental MHP

Dear Mr. Wilkenson:

The Water Quality Division has reviewed your application package and found that it meets the minimum State of Wyoming standards for wastewater and water facilities. Since a permit to construct cannot be issued for as-built wastewater and water facilities, this letter will serve as your final approval document. This approval is contingent upon that all improvements that were agreed upon throughout the review process will be constructed and useable within 30 days of receipt of this letter.

Sincerely,

A handwritten signature in cursive script that reads "William L. Garland".

William L. Garland, P.E.
Administrator

WLG/ad
Enclosures

cc: John Erdman
Thomas S. Norman
Don Hopkins
Norma Coulson

Review of Plans and Specifications

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY DIVISION
Herschler Building, 4 West, 122 West 25th
Cheyenne, Wyoming 82002

PROJECT: Continental Mobile Home Park Expansion, Laramie Co.

ARCHITECT OR ENGINEER: Donald Hopkins, D.M. Hopkins & Assoc.
216 E. 17th St., Cheyenne, WY 82001

APPLICANT: Harold L. Wilkinson
2107 S. 4th Ave., Cheyenne, WY 82007

WATER QUALITY DIVISION REFERENCE NUMBER: 84-326RRR

REVIEWING ENGINEER: Thomas S. Norman *TSN*

DATE OF REVIEW: May 30, 1985

ACTION: AS-BUILTS DO NOT MEET MINIMUM STANDARDS

COMMENTS:

1. New Booster Pumps. If the new booster pumps are installed in place of the existing pumps, this is considered maintenance and further information is not required. However, if the new booster pumps are installed in addition to the existing pumps, this is considered a modification and more details are required in order for us to authorize its construction. A modification requires that the present regulations be met which includes appropriately sized and located valves, check valves, pressure gauges, compound gauges, electrical controls, etc.
2. Connection to South Cheyenne Water and Sewer District:
 - a. Another gate valve is necessary in the meter pit so that any problems with valves, meters, or regulators can be corrected without water entering from the trailer park side.
 - b. The meter pit must be drained to the surface or to an absorption pit underground to prevent flooding.

TSN/nc

cc: John Erdman

5-8-85

Review of Plans and Specifications

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY DIVISION
Herschler Building, 4 West, 122 West 25th
Cheyenne, Wyoming 82002

PROJECT: Continental Mobile Home Park Expansion, Laramie Co.

ARCHITECT OR ENGINEER: Donald Hopkins, D.M. Hopkins & Assoc.
216 E. 17th St., Cheyenne, WY 82001

APPLICANT: Harold L. Wilkinson
2107 S. 4th Ave., Cheyenne, WY 82007

WATER QUALITY DIVISION REFERENCE NUMBER: 84-326RR

REVIEWING ENGINEER: Thomas S. Norman *TS Norman*

DATE OF REVIEW: May 2, 1985

ACTION: AS-BUILTS DO NOT MEET MINIMUM STANDARDS

COMMENTS:

1. The 8 foot diameter by 20 foot long water tank does not correspond to a 4000 gallon tank. Which is correct, the dimensions or the volume?
2. Where are you proposing to install the new booster pumps? At which tank are you going to install these and which pumps will you be removing? These proposed booster pumps are only rated to 40 feet of head (17 psi) which is inadequate pressure to run a distribution system.
3. A detail must be submitted on the connection to the South Cheyenne Water & Sewer District water main. Specifications must also be submitted on the backflow prevention device.
4. The detail on the water risers has not been corrected. It still shows a depth of 3-1/2 feet to the water line.

cc: John Erdman

Review of Plans and Specifications

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY DIVISION
1111 East Lincolnway
Cheyenne, Wyoming 82002

PROJECT: Continental Mobile Home Park Expansion, Laramie Co.

ARCHITECT OR ENGINEER: Donald Hopkins, D.M. Hopkins & Assoc.
216 E. 17th St., Cheyenne, WY 82001

APPLICANT: Harold L. Wilkinson
2107 S. 4th Ave., Cheyenne, WY 82007

WATER QUALITY DIVISION REFERENCE NUMBER: 84-326R

REVIEWING ENGINEER: Thomas S. Norman *T.S. Norman*

DATE OF REVIEW: October 19, 1984

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

1. General

- a. The South Cheyenne Water & Sewer District specifications have never been submitted to DEQ for review and therefore, they have never been approved. If you wish to reference them, then they must also be submitted for review.
- b. Chapter V of the Water Quality Rules and Regulations require that you obtain a certified operator for the water system. This condition will be put on the final permit. Contact Paul O'Leary (777-7781) for information on certification. By what date could you have a certified operator hired?

2. Sewer system

- a. Manholes are required at the ends of the sewer line (lot 2 and 36). Clean-outs are only allowed if the line is less than 150 feet.
- b. The strength of the sewer pipe was not specified.

3. Water system

a. Storage

- (1) There is a lot of confusion on the size of the water storage tanks. The plans show two 10,000 gallon tanks. The design report states one 10,000 gallon tank and one 4,200 gallon tank. Then an EPA sanitary survey performed on December 1983 (attached) states one 20,000 gallon tank and one 30,000 gallon tank are installed. Please clarify.
- (2) This application proposes a 6,000 gallon storage tank but plans and specifications were not submitted for it.

- (3) The argument that since the original design had less than the required storage that then the proposed design can too is not acceptable. The standards require that the storage must equal or exceed the average day demand. Depending on what numbers you use, the original design was only 20% undersized while the proposed design would be 40% undersized.

b. Wells

- (1) The original application and the State Engineer's files show that wells #1 and #2 are only designed and appropriated for 12 gpm each. To increase the capacity to 22 gpm each (as stated on the plans) requires approval by the State Engineer and also the wells must be tested and results submitted to DEQ for approval. Well test requirements can be found in the WQD's proposed Chapter XII.
- (2) Wells #3 and #4 have never been permitted by DEQ or the State Engineer's office. DEQ requires that plans and specifications be submitted along with design data, well test data and complete bacterial, physical, chemical tests.

c. Distribution system

- (1) What is the capacity of the pumps that feed the distribution system from the storage tanks? It appears that wells #1, #2 and #4 all must go through the pressure pumps at well #2. Are any of these wells tied directly to the distribution system?
- (2) A detail was not provided for the blowoff on lot 36. This should be a blowoff to flush the lines not a pressure relief valve.
- (3) The "Typical Water Connection" detail shows the water line only 3.5 feet deep. Is this correct? Also I do not think this connection will protect the pipe from freezing between the manual drain valve and the distribution line when the site is not occupied.

EVALUATION OF DRINKING WATER SYSTEMS IN WYOMING

Date of Visit: December 19, 1983

Site Visitor: Joginder S. Bhutani

Name of PWS: Continental Mobile Home Park

PWS I.D.: 5600272

COUNTY NAME: Laramie

PWS TYPE: Community

MAILING ADDRESS: 1508 South Greeley Highway

Cheyenne, Wyoming 82007

TELEPHONE NUMBER: (307) 634-7592

CONTACT PERSON: Harold Wilkinson

OPERATOR: Harold Wilkinson

Certification Level: Level 3 (State)

PERSON(S) CONTACTED/TITLE(S): Harold Wilkinson, Manager/Owner

PWS LOCATION: Just off Greeley Highway South about one mile from the
center of Cheyenne city.

DESCRIPTION OF PWS:

The water system includes two wells 320 feet and 275 feet deep, two storage tanks, and the distribution system as shown in Figure 1. Each well is equipped with a submersible pump (5.0 HP). Well No. 1 is cased down to 286 feet and Well No. 2 down to 240 feet. The underground storage tanks are 20,000 gallons and 30,000 gallons in capacity.

No treatment is provided. The water is pumped from the well and fed directly to the distribution system. A pressure of 50 psi is maintained. During the off-peak hours the excess water is stored in the storage tanks. Additional information is contained in the following pages.

PWS I.D. 5600272

PWS NAME: Continental Mobile Home Park

PWS DATA

Population Served: 100 persons (40 mobile homes)

Number of Service Connections/Water Meters: 40

System Design Capacity: About 30,000 gpd

Storage Volumes:

Raw Water _____ gallons

Treated Water 50,000 gallons

Service Area Characteristics: _____

Average Pumping/Flow Rate: 12 gpm

Maximum Pumping/Flow Rate: 24 gpm

Emergency Power & Water Storage Availability: City water supply

Approximate Age of Major Facilities: 25 years

Operation Schedule:

Start Continuous

End _____

PWS EVALUATION

Treatment Facility/Processes ? No treatment

PWS I.D. 5600272

PWS NAME: Continental Mobile Home Park

Source(s):

Two wells. Well #1 is 320 feet deep and cased down to 286 feet with a 6" C.I. pipe. Well #2 is 275 feet deep and is cased down to 240 feet with a 6" C.I. pipe. Both wells are properly sealed at the surface.

Treated Water Storage Reservoir(s):

Two underground tanks - 20,000 gallons and 30,000 gallons in size. Both tanks are in good condition.

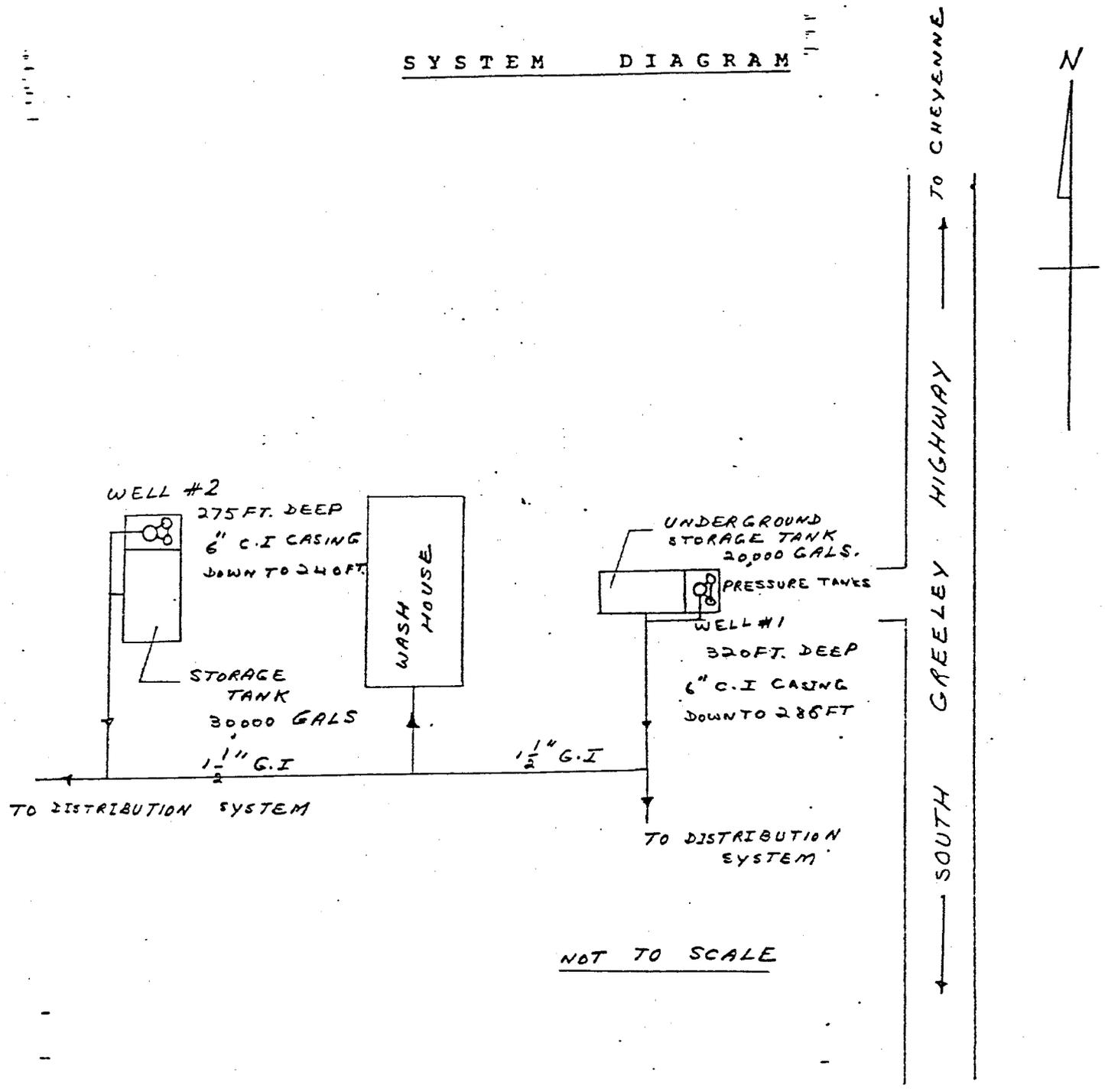
Distribution Systems:

The distribution network is comprised of 1-1/2" G.I. pipelines running along houses with 3/4" G.I. users as service connections. All pipelines are in good condition and are laid well below the freezing zone.

PWS I.D. 5600272

PWS NAME: Continental Mobile Home Park

SYSTEM DIAGRAM



NOT TO SCALE

FIGURE 1

7-24-84

Review of Plans and Specifications

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY DIVISION
1111 East Lincolnway
Cheyenne, Wyoming 82002

PROJECT: Continental Mobile Home Park Expansion, Laramie Co.

ARCHITECT OR ENGINEER: Donald Hopkins, D.M. Hopkins & Assoc.
216 E. 17th St., Cheyenne, WY 82001

APPLICANT: Harold L. Wilkinson
2107 S. 4th Ave., Cheyenne, WY 82007

WATER QUALITY DIVISION REFERENCE NUMBER: 84-326

REVIEWING ENGINEER: Thomas S. Norman *T. Norman*

DATE OF REVIEW: July 20, 1984

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

1. A design report was not submitted. Please provide a design analysis that shows that the proposed system will provide adequate quantity and quality. The design must include both the old and new mobile home park. Some of the requirements are as follows:
 - a. The wells and storage tanks must supply a peak hourly water demand of 145 gpm with the largest pump being out of service.
 - b. The total groundwater sources must equal or exceed the maximum day demand. In the absence of water use data, the maximum daily demand is 340 gpcd.
 - c. The storage tank capacities must equal or exceed the average day demand.
 - d. A minimum pressure of 20 psi and a working pressure of 35 psi is required.
2. A detail of the piping arrangement at Well No. 2 is necessary to determine how well #1, well #2, and all the outlet piping is connected.
3. The application did not show a request for a permit to construct the sewer system.
4. The minimum slope for 6-inch sewers is 0.60%.
5. The water riser needs to be protected and a curb stop is required below the first line.
6. A blowoff is required on the dead-end on lot 36.
7. A letter from South Cheyenne Water and Sewer District is necessary stating that they will provide water to their fire hydrant and that they will accept the wastewater from the mobile home park.

8. Specifications were not provided as to construction and installation procedures, testing of materials, performance testing, disinfection, etc.

Attachment

7-23-87

PERMIT TO CONSTRUCT

New
 Renewal
 Modified

Permit No. 84-327
SEE CONDITIONS ATTACHED TO THIS PERMIT

Lakeridge 2-27
(Name of Facility)

This permit hereby authorizes the applicant (name and address):

Exxon, USA

Box 230

Midland, TX 79702-0230

to construct, install, or modify a drilling fluids reserve pit facility according to the procedures and conditions of the application No. 84-327. The facility is located in Section 33, T29N, R115W in the County of Sublette, in the State of Wyoming. This permit shall be effective for a period of one year (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

The authority to construct granted by this permit does not mean or imply that the Wyoming Department of Environmental Quality guarantees or insures that the permitted facility, when constructed, will meet applicable discharge permit conditions or other effluent or operational requirements.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit. The Permittee understands that it is solely responsible to any third parties for any liability arising from the construction or operation of the facility described herein. By the issuance of this permit, the State does not in any way waive its sovereign immunity.

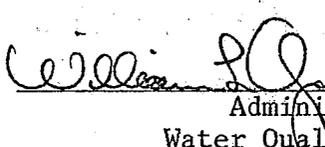
The permittee shall allow authorized representatives from the Department of Environmental Quality, Water Quality Division, upon the presentation of credentials and during working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, Herschler Building, 122 W. 25th, Cheyenne, Wyoming 82002; telephone, 777-7781.

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties established pursuant to any applicable State law or regulation.

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:


WILLIAM L. GARLAND
Administrator P.E. # 1479
Water Quality Division
REGISTERED PROFESSIONAL ENGINEER
STATE OF WYOMING

July 13, 1987
Date of Issuance


ROBERT E. SUNDIN
Director
Dept. of Environmental Quality
REGISTERED PROFESSIONAL ENGINEER
NO. 285
STATE OF WYOMING

This permit does not supercede the requirements for obtaining any permit from local agencies.

This permit authorizes you to dispose of 168,000 gallons of wastewater on the surrounding 5 acres, a total liquid application of 1.24 inches.

CONDITIONS TO PERMIT TO CONSTRUCT #84-327

1. Wastewater shall be applied at a rate which will not produce runoff or ponding. Application shall not be initiated during the spring runoff period or other periods where saturated soil conditions exist.
2. The application site slope shall not exceed 8% for vehicular application or 15% for spray irrigation or irrigation by gated pipe on the contour. Vegetated areas of the site shall not be spray-irrigated where possible plant leaf injury may result from salt residue.
3. Wastewater application shall be terminated within 300 feet of the defineable high water mark of perennial and intermittent drainages, irrigation canals, lakes and reservoirs.
4. To assess the long term effects of the wastewater application on the soil and its relation to revegetation success on denuded areas, the seed mix (% of selected species), seed rate (lbs. of bulk seed/acre and % pure live seed), mulch and fertilizer preferred by the landowner-lessee or land management agency should be forwarded to E. J. Fanning, Department of Environmental Quality, Water Quality Division, Herschler Building, 122 W. 25th, Cheyenne, Wyoming 82002, within 30 days of receipt of this permit. - Not applicable to this permit.
5. After dewatering by land application, the permittee must demonstrate, before backfilling, that the residual solid wastes will remain hydrologically isolated, i.e. by virtue of the surrounding soil matrix or bedrock, or by installation of artificial clay liners and/or caps. Failure to demonstrate this will necessitate the excavation of the pit wastes and haulage to an approved disposal site.

If wastes are to be retained in the pit, an analysis of a mud sample, composited by the same techniques as described in section 8 of the one-time land application form and the DEQ sampling card, must be submitted in a timely manner to the responsible agency personnel (E. J. Fanning).
6. Submission of requested soil analysis.

7-22-87

PERMIT TO CONSTRUCT

New
 Renewal
 Modified

Permit No. 84-328
SEE CONDITIONS ATTACHED TO THIS PERMIT

Wamsutter Area Wells
(Name of Facility)

This permit hereby authorizes the applicant (name and address):

Marathon Oil Co.

P.O. Box 2659

Casper, WY 82602

to construct, install, or modify a skim pond facility according to the procedures and conditions of the application No. 84-328. The facility is located in Townships 18, 19, 20 and 21, Ranges 91, 92, 94, 95 in the County of Sweetwater, in the State of Wyoming. This permit shall be effective for a period of one year (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

The authority to construct granted by this permit does not mean or imply that the Wyoming Department of Environmental Quality guarantees or insures that the permitted facility, when constructed, will meet applicable discharge permit conditions or other effluent or operational requirements.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit. The Permittee understands that it is solely responsible to any third parties for any liability arising from the construction or operation of the facility described herein. By the issuance of this permit, the State does not in any way waive its sovereign immunity.

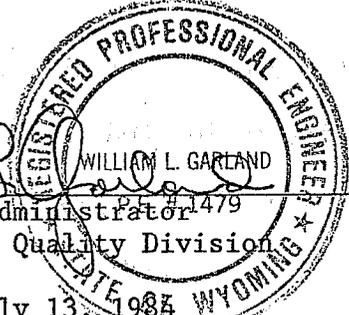
The permittee shall allow authorized representatives from the Department of Environmental Quality, Water Quality Division, upon the presentation of credentials and during working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

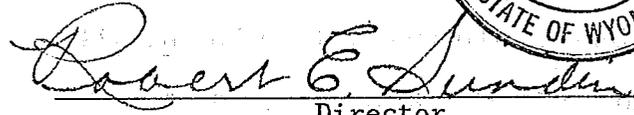
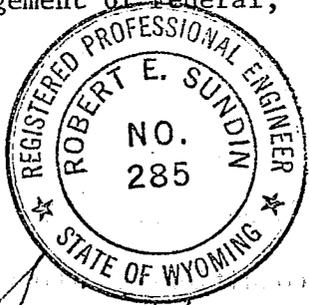
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, Herschler Building, 122 W. 25th, Cheyenne, Wyoming 82002; telephone, 777-7781.

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties established pursuant to any applicable State law or regulation.

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:


WILLIAM L. GARLAND
Administrator #1479
Water Quality Division

July 13, 1984
Date of Issuance


ROBERT E. SUNDIN
Director
Dept. of Environmental Quality


This permit does not supercede the requirements for obtaining any permit from local agencies.

This permit authorizes you to dispose of 16,800 gallons/day of produced wastewater on the surrounding lease roads for the 35 listed wells.

CONDITIONS TO PERMIT TO CONSTRUCT #84-328

1. Wastewater shall be applied at a rate which will not produce runoff or ponding. Application shall not be initiated during the spring runoff period or other periods where saturated soil conditions exist.
2. The application site slope shall not exceed 8% for vehicular application or 15% for spray irrigation or irrigation by gated pipe on the contour. Vegetated areas of the site shall not be spray-irrigated where possible plant leaf injury may result from salt residue.
3. Wastewater application shall be terminated within 300 feet of the defineable high water mark of perennial and intermittent drainages, irrigation canals, lakes and reservoirs.

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 84-329
SEE CONDITIONS ATTACHED TO THIS PERMIT

State 18-1X (Grover Prospect)
(Name of Facility)

This permit hereby authorizes the applicant (name and address):

Conoco, Inc.

907 Rancho Road

Casper, WY 82601

to construct, install, or modify a drilling fluids reserve pit facility according to the procedures and conditions of the application No. 84-329. The facility is located in NE1/4 SW1/4 Section 18, T33N, R118W in the County of Lincoln, in the State of Wyoming. This permit shall be effective for a period of one year (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

The authority to construct granted by this permit does not mean or imply that the Wyoming Department of Environmental Quality guarantees or insures that the permitted facility, when constructed, will meet applicable discharge permit conditions or other effluent or operational requirements.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit. The Permittee understands that it is solely responsible to any third parties for any liability arising from the construction or operation of the facility described herein. By the issuance of this permit, the State does not in any way waive its sovereign immunity.

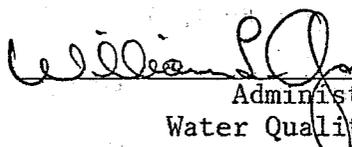
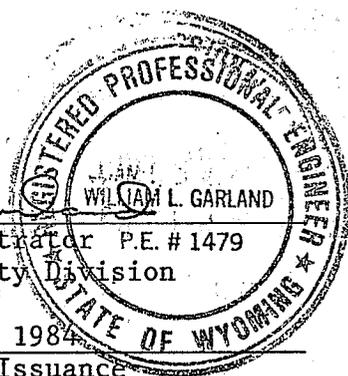
The permittee shall allow authorized representatives from the Department of Environmental Quality, Water Quality Division, upon the presentation of credentials and during working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

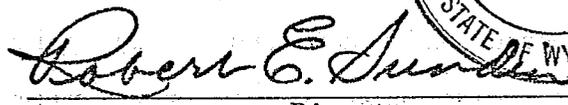
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, Herschler Building, 122 W. 25th, Cheyenne, Wyoming 82002; telephone, 777-7781.

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties established pursuant to any applicable State law or regulation.

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:


WILLIAM L. GARLAND
Administrator P.E. #1479
Water Quality Division
July 13, 1984
Date of Issuance



Director
Dept. of Environmental Quality


This permit does not supercede the requirements for obtaining any permit from local agencies.

This permit authorizes you to dispose of 336,000 gallons of drilling fluids wastewater on the surrounding 9 acres, a total liquid application of 1.37 inches.

CONDITIONS TO PERMIT TO CONSTRUCT #84-329

1. Wastewater shall be applied at a rate which will not produce runoff or ponding. Application shall not be initiated during the spring runoff period or other periods where saturated soil conditions exist.
2. The application site slope shall not exceed 8% for vehicular application or 15% for spray irrigation or irrigation by gated pipe on the contour. Vegetated areas of the site shall not be spray-irrigated where possible plant leaf injury may result from salt residue.
3. Wastewater application shall be terminated within 300 feet of the defineable high water mark of perennial and intermittent drainages, irrigation canals, lakes and reservoirs.
4. To assess the long term effects of the wastewater application on the soil and its relation to revegetation success on denuded areas, the seed mix (% of selected species), seed rate (lbs. of bulk seed/acre and % pure live seed), mulch and fertilizer preferred by the landowner-lessee or land management agency should be forwarded to E. J. Fanning, Department of Environmental Quality, Water Quality Division, Herschler Building, 122 W. 25th, Cheyenne, Wyoming 82002, within 30 days of receipt of this permit. - Not applicable for this permit.
5. After dewatering by land application, the permittee must demonstrate, before backfilling, that the residual solid wastes will remain hydrologically isolated, i.e. by virtue of the surrounding soil matrix or bedrock, or by installation of artificial clay liners and/or caps. Failure to demonstrate this will necessitate the excavation of the pit wastes and haulage to an approved disposal site.

If wastes are to be retained in the pit, an analysis of a mud sample, composited by the same techniques as described in section 8 of the one-time land application form and the DEQ sampling card, must be submitted in a timely manner to the responsible agency personnel (E. J. Fanning).

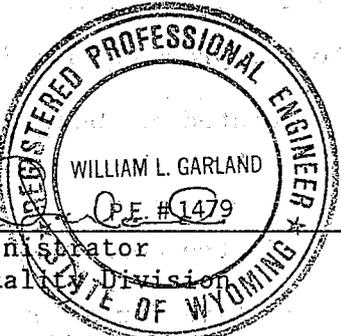
during working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, 2161 Coffeen Avenue, Suite 301, Sheridan, Wyoming 82801; telephone, 672-6457.

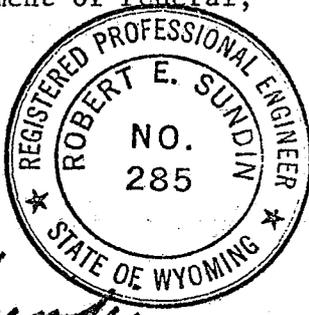
Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties established pursuant to any applicable State law or regulation.

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:


William L. Garland

District Administrator
Water Quality Division
STATE OF WYOMING


Robert E. Sundin

Director
Dept. of Environmental Quality

August 14, 1984
Date of Issuance

This permit does not supercede the requirements for obtaining any permit from local agencies.

xc: Western Water Consultants
P.O. Box 3042
Sheridan, WY 82801

WATER QUALITY DIVISION
GROUNDWATER SECTION
PERMIT APPLICATION REVIEW

*Abner
Ret to Steindor
7/18*

APPLICATION NUMBER 84-330

DATE SUBMITTED FOR REVIEW 7-17-84

NAME AND LOCATION OF FACILITY Wynedale Mine Topsoil Stockpile No 5
Sediment Traps TSS-1555-2
Sec 28 T 50N R 71W
Campbell Co

I have reviewed the plans and specifications with regard to all aspects of groundwater quality and find the following:

- No comment. The submittal is consistent with current groundwater protection procedures and requirements.
- Comments attached.

SIGNED *Richard J. Lemmer*
TITLE *Eng. Eval.*
DATE *7-18-84*

APPROVED *7/18/84*
(Date)

ajm
Groundwater Control Supervisor

7-31-84

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 84-331R
SEE SPECIAL CONDITION

Bear Creek Veterinary Clinic
(Name of Facility)

This permit hereby authorizes the applicant (name and address):

Bear Creek Veterinary Clinic

c/o Brent Kaufman

P.O. Box 326

Torrington, WY 82240

to construct, install, or modify a commercial subsurface wastewater treatment and disposal facility according to the procedures and conditions of the application No. 84-331R. The facility is located in E1/2 SW1/4 Section 22, T24N, R61W in the County of Goshen, in the State of Wyoming. This permit shall be effective for a period of two (2) years (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

The authority to construct granted by this permit does not mean or imply that the Wyoming Department of Environmental Quality guarantees or insures that the permitted facility, when constructed, will meet applicable discharge permit conditions or other effluent or operational requirements.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit. The Permittee understands that it is solely responsible to any third parties for any liability arising from the construction or operation of the facility described herein. By the issuance of this permit, the State does not in any way waive its sovereign immunity.

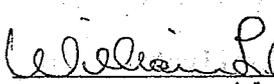
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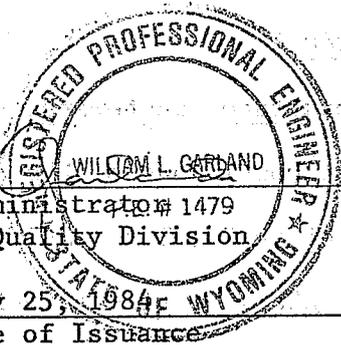
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, Herschler Building, 122 W. 25th, Cheyenne, Wyoming 82002; telephone, 777-7781.

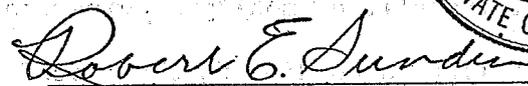
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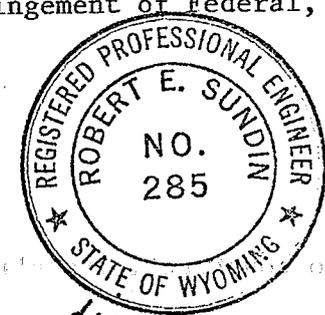
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AUTHORIZED BY:


WILLIAM L. CARDANO
Administrator # 1479
Water Quality Division
July 25, 1984
Date of Issuance




Director
Dept. of Environmental Quality



This permit does not supercede the requirements for obtaining any permit from local agencies.

Condition to Permit to Construct

The permittee shall notify the Goshen County Sanitarian of the estimated day construction will commence and the estimated day of completion of this project. Inspection of the installed system is required prior to backfilling. The authorized representative in your area can be contacted at the following address:

Harold D. Anderson
Goshen/Platte Co. Sanitarian
P.O. Box 1192
County Courthouse
Torrington, WY 82240
Telephone: 532-5002

cc: James Voeller, AVI p.c., 1700 Westland Road, Cheyenne, WY 82001

7-19-84

Review of Plans and Specifications

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY DIVISION
1111 East Lincolnway
Cheyenne, Wyoming 82002

PROJECT: Bear Creek Veterinary Clinic, Goshen Co.

ARCHITECT OR ENGINEER: James Voeller, AVI, p.c.
1700 Westland Road, Cheyenne, WY 82001

APPLICANT: Bear Creek Veterinary Clinic, c/o Brent Kaufman
P.O. Box 326, Torrington, WY 82240

WATER QUALITY DIVISION REFERENCE NUMBER: 84-331

REVIEWING ENGINEER: Thomas S. Norman *T S Norman*

DATE OF REVIEW: July 18, 1984

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

1. How were the design flows determined?
2. A method of keeping animal hair out of the sewerage system is necessary.
3. A list of the type, amount, and manufacturer of chemicals (cleansers; disinfectants, sanitizers, etc.) must be submitted. Please list individual chemicals in each product and how much is expected to be used.

1-27-85



THE STATE OF WYOMING

ED HERSCHLER
GOVERNOR

Department of Environmental Quality
Water Quality Division

HERSCHLER BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

January 24, 1986

Mayor E. B. Carpenter
P.O. Box 94
Encampment, WY 82325

RE: Wastewater O & M Manual for Riverside, Wyoming, DEQ/WQD Ref. No. 84-322R

Dear Mayor Carpenter:

The Water Quality Division has reviewed the operation and maintenance manual for Riverside's wastewater collection and treatment facilities and finds it acceptable.

The manual identifies specific equipment which is necessary to operate and maintain the wastewater facilities. This equipment is identified as:

1. Portable power generation equipment (page 3.12).
2. Groundwater monitoring equipment (page 4.12).
3. Surface water monitoring equipment (page 5.6).

Please reply within 30 days as to whether or not the Town has the above equipment. If certain items have not yet been obtained, identify those items and when they will be obtained.

Sincerely,

Thomas S. Norman
Water Quality Engineer

TSN/nc

cc: James S. Wailes, Simons, Li & Assoc., Inc., P.O. Box 1816, Ft. Collins, CO 80522
Tim Holbrook, DEQ/WQD
O & M File

8-7-89

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 84-332R

Cheyenne Transfer Station
(Name of Facility)

This permit hereby authorizes the applicant (name and address):

City of Cheyenne

2101 O'Neil Ave.

Cheyenne, WY 82001

to construct, install, or modify a municipal water distribution and wastewater collection facility according to the procedures and conditions of the application No. 84-332R. The facility is located in Section 3, T13N, R66W in the County of Laramie, in the State of Wyoming. This permit shall be effective for a period of two (2) years (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

The authority to construct granted by this permit does not mean or imply that the Wyoming Department of Environmental Quality guarantees or insures that the permitted facility, when constructed, will meet applicable discharge permit conditions or other effluent or operational requirements.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit. The Permittee understands that it is solely responsible to any third parties for any liability arising from the construction or operation of the facility described herein. By the issuance of this permit, the State does not in any way waive its sovereign immunity.

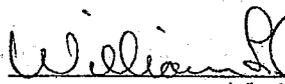
The permittee shall allow authorized representatives from the Department of Environmental Quality, Water Quality Division, upon the presentation of credentials and during working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, Herschler Building, 122 W. 25th, Cheyenne, Wyoming 82002; telephone, 777-7781.

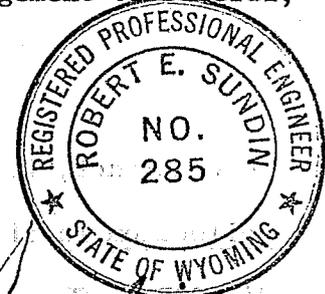
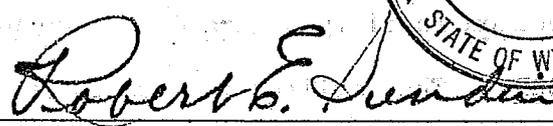
Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties established pursuant to any applicable State law or regulation.

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:



WILLIAM L. GARLAND
P.E. # 1479
Administrator
Water Quality Division
August 3, 1984
Date of Issuance



Director
Dept. of Environmental Quality

This permit does not supercede the requirements for obtaining any permit from local agencies.

cc: James D. Voeller
AVI, p.c.
1700 Westland Road
Cheyenne, WY 82001

7-24-84

Review of Plans and Specifications

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY DIVISION
1111 East Lincolnway
Cheyenne, Wyoming 82002

PROJECT: Cheyenne Transfer Station, Laramie Co.

ARCHITECT OR ENGINEER: James Voeller, AVI, p.c.
1700 Westland Road, Cheyenne, WY 82001

APPLICANT: City of Cheyenne
2101 O'Neil Ave., Cheyenne, WY 82001

WATER QUALITY DIVISION REFERENCE NUMBER: 84-332

REVIEWING ENGINEER: Thomas S. Norman *T. Norman*

DATE OF REVIEW: July 23, 1984

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

1. Three copies of the plans and specifications are required.
2. An engineering design report was not submitted as required by Section 6, Chapter XI, Water Quality Rules and Regulations.
3. The application must be signed by the owner or applicant, not the engineer.
4. The 1979 Wyoming Public Works Standard Specification is no longer in effect. The 1984 edition is the current standard.
5. Air release valves are required at high points in the water main (Stations 15+00, 5+00).
6. Valves are required at 800 foot intervals. A valve is also required on each side of a water crossing for testing and repair purposes. The valve on the supply side shall be in a manhole.
7. Specifications were not provided on the water meter. Please explain the purpose or reasons for the two-way flow through the vault.
8. The meter pit must be drained to the surface or underground absorption pit.
9. Sewage Lift Station
 - a. The minimum inlet and outlet to the pumps must be four inches.
 - b. Design information on the pumps is necessary (i.e. design flows, efficiency curves, suction lift capabilities, size of solids able to pass through pump, cycle time, level controls, flow controls, alarms).
 - c. The plans (sheets 8 and 9) show the outlet pipe existing at 90° to the inlet which is not the same as sheets 6 and 7.

- d. Cleanouts are required on the pipe suction.
- e. What is the capacity of the ventilation system and how many air exchanges does it supply?

PERMIT TO CONSTRUCT

New
 Renewal
 Modified

Permit No. 84-333
Ref.No. 83-635R
SEE SPECIAL CONDITION

Trails End Ranch Cabins' Wastewater Disposal
(Name of Facility)

This permit hereby authorizes the applicant (name and address):

Trails End Ranch

c/o Jon Wierks

Box 20311

Jackson, WY 83001

to construct, install, or modify two wastewater disposal beds for three guest cabins facility according to the procedures and conditions of the application No. 84-333.

The facility is located in Section 15, T93N, R117W in the County of Teton, in the State of Wyoming. This permit shall be effective for a period of two (2) years (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

The authority to construct granted by this permit does not mean or imply that the Wyoming Department of Environmental Quality guarantees or insures that the permitted facility, when constructed, will meet applicable discharge permit conditions or other effluent or operational requirements.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit. The Permittee understands that it is solely responsible to any third parties for any liability arising from the construction or operation of the facility described herein. By the issuance of this permit, the State does not in any way waive its sovereign immunity.

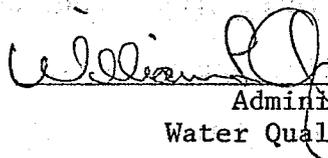
The permittee shall allow authorized representatives from the Department of Environmental Quality, Water Quality Division, upon the presentation of credentials and during working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

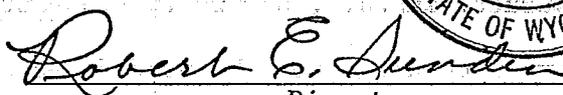
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, 210 Lincoln, Lander, Wyoming 82520; telephone, 332-3144.

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties established pursuant to any applicable State law or regulation.

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:


WILLIAM L. GARLAND
P.E. # 1479
Administrator
Water Quality Division
STATE OF WYOMING
REGISTERED PROFESSIONAL ENGINEER


ROBERT E. SUNDIN
NO. 285
REGISTERED PROFESSIONAL ENGINEER
STATE OF WYOMING
Director
Dept. of Environmental Quality

July 25, 1984
Date of Issuance

This permit does not supercede the requirements for obtaining any permit from local agencies.

Condition to Permit to Construct #84-333

This permit is issued with the following requirement:

The permittee shall notify the Teton County Sanitarian of the day construction is scheduled to commence and the estimated completion date of the project. Final inspection of the installed system is required before backfilling. The sanitarian, Joe Chalfant, can be contacted by calling 733-3959.

JH/nc



Department of Environmental Quality
Water Quality Division

210 LINCOLN STREET

LANDER, WYOMING 82520

TELEPHONE 307-332-3144

July 25, 1984

Mr. Jon S. Wierks
16335 Niantic Circle
Huntington Beach, CA 92644

RE: Trails End Dude Ranch
Application No. 83-635R
Reference No. 84-333

Dear Mr. Wierks:

This letter is intended to notify you that your application number 83-635R, the "as built" plans of the on-site wastewater disposal facilities constructed to serve the guest cabins at Trails End, has been removed from consideration for authorization.

The leach fields that were constructed without a permit do not meet minimum standards and, therefore, have to be replaced. The leach bed designs submitted by Nelson Engineering and intended to replace the existing fields, meet the minimum standards. Therefore, a permit to construct, 84-333, is being issued for the replacement beds. These beds must be constructed as shown on the plans.

For future reference, any wastewater treatment, disposal or collection facility must be permitted through this office prior to the start of construction.

Feel free to contact either Ed Baruth or me if you have any questions.

Respectfully,

A handwritten signature in cursive script that reads "Jeff Hermansky".

Jeff Hermansky
Water Quality Evaluator

JH:dcn

xc: Roger Parrott, Manager
Jake Strohmman, DEQ/WQD Cheyenne
Joe Chalfant, Teton County Sanitarian
Plans #83-635R

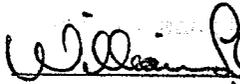
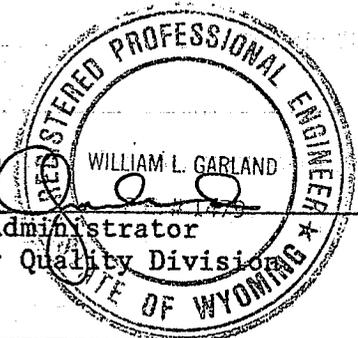
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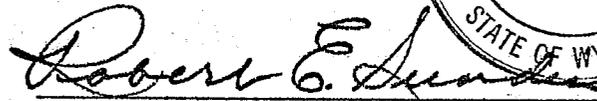
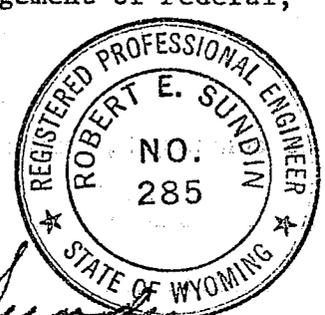
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, 165 East Railroad Ave., Green River, Wyoming 82935; telephone, 875-6911.

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties established pursuant to any applicable State law or regulation.

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:



WILLIAM L. GARLAND
Administrator
Water Quality Division
STATE OF WYOMING



ROBERT E. SUNDIN
NO. 285
STATE OF WYOMING
Director
Dept. of Environmental Quality

July 19, 1984

Date of Issuance

This permit does not supercede the requirements for obtaining any permit from local agencies.

EB:dcn

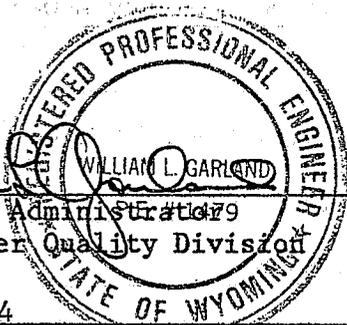
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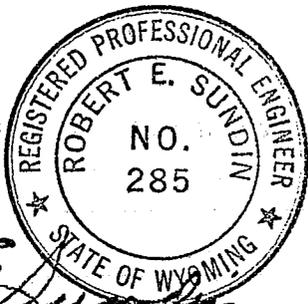
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AUTHORIZED BY:


William L. Garland

William L. Garland
Administrator
Water Quality Division
STATE OF WYOMING
July 19, 1984

Date of Issuance


Robert E. Sundin

Director
Dept. of Environmental Quality

This permit does not supercede the requirements for obtaining any permit from local agencies.

EB:dcn

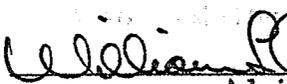
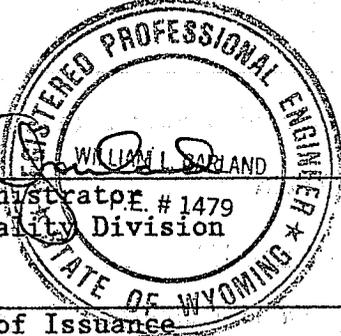
ing working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

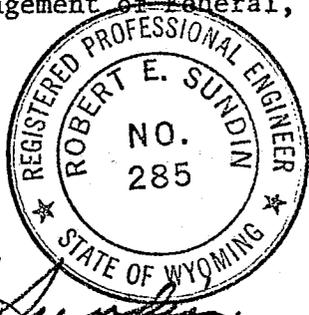
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, 165 East Railroad Ave., Green River, Wyoming 82935; telephone, 875-6911.

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties established pursuant to any applicable State law or regulation.

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:

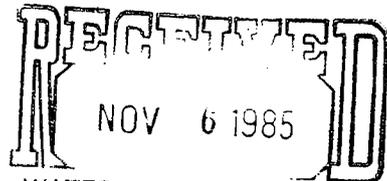

WILLIAM L. GARLAND
Administrator # 1479
Water Quality Division

July 19, 1984
Date of Issuance



Director
Dept. of Environmental Quality

This permit does not supercede the requirements for obtaining any permit from local agencies.

EB:dcn



Department of Environmental Quality
Water Quality Division

210 LINCOLN STREET

LANDER, WYOMING 82520

TELEPHONE 307-332-3144

October 28, 1985

CERTIFIED P 399 271 373

Dale E. Peterson
Rocky Mountain Engineering
P.O. Box 805
Evanston, WY 83118

Dear Mr. Peterson:

Our records indicate your application for a permit to construct has not been resubmitted to this office for review and authorization. The specific information for your proposed project are:

Facility Name: Corsi Ranches Drilling Fluid Disposal Pit
DEQ/WQD Reference Number: 84-337
Engineering Consultant: Jack E. Corsi, Etna, WY 83118
DEQ/WQD Review Engineer: Jack Bedessem/Bill Locke
Date of DEQ/WQD Review: 1-18-85

Please indicate below the status of your application and return this form to our office.

[X] The application will not be resubmitted as the proposed project has been cancelled.

[] The application will be resubmitted within thirty (30) days.

[] The facility has been constructed, or is under construction. As built construction plans and specifications will be submitted within thirty (30) days.

[] Other Remarks:

Dale E. Peterson
11-4-85

You are reminded that the construction, installation, or modification of any sewage system, treatment works, disposal system, or other facility capable of causing or contributing to pollution, or public water supply system without a Permit to Construct is a violation of Wyoming State Statutes, and is punishable with a fine not to exceed \$10,000 for each day of violation. Unless the Water Quality Division review engineer receives information concerning the status of this project within fifteen (15) days of the receipt of this letter, follow-up action will be taken.

Sincerely,

A handwritten signature in cursive script that reads "Bill Locke".

Bill Locke, P.E.
Water Quality Engineer

BL/jw

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER QUALITY DIVISION
210 LINCOLN
LANDER, WYOMING 82520
PHONE: (307) 332-3144

PROJECT: Corsi Ranches Drilling Fluid Disposal Ponds

ENGINEER: Dale E. Peterson Attention: Andy Armstrong
Rocky Mountain Engineering
P. O. Box 805
Evanston, WY 83118

OWNER: Jack E. Corsi
Etna, WY 83118

WATER QUALITY DIVISION REFERENCE NUMBER: #84-337R

REVIEWING EVALUATOR: Jack Bedessem *JB*

DATE OF REVIEW: January 18, 1985

ACTION: Not authorized.

COMMENTS: Your December 7, 1984 response has been reviewed. The following items still remain to be satisfactorily addressed and/or resolved:

1. A detailed profile view of the monitoring wells needs to be included with this application. Refer to Chapter XI Water Quality Rules and Regulations Part G. Include depth of seal, seal material, casing material, location of perforations, cap, etc.

The monitoring wells' placement and development should be determined based on the subsurface investigation. Address the rationale of the monitoring wells location and development.

2. The proposed subsurface monitoring system for this facility consists of a leak detection system with collection well and two monitoring wells. Your response indicates that the wells will be checked monthly; however, if liquid appears, they will be tested every three months. Clarify.

- (a) Since leaks will be detected within days of occurrence, the collection well (leak detection system) should be checked at least weekly. If a leak is detected, this department must be notified immediately and appropriate measures implemented.
- (b) Since no groundwater was encountered in the test holes and because of the pervious soil condition, the monitoring wells should be checked monthly.
- (c) It is recommended that the following monitoring program outline be implemented for this type of facility:

AC

Review of Plans and Specifications

Corsi Ranches Drilling Fluid Disposal Ponds #84-337R

January 18, 1985

Page Two

- All groundwater quality monitoring reports shall be submitted to: Tony Mancini, Department of Environmental Quality/Water Quality Division, Herschler Building, 122 West 25th St., Cheyenne, WY 82002 within 30 days of the sampling event.
- Proper sampling procedures. Bale the well dry and sample after it recharges. If the recharge is too fast to completely evacuate the well, remove 3-5 casing volumes and then take the sample.
- Background Groundwater Quality. If groundwater is encountered in either of the monitoring wells, background groundwater quality must be established prior to facility operation.
- To establish background groundwater quality, a minimum of two separate sampling events shall be performed. The two sampling events shall produce consistent analytical results or additional sampling will be required until consistent results are obtained. Background samples shall be analyzed for the parameters listed in Chapter VIII Water Quality Rules and Regulations, excluding the radionuclides.
- Subsurface Monitoring During Operation--If Groundwater is Present. Samples shall be collected, according to the above procedure, and analyzed on a quarterly basis. Samples shall be analyzed for pH, total dissolved solids, chlorides, sulfates, oil and grease. Reports shall be submitted to the above address.
- Subsurface Monitoring During Operation--If No Groundwater is Present. The monitoring wells shall be checked once per month for the presence of fluid. If any fluid is discovered, the Department of Environmental Quality, Water Quality Division, Lander Office (307-332-3144) shall be notified immediately. Samples shall be collected, according to the above procedure, and analyzed for the parameters listed in Chapter VIII excluding the radionuclides. Upon receipt of the results, the Department of Environmental Quality, Water Quality Division may require additional sampling and/or investigation.

3. If a sand is to be used for the granular fill, it should be relatively clean sand. Depending on the amount of silt, a silty sand material may have a percolation rate as high as 40-50 min/inch.

The leak should be detected within days.

4. O.K. - Polyethelene wrapping of perforated pipe.
5. O.K. - Grading
6. O.K. - Geotechnical Report.

Submit the required information to this office in triplicate. If you have any questions, please feel free to contact me.

JB:dcn

WATER QUALITY DIVISION
GROUNDWATER SECTION
PERMIT APPLICATION REVIEW

Norma
Ret. to Landau
1-17-85

APPLICATION NUMBER 84-337 R

DATE SUBMITTED FOR REVIEW 12-17-84

NAME AND LOCATION OF FACILITY Corsi Ranch Drilling Fluid
Pool
Lincoln Co.

I have reviewed the plans and specifications with regard to all aspects of groundwater quality and find the following:

- No comment. The submittal is consistent with current groundwater protection procedures and requirements.
- Comments attached.

SIGNED *Richard Lenny*
TITLE *Eng. Seal*
DATE *1-15-85*

ACCEPTED FOR RECORD *1/17/85*
(Date)

[Signature]
Groundwater Control Supervisor

MEMORANDUM

TO: A. J. Mancini, Groundwater Control Supervisor

FROM: R. J. Lennox, Engineering Evaluator

DATE: January 16, 1985

SUBJECT: Corsi Ranch Drilling Fluid Ponds, Lincoln Co., Application #84-337R,
Lincoln Co.

1. A review of the subject application indicates that the applicant has not satisfactorily answered the original concerns expressed by the district engineer's review dated September 6, 1984.
2. The following items need to be further addressed:
 - a. Construction details for the monitor wells are still lacking. From the response submitted, the applicant appears unfamiliar with the requirements of Water Quality Rules and Regulations, Chapter XI, Part G.
 - b. Response paragraph 2 is not considered adequate for a monitor program. All wells are grouped (i.e., monitor wells, wet well) where there should be separate procedures for the leak detection well (wet well) and the perimeter monitor wells. I question why if "waste liquid" shows up in any well it will only be analyzed (tested) every 3 months. This would indicate that a leak might go undetected for 3 months or longer depending on how long the laboratory takes to analyze the samples. Recommend more detailed procedures be presented.
 - c. In response 3, the applicant indicates that a leak would show up "within days", this is considered too nebulous. If the material between the liner is known, then a much more accurate detection time should be computed.

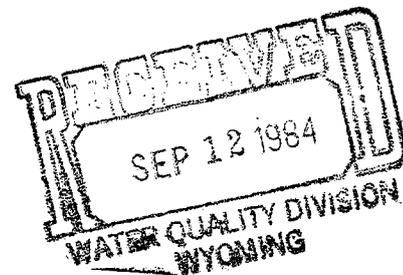
REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER QUALITY DIVISION

LANDER, WYOMING 82520

PHONE: (307) 332-3144



PROJECT: Corsi Ranches Drilling Fluids Ponds

ENGINEER: Dale E. Peterson
Attention: Andy Armstrong
Rocky Mountain Engineering & Surveying
P. O. Box 805, Evanston, WY 82930

OWNER: Jack E. Corsi
Etna, Wyoming 83118

WATER QUALITY DIVISION REFERENCE NUMBER: #84-337

REVIEWING EVALUATOR: Jack Bedessem *JB*

DATE OF REVIEW: September 6, 1984

ACTION: Not authorized.

COMMENTS: An initial review of your plans and specifications has been completed. The following items need to be addressed and/or resolved.

1. A detail is needed for the monitoring wells construction and development.
2. Address a program for monitoring subsurface conditions (wet well, monitoring wells, monitoring frequency, sampling procedures and parameters, notification, etc.).
3. The material below the liner is specified to have a percolation rate of 10 min/inch. Information is needed as to the time, with respect to quantity, it will take for a leak to be detected, if a leak occurs at the furthest point from the collection pipe.
4. Address the reason for wrapping the (perforated) French drain pipe in polyethylene liner material.
5. Grading should be done such that surface water runoff is diverted around this facility.
6. Three copies of the Geotechnical Report are needed.
7. The owner/operator of this type of facility needs to be aware that he/she is responsible for and subject to applicable statutes and penalties of the Wyoming Environmental Quality Act. This facility must provide adequate protection for water of the State or this office will take appropriate actions to rectify the situation.

AC

Review of Plans and Specifications
Corsi Ranches Drilling Fluids Ponds #84-337
September 6, 1984
Page Two.

Please submit the required information and revised drawings to this office, in triplicate. If you have any questions, please feel free to contact me.

JB:dcn

Water Quality Division
Groundwater Section
Permit Application Review

Returned to
Lander
8-7-84

Application Number 84-337

Date Submitted For Review 8-2-84

Name and Location of Facility CORSI RANCH DRILLING FLUIDS POND
Sec 2, T 35N R 119W
Lincoln Co

I have reviewed the plans and specifications with regard to all aspects of ground-water quality and find the following:

- No Comment. The submittal is consistent with current ground-water protection procedures and requirements.
- Comments attached.

Signed Richard Lander
Title Eng. Eval
Date 8-7-84

Approved 8/7/84
(Date)

ajm
(Signed)
Groundwater Control Supervisor

MEMORANDUM

TO: Plans #84-338
FROM: Jack Bedessem ^{JB} and Jeff Hermansky ^{JH}
DATE: September 4, 1984
SUBJECT: Phone Review

On September 4, 1984, Jack Bedessem spoke with Roger Raeburn, P.E., Pacific Power's Water Systems Engineer. They spoke about the status of the 12" water main designed for Thompson St. in Rock Springs which is needed for service to the Chevron Plant.

More information is needed before a review of the project can be completed.

JH:dcn

AC



THE STATE OF WYOMING

8-28

ED HERSCHLER
GOVERNOR

Department of Environmental Quality
Water Quality Division

albury

HERSCHLER BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

August 26, 1985

City View Partners
c/o L. M. Cheesbrough
1780 Westland Road
Cheyenne, WY 82001

Gentlemen:

On July 16, 1985, a status letter was sent to you concerning a permit to construct, reference number 84-339R, facility name Medicine Bow Park. The application is considered inactive and is being returned under the assumption that the applicant does not wish to proceed with the permit to construct process.

This project has not been permitted. Construction of this facility without a permit is a violation of the Environmental Quality Act and punishable with fines not to exceed \$10,000 per day of violation. If this project has already been constructed, it is your responsibility to immediately contact this office for further instruction. If you wish to reconsider construction of this facility, then application procedures pursuant to Chapter III, Water Quality Rules & Regulations, must be followed.

Sincerely,

Thomas S. Norman
Water Quality Engineer

TSN/nc

cc: James D. Voeller
AVI
1700 Westland Road
Cheyenne, WY 82001

Jim Nelson
City Engineer
P.O. Box "C"
Laramie, WY 82070

APPLICATION FOR
PERMIT TO CONSTRUCT, INSTALL OR MODIFY
PUBLIC WATER SUPPLIES AND WASTEWATER FACILITIES
IN WYOMING

2-1091

84-339

1. Name of Facility Medicine Bow Park - Phase I
2. Location of Facility: Sec. 30 T. 16 N., R. 73 W., Co. Albany,
3. Facility Description: New Construction Modification

- Public Water Supply
 Municipal and private
 Other Legal Entity _____
 Commercial
 Industrial

Type of Facility:

- Source Development
 Treatment Plant
 Distribution System

Source: Groundwater City Supply
Surfacewater _____
Capacity, or Demand 1500 gpm fire 55 gpm ave

List State Engineer permit number(s) for water sources: n/a

- Wastewater Treatment Facility
 Municipal _____
 Other Legal Entity _____
 Commercial
 Industrial
 Small

Type of Facility:

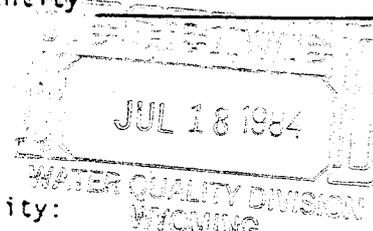
- Subsurface Disposal
 Stabilization Pond
 Evaporative
 Mechanical Treatment
 Collection System

Volume of Wastewater 69,000 gals/day

The State Engineer has reviewed this project and has determined that it will not interfere with existing water rights.

Yes No

List State Engineer permit number(s) on the water source(s) related to this project: n/a



4. Briefly describe facilities proposed to be constructed: Fire Flow Loops, main and private water distribution and sewage collection system for a 197 unit mobile home park.

5. Does the proposed water supply/wastewater treatment/facility discharge? no
If yes, NPDES Permit Application No. _____
Name of receiving waters _____

Name of Applicant City View Partners
c/o L.M. Cheesbrough
Mailing Address: 1780 Westland Rd.
(Street or P.O. Box)
Cheyenne, Wyoming 82001
(City) (State) (Zip)

Name of Engineer James D. Voeller
Wyoming P.E.# 2617
Engineering Firm AVI p.c.
Mailing Address: 1700 Westland Road
(Street or P.O. Box)
Cheyenne, Wyoming 82001

[Signature]
General Partner

modified form

7-17



THE STATE OF WYOMING

ED HERSCHLER
GOVERNOR

Department of Environmental Quality
Water Quality Division

HERSCHLER BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

July 16, 1985

City View Partners
c/o L. M. Cheesbrough
1780 Westland Road
Cheyenne, WY 82001

Gentlemen:

Our records indicate your application for a permit to construct has not been resubmitted to this office for review and authorization. The specific information for your proposed project are:

Facility name:	Medicine Bow Park
DEQ/WQD Reference Number:	84-339R
Engineering Consultant:	James Voeller, AVI
DEQ/WQD Reviewing Engineer:	Thomas S. Norman
Date of DEQ/WQD Review:	November 13, 1985

According to Chapter III of the Water Quality Rules and Regulations, Section 7 b. (2), "If an application is denied because of incompleteness necessitating a request for additional information, the applicant shall have a maximum of six months to comply with the request. If the applicant fails to provide the requested information within that period, the entire incomplete application shall be returned."

Please indicate below the status of your application and return this form to our office:

- The application will not be resubmitted as the proposed project has been cancelled.
- The application will be resubmitted within 30 days.
- The facility has been constructed, or is under construction. As built construction plans and specifications will be submitted within 30 days.
- Other remarks _____

You are reminded that the construction, installation, or modification of any sewerage system, treatment works, disposal system, or other facility capable of causing or contributing to pollution, or public water supply system without a Permit to Construct is a violation of Wyoming State Statutes. Unless the Water Quality Division reviewing engineer receives this information within 15 days of the receipt of this letter, follow-up action will be taken.

Sincerely,



Thomas S. Norman
Water Quality Engineer
Water Quality Division

TSN/nc

cc: James Voeller
AVI
1700 Westland Road
Cheyenne, WY 82001

11-19-84

Review of Plans and Specifications

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY DIVISION
1111 East Lincolnway
Cheyenne, Wyoming 82002

PROJECT: Medicine Bow Park, Phase I, Albany Co.

ARCHITECT OR ENGINEER: James D. Voeller, AVI, p.c.
1700 Westland Road, Cheyenne, WY 82001

APPLICANT: City View Partners, c/o L.M. Cheesbrough
1780 Westland Road, Cheyenne, WY 82001

WATER QUALITY DIVISION REFERENCE NUMBER: 84-339R

REVIEWING ENGINEER: Thomas S. Norman *Thomas S Norman*

DATE OF REVIEW: November 13, 1984

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

1. Design report. On the second page of the Hardy Cross Analysis, you state that the pressure will balance around 22 psi in the Cinnibar Loop. I think that it should be 32 psi not 22 psi.

Also on the second page, the last line, you show the hydrant pressure at 23 psi but the calculations come to 13 psi (58 - 45 = 13). In this instance, the pressures do not meet the 20 psi minimum.

2. The 1984 Wyoming Public Works Standards are not complete by themselves. The attached handout which comes with the Standards show those areas where the engineer must call out specific information. For instance, the engineer must specify the pipe class for ductile iron pipe, the type of bedding, the type of back-fill, etc.

The cover sheet states that water lines will be ductile iron but the plans show that the 4-inch lines will be PVC.

3. Section 59(c)(iii) of the Water Quality Rules and Regulations state that "the service connection pipe shall be provided with a curb stop below frost penetration". If you prefer to call the valve a corp-stop or shut-off valve, it is a matter of terminology. Our concern is that when a space is not occupied that the frost will penetrate quite deep. When the service line freezes below the valve, there is no method of repairing the line without discontinuing service to other customers.

4. If a drain is not provided in the meter vault, then a sump or a sloped floor should be installed to facilitate pumping. This alternative has been discussed with the City on other projects and is acceptable.

5. Three final sets of the plans are required:

6. The application form that was submitted is not a correct copy of our form. Please use the attached form.
7. The water distribution system will require a certified operator. Please contact Paul O'Leary at our office.

Review of Plans and Specifications

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY DIVISION
1111 East Lincolnway
Cheyenne, Wyoming 82002

PROJECT: Medicine Bow Park, Phase I, Albany Co.

ARCHITECT OR ENGINEER: James D. Voeller, AVI, p.c.
1700 Westland Road, Cheyenne, WY 82001

APPLICANT: City View Partners, c/o L.M. Cheesbrough
1780 Westland Road, Cheyenne, WY 82001

WATER QUALITY DIVISION REFERENCE NUMBER: 84-339

REVIEWING ENGINEER: Thomas S. Norman *TS Norman*

DATE OF REVIEW: July 24, 1984

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

1. An engineering design report was not submitted as required in Section 6 of Chapter XI, Water Quality Rules & Regulations. See Section 6 and 57-59 for requirements.
2. Is this application for the total project or only phase 1?
3. The 1984 Wyoming Public Works Standard Specifications are not complete specifications by themselves. See attached guidelines for assistance. We don't have a copy of the Laramie Development Standards. Are they applicable to the water and sewer?
4. It is not clear where the water meter vault goes as it is not shown on the individual layout sheets. Specifications were not provided on the meter. The vault needs a drain. It is also not clear how the pipes come out of the valve box and which distribution lines they lead to.
5. Areas where the minimum separation distance between water and sewer cannot be met must be identified on the drawings as requiring special construction. In certain instances, it appears that the water goes through the storm sewer (Station 8+75, Sheet 8; Station 12+75, Sheet 9).
6. The west invert on manhole #21 should be 39.26.
7. Each water service riser must have a curb stop below the frost line.

Attachment

8-22-84



THE STATE OF WYOMING

ED HERSCHLER
GOVERNOR

Department of Environmental Quality
Water Quality Division

HERSCHLER BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

August 20, 1984

Mr. T. G. Doss
District Manager
Amoco Production Company
P.O. Box 829
Evanston, WY 82930

RE: Permit GPC 84-340

Dear Mr. Doss:

Enclosed is the signed permit GPC 84-340, which is a modification of original permit GPC 83-198RR issued for the Whitney Canyon Gas Plant Disposal Well #1. The modified permit replaces the original permit for the Disposal Well #1 in the NW1/4 SE1/4 Section 18, T17N, R119W, Uinta County, Wyoming for the subsurface injection of industrial wastes.

Sincerely,

William L. Garland
Administrator

WLG/AJM/nc
Enclosures

DEPARTMENT OF ENVIRONMENTAL QUALITY

STATE OF WYOMING

GROUNDWATER POLLUTION CONTROL PERMIT
AUTHORIZATION TO DISCHARGE INTO UNDERGROUND RECEIVERS
(Permit to Inject)

() New

Permit Number:

(X) Modified (Original Permit: GPC 82-198RR)

GPC 84-340

In compliance with the Wyoming Environmental Quality Act (W.S. 35-11-101 through 1104, specifically 301(a)(i) through (iv), Laws 1973, Ch. 250, Section 1) and Water Quality Rules and Regulations Chapter IX (September 4, 1980),

Amoco Production Company (USA)
P.O. Box 829
Evanston, Wyoming 82930

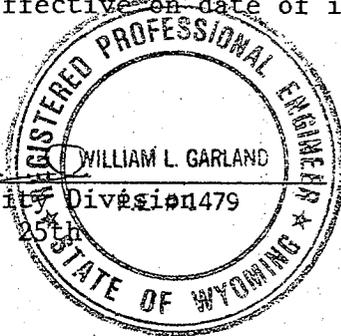
is authorized to operate

the Whitney Canyon Gas Plant Disposal Well #1 in the NW1/4 SE1/4 Section 18, T17N, R119W, Uinta County, for the subsurface injection of industrial wastes

according to procedures and conditions of the application GPC 82-198RR and letters requesting modification (GPC 84-340) and requirements and other conditions of this permit.

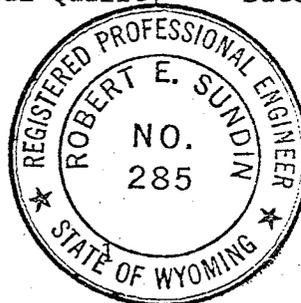
This permit shall become effective on date of issuance.

William L. Garland
Administrator - Water Quality Division 479
Herschler Building, 122 W. 25th
Cheyenne, WY 82002
Phone: (307) 777-7781



August 20, 1984
Date

Robert E. Sundin
Director - Department of Environmental Quality
Herschler Building, 122 W. 25th
Cheyenne, WY 82002



Aug 20, 1984
Date

A. Discharge (Injection) Zone and Area of Review

Injection is authorized into the Nugget formation through perforations 6178-6320 feet. Injection and disposal into any other interval is prohibited; excepting that, following request by the Permittee and written approval of the Administrator, injection and disposal can be authorized through additional perforations in the Nugget formation.

This permit does not authorize the discharge of plant wastes to the surface or into any surface drainage.

The area of review calculated by the permittee is an area within a circle having a radius of 1172 feet, for a projected project life of 20 years. The Water Quality Division considers Amoco's two water supply wells in Section 18, T17N, R119W to be within the area of review.

B. Groundwater Classification

The groundwater in the injection zone is Class VI:

1. Pre-injection water quality analyses indicate a sodium concentration of 15,810 mg/l, a chloride concentration of 29,900 mg/l and a total dissolved solids concentration of approximately 49,100 mg/l.
2. It is so located, by depth and area, so as to make normal use economically and technologically impractical.

C. Authorized Operations

The permittee is authorized to inject industrial wastes consisting of wastes from raw water treatment; boiler blowdown; condensate water wash; miscellaneous process waste into the Nugget formation at a depth ranging between 6178 feet and 6320 feet. SIC 492; SIC 13; SIC 495 (WQD determinations).

Wastewater streams include:

1. Wastes from raw water treatment, from regeneration of softeners and dealkalizers, average 11.1 gpm; and backwashing of sand filters, approximately 6000 gallons of waste, principally suspended solids, per week maximum.
2. Boiler blowdown: 29 gpm maximum.
3. Condensate water wash will contribute approximately 3 gpm to the wastewater stream.
4. Miscellaneous process waste results from spills, leaks and cleaning operations. Diethanolamine (DEA) will be used as the gas sweetening agent in the plant and will be circulated as a 30% by weight aqueous solution at a rate of about 5000 gpm. Approximately 10 gpd of DEA will become part of the wastewater stream.

5. Triethylene glycol (TEG) will be used in the gas dehydration system. Approximately 10 gpd TEG will become part of the wastewater stream.

The maximum amount of plant wastewater to be injected is 63,000 gpd (1500 B/D):

Raw water treating	16,810 gpd
Boiler blowdown	41,859 gpd
Condensate wash water	4,320 gpd
DEA solution	10 gpd
TEG solution	10 gpd

Maximum injection pressure shall not exceed 2500 psig at the surface. The discharge (injection) rate shall not exceed 6400 barrels of wastewater per day, including water produced with the gas.

Permittee is also authorized to dispose of, by subsurface discharge (injection), effluent from the on-site domestic sewage treatment facility. The effluent flow is 5 pgm maximum (170 B/D) and this amount is included in the 6400 B/D total wastewater to be injected.

Permittee shall notify the Administrator of the Water Quality Division, or his representative, 48 hours before injection is to start. Permittee shall provide written notification within seven (7) days after injection commences, of the date and time of commencement.

Whenever the injection pressure or rate is exceeded, permittee shall report this to the Water Quality Division as specified in Section I.6. of this permit.

D. Proper Operation and Maintenance

The permittee is required to conduct the operation in accordance with statements, representations and procedures presented in the complete permit application and supporting documents, as accepted and approved by the Administrator.

The permittee shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used to treat the domestic sewage.

The permittee is required at all times to properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve permit compliance. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training and adequate laboratory and process controls, including appropriate quality assurance procedures.

The subsurface discharge (injection) authorized by permit shall be consistent with the conditions and content of the permit; any modifications which will result in a violation of permit conditions shall be reported by submission of a new or amended permit application and shall not be implemented until a new or modified permit has been issued.

E. Entry and Inspection

The permittee shall allow the Administrator, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
4. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the appropriate rules and regulations of the Department, any substances or parameters at any location.

F. Environmental Monitoring Program for Groundwaters of the State

1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
2. The permittee shall prepare records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation to be retained for a period of at least three (3) years after closure of the facility.
3. Records of monitoring information shall include:
 - a. The date, exact place, and time of sampling or measurements;
 - b. The name(s) of individual(s) who performed the sampling or measurements;
 - c. The date(s) analyses were performed;
 - d. Names of individuals who performed the analyses;
 - e. The analytical techniques or methods used; and
 - f. The results of such analyses.
4. The prescribed program for this permitted activity is as follows:

The Amoco Whitney Canyon Gas Plant Water Wells #1 (State Engineer Permit No. U.W. 51252), in the NE1/4 NE1/4 of Section 18, T17N, R119W; and #2 (State Engineer Permit No. U.W. 51253), in the SE1/4 NE1/4 of Section 18, T17N, R119W shall be sampled quarterly for a period of one year from the date of the original permit, then once annually unless more frequent sampling becomes neces-

sary because of indications of injection fluid migration or other circumstances.

Parameters for analysis include, at a minimum:

Arsenic	Nitrate (NO3-N)	Sodium
Cadmium	Ammonia	Silver
Chloride	Barium	Sulfate
Chromium	Boron	Total dissolved solids
Copper	Fluoride	DEA
Iron	Mercury	TEG
Lead	Nitrite (NO2-N)	Hydroxide
Manganese	Selenium	H2S
Nickel		

Results shall be reported as required in Section G of this permit.

G. Requirements for Monitoring the Discharge

Discharge (injection) volume and/or pressure shall be controlled and monitored to prevent fracturing of confining strata. Injection pressure shall be monitored continuously.

Average and maximum daily injection rate (volume) and pressure shall be reported on a monthly basis. Accumulative injection volume shall be reported at the same time.

The wastewater shall be sampled just before being injected, and analyzed, quarterly. Parameters, at a minimum, shall include:

Sodium	TEG
Chloride	Sulfate
Hydroxide	Calcium
Hydrogen sulfide	Magnesium
DEA	TDS

Analytical results shall be reported quarterly. The report shall include the information specified in Section F.3 of this permit.

Effluent from the domestic sewage treatment process shall be analyzed before it is mixed with the plant wastewater stream and before it is injected; analytical results shall be reported similarly as reported to comply with NPDES requirements and shall be reported quarterly.

All data shall be reported within thirty (30) days after the end of the reporting period to the Groundwater Section of the Water Quality Division.

H. Test Procedures

Test procedures for the determination of water quality parameters and constituents shall be in accord with provisions of Water Quality Rules and Regulations Chapter VIII, Section 7.

I. Records and Reports

1. The permittee shall retain copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three (3) years from the date of the report or application.
2. The permittee shall give notice to the Administrator as soon as possible of any planned physical alterations or additions to the permitted facility.
3. The permittee shall give advance notice to the Administrator of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
4. Monitoring results shall be reported at intervals specified elsewhere in the permit.
5. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.
6. The permittee shall report any noncompliance which may endanger health or the environment, orally within 24 hours from the time the permittee becomes aware of the circumstances. The report should include:
 - a. Any monitoring or other information which indicates that any contaminant may cause an endangerment to a usable Groundwater of the State.
 - b. Any noncompliance with a permit condition or malfunction of the discharge (injection) system which may cause fluid migration into or between usable Groundwaters of the State.

A written submission shall be provided within five (5) days of the time the permittee becomes aware of the circumstances. This written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue, and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

7. The permittee shall report all instances of noncompliance not reported otherwise, at the time monitoring reports are submitted; such reports shall contain the information listed in 6. above.
8. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Administrator, it shall promptly submit such facts or information.
9. The permittee shall retain all records concerning the nature and composition of injected fluids until five (5) years after completion of any specified plugging and abandonment procedures. The Administrator may require the owner/operator to deliver the records to the Administrator at the conclusion of the retention period.

10. A subsurface discharge (injection) well may not commence subsurface discharge (injection) until, following public notice and an opportunity for hearing, a Groundwater Pollution Control Permit has been issued by the Department for the proposed operation, and:
 - a. Well construction is complete and the permittee has submitted notice of completion of construction to the Administrator, and
 - b. The Administrator has inspected or otherwise reviewed the subsurface discharge (injection) well and finds it in compliance with the conditions of the permit; or the permittee has not received notice from the Administrator of intent to inspect or otherwise review the facility within thirteen (13) days of the notice of a. above, in which case prior inspection or review is waived, and
 - c. Well mechanical integrity testing has been proven or demonstrated to the satisfaction of the Administrator.
11. Annual reports shall be submitted to the Administrator within thirty (30) days following the anniversary date of the permit.
12. A comprehensive report for an aborted or curtailed operation authorized by this permit shall be submitted to the Administrator within thirty (30) days of complete termination of the injection (discharge) or associated activity, in lieu of an annual report.

J. Permit Actions

After notice and opportunity for a hearing, a permit may be modified, suspended or revoked in whole or part during its term for cause which includes, but is not limited to, any of the following:

1. Violation of the permit;
2. Obtaining a permit by misrepresentation or failure of the discharge well or system.

Each permit is reviewed at least once every five (5) years, and may be reviewed more frequently.

A permit may be modified at any time as may be required, including for conformity with changes in regulations or standards which occur after the permit is issued.

A permit may be modified in whole or part in order to apply more, or less, stringent standards; or prohibitions for a toxic or other substance present in the permittee's discharge, as may be ordered by the Council.

This operation (permit) can be terminated by authority of the Administrator for one or more permit violations.

Public notice of the permit review and request for public comment will be made every ten (10) years by the Administrator.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit.

K. Mechanical Integrity

Each discharge well and associated discharge facilities is required to have mechanical integrity which demonstrates the unimpaired condition of the well and facilities. The approved procedures for demonstrating the mechanical integrity for the well and facilities handling the discharge authorized by this permit consist of:

At a minimum of once ever five (5) years and more frequently if required by DEQ/Water Quality Division, the permittee shall demonstrate the continued sound and unimpaired condition of all components of the injection well by well mechanical integrity testing. An injection well has mechanical integrity if there is no significant leak in the casing, tubing or packer; and there is no significant movement of injected fluid into an underground source of usable water through vertical channels adjacent to the injection well bore. The absence of leaks will be determined by an acceptable pressure test. Permittee shall provide WQD sufficient advance notice so that a WQD representative may witness the test if desired by WQD. Written results shall be provided WQD as soon as results are available.

The absence of significant fluid movement will be determined by the results and interpretation of appropriate geophysical log(s), such as a cement-bond, temperature, noise, or other log, or combination of logs.

Adequate mechanical integrity testing of the tubing, and packer-annulus, meaning testing at a pressure at least equal to the maximum proposed injection pressure, shall be conducted by the permittee prior to commencement of injection, and testing results shall be documented to the Water Quality Division as soon as results are available. Injection is not permitted before the WQD has informed the permittee that the results of the mechanical integrity testing are acceptable.

TD: 6717'
Casing: 9-58" 36# K-55 ST&C set at 1517'
7" 23# L-80, SS-95, K-55 set at 6717'
Tubing: 3-1/2" 9.2# L-80 set at 6120'
Packer: Permanent Baker Model FB-1 wireline set at 6110' with explosive charge
Perforations: 6178'-6236', 6300'-6320' w/4 JSPF

Inasmuch as the 7 inch long string is not cemented above 3800 feet, any water sand opposite an uncemented portion of the 7 inch (or 9 5/8 inch) casing shall be protected in the event of a significant casing leak or vertical movement along the casing. Protection can be pro-

vided by isolating the water sand(s) by cementing through perforations ("squeeze cementing") or by some other method acceptable to and approved by the WQD Administrator.

The operation (discharge) of any well or system will terminate immediately if mechanical integrity of the well or system fails and/or a leak or unauthorized fluid movement occurs. The discharge shall be discontinued until mechanical integrity has been restored and permission to continue the discharge has been obtained from the Administrator.

L. Abandonment

The permittee shall notify the Administrator at least 180 days before well abandonment. Immediately following the permanent cessation of subsurface discharge or related activity, or where a well has not been completed, the applicant/permittee shall notify the Director and follow the procedures prescribed by the Director for plugging and abandonment or the discontinuance of related activities:

WQD abandonment requirements shall be coordinated with requirements of the Wyoming Oil and Gas Conservation Commission.

WQD requires at a minimum that the injection zone be permanently isolated from overlying and underlying aquifers; that interaquifer communication be permanently prohibited; and that the well be permanently secured against the injection or disposal of anything after abandonment.

M. Duties of the Permittee

It is a duty of the permittee to:

1. Comply with all permit conditions;
2. Halt or reduce activity -- it shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the permit conditions;
3. Take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit;
4. Furnish to the Administrator within a reasonable time, any information which the Administrator may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit; and furnish to the Administrator, upon request, copies of records required to be kept by this permit.

N. Financial Responsibility

The permittee is required to maintain financial responsibility and resources in form approved by the Director, to close, plug and abandon the discharge operation in a manner prescribed by the Director.

The required Certification of Financial Responsibility has been submitted by the Permittee.

O. Special measures the Director finds necessary:

The permitted activity must commence within one year of the issuance date of the permit, or the permit will be invalid.

P. Special permit conditions:

Pollution or waste which migrates into an aquifer containing a usable groundwater of the State is a violation of the permit.

Mechanical integrity -- operations terminate immediately if mechanical integrity of well or system fails and/or a leak or unauthorized fluid movement occurs.

Q. Signatories Requirement

All reports required by this permit and other requested information shall be signed as follows:

For a corporation -- by a principal executive officer of at least the level of vice-president;

For a partnership or sole proprietorship -- by a general partner or the proprietor, respectively;

For a municipality, State, Federal or other public agency -- by either a principal executive officer or ranking elected official; or

By a duly authorized representative for any of the above. A person is a duly authorized representative only if:

1. The authorization is made in writing by one of the described principals;
2. The authorization specifies either an individual or position having responsibility for the overall operation of the regulated facility or activity; and
3. The written authorization is submitted to the Administrator.

If an authorization is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization must be submitted to the Administrator prior to or together with any reports or information, to be signed by an authorized representative.

Any person signing a report or other requested information shall make the following certification:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immedi-

ately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

R. Noncompliance

Any permit noncompliance constitutes a violation of the permit.

The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification or planned changes or anticipated noncompliance, does not stay any permit condition.

S. Permit Transfer

The owner/operator of record (permittee) is always responsible for permit compliance. A permit holder cannot transfer his permit without approval of the Department Director.

T. Responsibilities

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties established pursuant to any applicable State law or regulation.

U. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

V. Severability

The provisions of this permit are severable, and if any provision of the permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

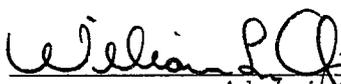
during working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, 2161 Coffeen Avenue, Suite 301, Sheridan, Wyoming 82801; telephone, 672-6457.

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties established pursuant to any applicable State law or regulation.

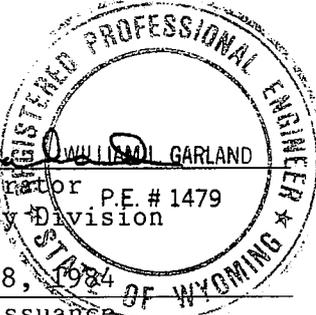
The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

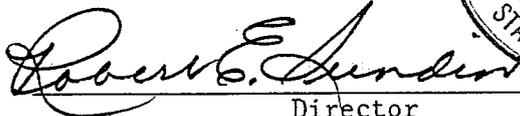
AUTHORIZED BY:



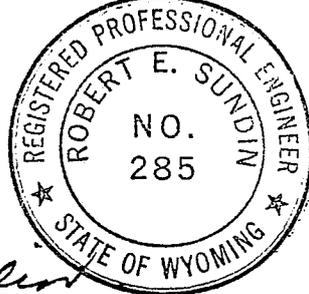
WILLIAM L. GARLAND
Administrator P.E. # 1479
Water Quality Division
August 28, 1984

Date of Issuance





ROBERT E. SUNDIN
Director
Dept. of Environmental Quality



This permit does not supercede the requirements for obtaining any permit from local agencies.

7-21-01

PERMIT TO CONSTRUCT

New

Permit No. 84-342

Renewal

Modified

Dell Range Blvd. Water Main Lowering
(Name of Facility)

This permit hereby authorizes the applicant (name and address):

Cheyenne Board of Public Utilities

2100 Pioneer Ave.

Cheyenne, WY 82001

to construct, install, or modify a municipal water distribution facility according to the procedures and conditions of the application No. 84-342. The facility is located in Dell Range Blvd., Section 22, T14N, R66W in the County of Laramie, in the State of Wyoming. This permit shall be effective for a period of two (2) years (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

The authority to construct granted by this permit does not mean or imply that the Wyoming Department of Environmental Quality guarantees or insures that the permitted facility, when constructed, will meet applicable discharge permit conditions or other effluent or operational requirements.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit. The Permittee understands that it is solely responsible to any third parties for any liability arising from the construction or operation of the facility described herein. By the issuance of this permit, the State does not in any way waive its sovereign immunity.

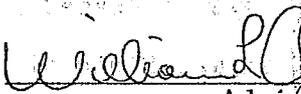
The permittee shall allow authorized representatives from the Department of Environmental Quality, Water Quality Division, upon the presentation of credentials and during working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

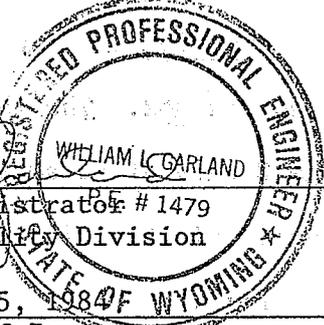
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, Herschler Building, 122 W. 25th, Cheyenne, Wyoming 82002; telephone, 777-7781.

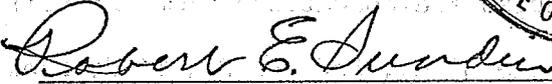
Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties established pursuant to any applicable State law or regulation.

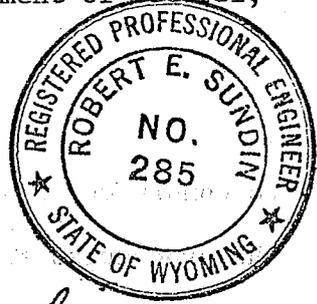
The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

AUTHORIZED BY:


WILLIAM L. GARLAND
Administrator # 1479
Water Quality Division
July 25, 1984
Date of Issuance




Robert E. Sundin
Director
Dept. of Environmental Quality



This permit does not supercede the requirements for obtaining any permit from local agencies.

cc: Peter Abplanalp
Intermountain Professional Services
2206 Pioneer Ave.
Cheyenne, WY 82001

8. 22. 85



THE STATE OF WYOMING

ED HERSCHLER
GOVERNOR

*Department of Environmental Quality
Water Quality Division*

HERSCHLER BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

August 22, 1985

Mr. Kevin Stilson
P.O. Box 625
Jackson, WY 83001

RE: Permit GPC 84-343

Dear Mr. Stilson:

Permit GPC 84-343 issued on August 2, 1984 is invalid; refer to section 0 of the permit. This permit was valid for 1 year. If you still wish to install a discharge well for a groundwater heat pump, application forms will have to be sent to the Department of Environmental Quality, Water Quality Division, and a new permit issued. If you have any questions, contact Matthew Langenfeld at (307) 777-7084.

Sincerely,

William L. Garland
Administrator

WLG/MML/nc

cc: A. J. Mancini
Steve Gerber
Matt Langenfeld

8-3-84

DEPARTMENT OF ENVIRONMENTAL QUALITY

STATE OF WYOMING

GROUNDWATER POLLUTION CONTROL PERMIT
AUTHORIZATION TO DISCHARGE INTO UNDERGROUND RECEIVERS
(Permit to Inject)

(X) New

Permit Number:

() Modified

GPC 84-343
UIC Class V

In compliance with the Wyoming Environmental Quality Act (W.S. 35-11-101 through 1104, specifically 301(a)(i) through (iv), Laws 1973, Ch. 250, Section 1) and Water Quality Rules and Regulations Chapter IX (September 4, 1980),

Kevin Stilson
P.O. Box 625
Jackson, WY 83001

is authorized to operate

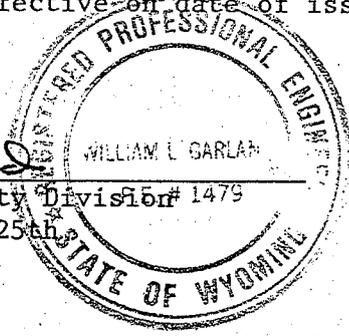
residential groundwater heat pump injection well at 50 Rancher Street, Jackson, Wyoming, Teton County, in NE1/4 NE1/4 Section 34, T41N, R116W, as a miscellaneous discharge to groundwater

according to procedures and conditions of the application GPC 84-343 and requirements and other conditions of this permit.

This permit shall become effective on date of issuance.

William L. Garland

Administrator - Water Quality Division #1479
Herschler Building, 122 W. 25th
Cheyenne, WY 82002
Phone: (307) 777-7781

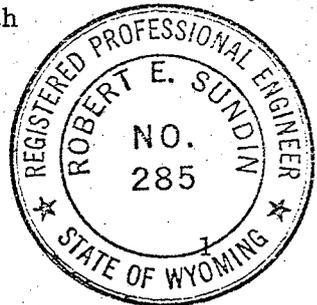


August 2, 1984

Date

Robert E. Sundin

Director - Department of Environmental Quality
Herschler Building, 122 W. 25th
Cheyenne, WY 82002



August 2, 1984

Date

A. Discharge (Injection) Zone and Area of Review

The discharge (injection) zone is a subsurface gravel "bed" 45-50 feet below the ground surface.

The area of review is the circular area described as having its center in the vicinity of the subject well and a minimum radius of one-quarter mile. There are no other wells within the area of review as reported by permittee.

B. Groundwater Classification

Groundwater in the recharge/discharge zone is classified as Class I domestic water: the alluvial aquifer is the major source of domestic water supplies in the immediate and adjacent areas. The groundwater is to be protected for its existing and potential uses, even though background water quality may indicate variations in certain parameters above Class I standards. Any discharge into a Class I groundwater of the state shall not result in variations in the range of any parameter, or concentrations or constituents in excess of the standards (Water Quality Rules and Regulations, Chapter VIII) at any place or places of withdrawal or natural flow to the surface.

C. Authorized Operations

The permittee is authorized to reinject natural groundwater withdrawn for heat-pump use. Groundwater will be utilized in a completely enclosed system, and will be reinjected at the same level and interval from which it is withdrawn.

Permittee has reported that the discharge will vary, with a winter maximum of 10 gallons per minute and a minimum temperature of 35°F, and a summer maximum of 7 gpm and a maximum temperature of 51°F.

No other use for or by the discharge (injection) well is authorized by this permit.

Permittee shall submit plans and specifications of the completed construction, within thirty (30) days after construction is complete, showing the completely enclosed groundwater withdrawal and recharge system.

D. Proper Operation and Maintenance

The permittee is required to conduct the operation in accordance with statements, representations and procedures presented in the complete permit application and supporting documents, as accepted and approved by the Administrator.

The permittee is required at all times to properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve permit compliance. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training and adequate laboratory and process controls, including appropriate quality assurance procedures.

The subsurface discharge (injection) authorized by permit shall be consistent with the conditions and content of the permit; any modifications which will result in a violation of permit conditions shall be reported by submission of a new or amended permit application and shall not be implemented until a new or modified permit has been issued.

E. Entry and Inspection

The permittee shall allow the Administrator, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
4. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the appropriate rules and regulations of the Department, any substances or parameters at any location.

F. Environmental Monitoring Program for Groundwaters of the State

1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
2. The permittee shall prepare records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation to be retained for a period of at least three (3) years after closure of the facility.
3. Records of monitoring information shall include:
 - a. The date, exact place, and time of sampling or measurements;
 - b. The name(s) of individual(s) who performed the sampling or measurements;
 - c. The date(s) analyses were performed;
 - d. Names of individuals who performed the analyses;
 - e. The analytical techniques or methods used; and
 - f. The results of such analyses.

4. The prescribed program for this permitted activity is as follows:

None required for this permit

G. Requirements for Monitoring the Discharge

Discharge (injection) volume and/or pressure shall be controlled and monitored to prevent fracturing of confining strata.

Monitoring the discharge is not required by this permit. The only periodic report of Section I required by this permit is an annual report. The annual report should be submitted within thirty (30) days following the anniversary date of the permit, and should indicate the status of the operation (active or otherwise), any major modifications to the injection well or operation made during the year, and any problems that may have developed and how they were resolved.

Note "Signatories Requirement" on pages 12 and 13 of this permit.

The permittee should keep relevant on-site operation records, for review by the permitting authority as may be necessary or required. The type(s) of records kept for this operation to be determined by the permittee.

H. Test Procedures

Test procedures for the determination of water quality parameters and constituents shall be in accord with provisions of Water Quality Rules and Regulations Chapter VIII, Section 7.

I. Records and Reports

1. The permittee shall retain copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three (3) years from the date of the report or application.
2. The permittee shall give notice to the Administrator as soon as possible of any planned physical alterations or additions to the permitted facility.
3. The permittee shall give advance notice to the Administrator of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
4. Monitoring results shall be reported at intervals specified elsewhere in the permit.
5. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.
6. The permittee shall report any noncompliance which may endanger health or the environment, orally within 24 hours from the time the permittee becomes aware of the circumstances. The report should include:

- a. Any monitoring or other information which indicates that any contaminant may cause an endangerment to a usable Groundwater of the State.
- b. Any noncompliance with a permit condition or malfunction of the discharge (injection) system which may cause fluid migration into or between usable Groundwaters of the State.

A written submission shall be provided within five (5) days of the time the permittee becomes aware of the circumstances. This written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue, and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

7. The permittee shall report all instances of noncompliance not reported otherwise, at the time monitoring reports are submitted; such reports shall contain the information listed in 6. above.
8. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Administrator, it shall promptly submit such facts or information.
9. The permittee shall retain all records concerning the nature and composition of injected fluids until five (5) years after completion of any specified plugging and abandonment procedures. The Administrator may require the owner/operator to deliver the records to the Administrator at the conclusion of the retention period.
10. A subsurface discharge (injection) well may not commence subsurface discharge (injection) until, following public notice and an opportunity for hearing, a Groundwater Pollution Control Permit has been issued by the Department for the proposed operation, and:
 - a. Well construction is complete and the permittee has submitted notice of completion of construction to the Administrator, and
 - b. The Administrator has inspected or otherwise reviewed the subsurface discharge (injection) well and finds it in compliance with the conditions of the permit; or the permittee has not received notice from the Administrator of intent to inspect or otherwise review the facility within thirteen (13) days of the notice of a. above, in which case prior inspection or review is waived, and
 - c. Well mechanical integrity testing has been proven or demonstrated to the satisfaction of the Administrator.

Item I.10. is not applicable to this permit.

11. Annual reports shall be submitted to the Administrator within thirty (30) days following the anniversary date of the permit.

12. A comprehensive report for an aborted or curtailed operation authorized by this permit shall be submitted to the Administrator within thirty (30) days of complete termination of the injection (discharge) or associated activity, in lieu of an annual report.

J. Permit Actions

After notice and opportunity for a hearing, a permit may be modified, suspended or revoked in whole or part during its term for cause which includes, but is not limited to, any of the following:

1. Violation of the permit;
2. Obtaining a permit by misrepresentation or failure of the discharge well or system.

Each permit is reviewed at least once every five (5) years, and may be reviewed more frequently.

A permit may be modified at any time as may be required, including for conformity with changes in regulations or standards which occur after the permit is issued.

A permit may be modified in whole or part in order to apply more, or less, stringent standards; or prohibitions for a toxic or other substance present in the permittee's discharge, as may be ordered by the Council.

This operation (permit) can be terminated by authority of the Administrator for one or more permit violations.

Public notice of the permit review and request for public comment will be made every ten (10) years by the Administrator.

Public notice is not required for this permit.

K. Mechanical Integrity

Each discharge well and associated discharge facilities is required to have mechanical integrity which demonstrates the unimpaired condition of the well and facilities. The approved procedures for demonstrating the mechanical integrity for the well and facilities handling the discharge authorized by this permit consist of:

Not required for this permit.

The operation (discharge) of any well or system will terminate immediately if mechanical integrity of the well or system fails and/or a leak or unauthorized fluid movement occurs. The discharge shall be discontinued until mechanical integrity has been restored and permission to continue the discharge has been obtained from the Administrator.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Envi-

ronmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit.

L. Abandonment

The permittee shall notify the Administrator at least 180 days before well abandonment. Immediately following the permanent cessation of subsurface discharge or related activity, or where a well has not been completed, the applicant/permittee shall notify the Director and follow the procedures prescribed by the Director for plugging and abandonment or the discontinuance of related activities:

The discharge (injection) well will cease operations when the operation of the associated heat pump is permanently discontinued. Abandonment of this injection well will conform to the then-current State regulations and requirements.

M. Duties of the Permittee

It is a duty of the permittee to:

1. Comply with all permit conditions;
2. Halt or reduce activity -- it shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the permit conditions;
3. Take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit;
4. Furnish to the Administrator within a reasonable time, any information which the Administrator may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit; and furnish to the Administrator, upon request, copies of records required to be kept by this permit.

N. Financial Responsibility

The permittee is required to maintain financial responsibility and resources in form approved by the Director, to close, plug and abandon the discharge operation in a manner prescribed by the Director.

Certification of financial responsibility is waived.

O. Special measures the Director finds necessary:

If the operation authorized by this permit has not commenced within one year of the issuance date, this permit will then be invalid. This permit does not over-ride local ordinances.

P. Special permit conditions:

Pollution or waste which migrates into an aquifer containing a usable groundwater of the State is a violation of the permit.

Mechanical integrity -- operations terminate immediately if mechanical integrity of well or system fails and/or a leak or unauthorized fluid movement occurs.

Q. Signatories Requirement

All reports required by this permit and other requested information shall be signed as follows:

For a corporation -- by a principal executive officer of at least the level of vice-president;

For a partnership or sole proprietorship -- by a general partner or the proprietor, respectively;

For a municipality, State, Federal or other public agency -- by either a principal executive officer or ranking elected official; or

By a duly authorized representative for any of the above. A person is a duly authorized representative only if:

1. The authorization is made in writing by one of the described principals;
2. The authorization specifies either an individual or position having responsibility for the overall operation of the regulated facility or activity; and
3. The written authorization is submitted to the Administrator.

If an authorization is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization must be submitted to the Administrator prior to or together with any reports or information, to be signed by an authorized representative.

Any person signing a report or other requested information shall make the following certification:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

R. Noncompliance

Any permit noncompliance constitutes a violation of the permit.

The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification or planned changes or anticipated noncompliance, does not stay any permit condition.

S. Permit Transfer

The owner/operator of record (permittee) is always responsible for permit compliance. A permit holder cannot transfer his permit without approval of the Department Director.

T. Responsibilities

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties established pursuant to any applicable State law or regulation.

U. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

V. Severability

The provisions of this permit are severable, and if any provision of the permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

during working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

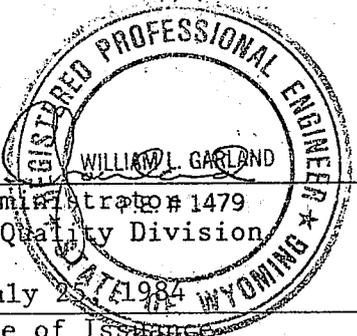
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, 2161 Coffeen Avenue, Suite 301, Sheridan, Wyoming 82801; telephone, 672-6457.

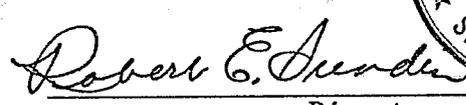
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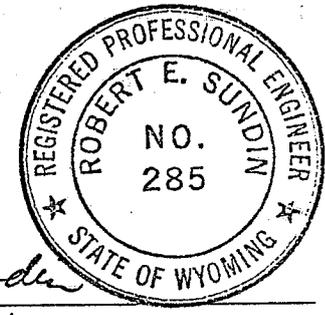
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AUTHORIZED BY:


WILLIAM L. GARLAND
Admin. Str. # 1479
Water Quality Division
July 25 1984
Date of Issuance




Director
Dept. of Environmental Quality



This permit does not supercede the requirements for obtaining any permit from local agencies.

CONDITION

In the event that any runoff water collects in the pond it shall be sampled and analyzed for the same constituents required for leachate below the landfarm test plots. Before reclamation of the pond, soil from the bottom of the pond shall be analyzed according to the same procedures as soil in the test plots, and any indication of contamination shall be reported to the Water Quality Division, along with remedial actions proposed to be taken.

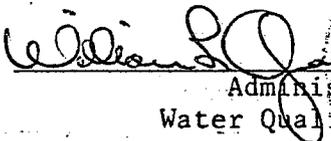
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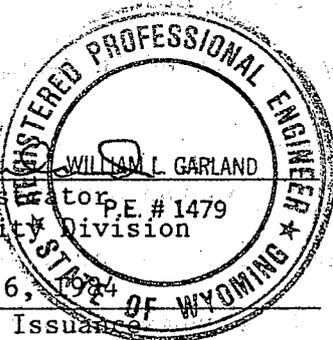
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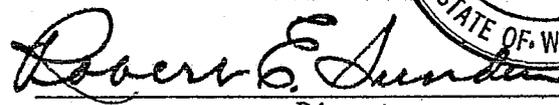
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AUTHORIZED BY:

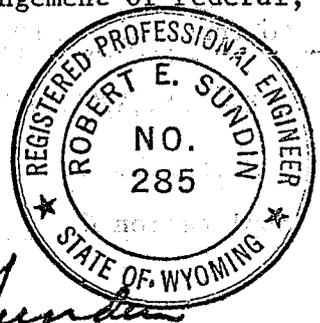


Adminisrator, P.E. # 1479
Water Quality Division
August 6, 1984
Date of Issuance





Director
Dept. of Environmental Quality



This permit does not supercede the requirements for obtaining any permit from local agencies.

CONDITION

Upon completion of the study, all results and conclusions therefrom shall be combined into a report, which shall be submitted to the Water Quality Division. The report must contain, at a minimum, the results of all groundwater monitoring, soil sampling, microbial monitoring, and an assessment of revegetation success as determined by forage quality.

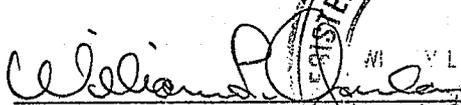
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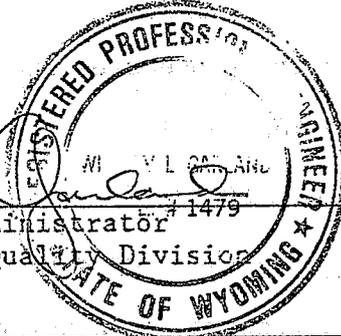
The permittee shall notify representatives from the Department of Environmental Quality, Water Quality Division the day construction commences and give an estimate of completion of the project. The authorized representative in your area can be contacted at the following address: District Engineer, State of Wyoming, Department of Environmental Quality, Water Quality Division, 210 Lincoln, Lander, Wyoming 82520; telephone, 332-3144.

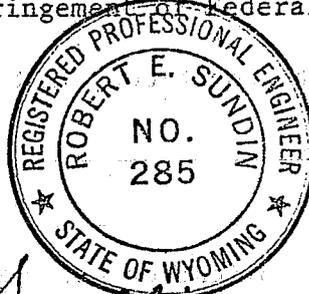
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AUTHORIZED BY:



Administrator #1479
Water Quality Division





Director
Dept. of Environmental Quality

August 1, 1984

Date of Issuance

This permit does not supercede the requirements for obtaining any permit from local agencies.

JH:dcn



Department of Environmental Quality
Water Quality Division

210 LINCOLN STREET

LANDER, WYOMING 82520

TELEPHONE 307-332-3144

August 31, 1984

Mountain Engineering
P. O. Box 2722
Jackson, WY 83001

Attention: Robert Farnsworth

RE: Buffalo Head Springs Estates
#84-347

Dear Bob:

I have taken a look at your permit application for the water system designed to serve Buffalo Head Springs Estates. I am returning your plans and application since a permit to construct is not required for this project.

A permit to construct is required for the construction of or additions to all public water supply systems. A public water supply system is defined by the Department of Environmental Quality as 20 or more service connections connected to the same water source.

Since Buffalo Head Springs Estates has a maximum of 17 service connections, a permit to construct is not required. However, the EPA's definition of a public water supply is 15 or more service connections. Therefore, please contact the EPA in Denver (303)837-2731 for their requirements.

Please feel free to call if you have any questions.

Respectfully,

A handwritten signature in cursive script that reads "Jeff Hermansky".

Jeff Hermansky
Water Quality Evaluator

JH:dcn

Enclosure

xc: Plans (Lander)

Mark Alston, EPA Denver

Handwritten initials, possibly "npr", in the bottom right corner of the page.

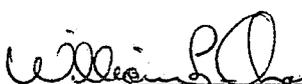
ing working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

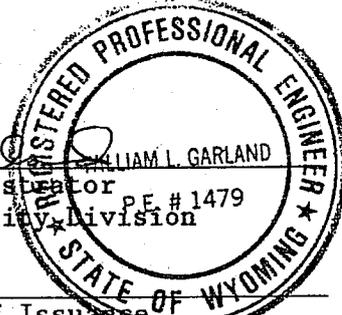
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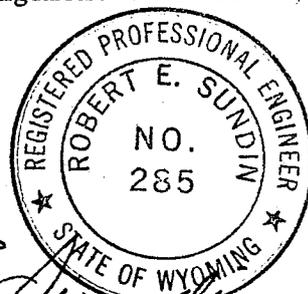
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AUTHORIZED BY:



Adminisrator
Water Quality Division
PE # 1479




Director
Dept. of Environmental Quality

September 10, 1984

Date of Issuance

This permit does not supercede the requirements for obtaining any permit from local agencies.

EB:dcn

cc: FmHA, Casper - Attention: Ed Chase
EPA Region VIII - Attention: Leslie Reiter

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER QUALITY DIVISION

LANDER, WYOMING 82520

PHONE: (307) 332-3144

PROJECT: Cowley Water Transmission Pipeline

ENGINEER: Engineering Associates
P.O. Box 1900
Cody, WY 82414

OWNER: Town of Cowley
P. O. Box 635
Cowley, WY 82420

WATER QUALITY DIVISION REFERENCE NUMBER: #84-348

REVIEWING ENGINEER: Ed Baruth, P.E. *Ed*

DATE OF REVIEW: August 7, 1984

ACTION: Not authorized.

COMMENTS:

1. Could you please provide information on the well itself. Specifically, I would like to know about quantity of available water pressure, water quality, and well installation specifications. Also what will the available pressure be in Cowley?
- I am confident that the above is all in order. We do, however, need the information for our files and for the Environmental Protection Agency in Denver.
2. If known, could you provide us details on who will be utilizing the water.
3. Another recommendation is the use of fine threaded slow closing valves which aid in preventing water hammer ruptures.
4. I couldn't see a legend or code which details the air release valve locations. I assume it is the solid triangle notation.
5. Could a sampling tap be added to the wellhead structure?
6. Could you please provide a fourth copy of the final plans and specifications for distribution to the EPA in Denver.

ABC

Review of Plans and Specifications

Cowley Water Transmission Pipeline

August 7, 1984

Page Two

7. Please describe what is planned for chlorination facilities.

EB:dcn

cc: FmHA

Box 820, Casper, WY 82602

10-2-84

PERMIT TO CONSTRUCT

New

Permit No. 84-349R

Renewal

Modified

LUCERNE - KIRBY WATER SUPPLY PIPELINE

(Name of Facility)

This permit hereby authorizes the applicant (name and address):

Town of Kirby

P. O. Box 45

Kirby, WY 82430

to construct, install, or modify a 6" water line approximately 14,000 L.F. long
from the Lucerne Rural Waterline

_____ facility according to the procedures and conditions of the

application No. 84-349R. The facility is located in _____

Section 7, 8, 18, 19, T44N, R94W

_____ in the County of Hot Springs,

in the State of Wyoming. This permit shall be effective for a period of two (2)

years (five (5) years maximum) from the date of issuance of this permit.

The issuance of this permit provides that the Department of Environmental Quality has evaluated and determined that the application meets minimum applicable construction and design standards. The compliance with construction standards and the operation and maintenance of the facility to meet the applicant's engineer's design are the responsibility of the applicant, owner, or operator.

The authority to construct granted by this permit does not mean or imply that the Wyoming Department of Environmental Quality guarantees or insures that the permitted facility, when constructed, will meet applicable discharge permit conditions or other effluent or operational requirements.

Nothing in this permit constitutes an endorsement of the construction or the design of the facility described herein. This permit indicates only that standards of design and construction required by the Environmental Quality Act have been met. The State assumes no liability for, and does not in any way guarantee the performance of, the permittee in the exercise of its activities allowed under this permit. The Permittee understands that it is solely responsible to any third parties for any liability arising from the construction or operation of the facility described herein. By the issuance of this permit, the State does not in any way waive its sovereign immunity.

The permittee shall allow authorized representatives from the Department of Environmental Quality, Water Quality Division, upon the presentation of credentials and dur-

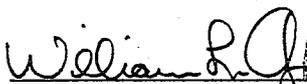
ing working hours, to have access to inspect the facilities, at the above location, for the purpose of compliance with the provisions of this construction permit.

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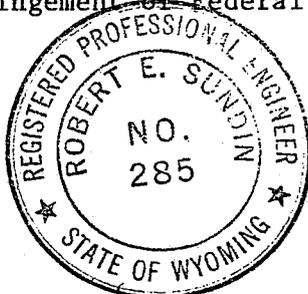
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AUTHORIZED BY:



WILLIAM L. GARLAND
Administrator
Water Quality Division
P.E. #1479




Robert E. Sundin
Director
Dept. of Environmental Quality


September 21, 1984
Date of Issuance

This permit does not supercede the requirements for obtaining any permit from local agencies.

EB:dcn

MEMORANDUM

TO: #84-349R File
FROM: Ed Baruth *Ed*
DATE: September 21, 1984
SUBJECT: Telephone Data Submittal

Phil Stuckert of Buell Winter Mousel & Associates called. He verified that the fine threaded valves are \$1,000.00 extra/valve. We agreed that the spec'd AWWA valves would be acceptable.

Permit #84-349R was issued.

EB:dcn

TELEPHONE REVIEW

TO: Phil Stucker - Buell, Winter, Mousel & Associates
FROM: Ed Baruth, P.E., Northwest District Supervisor *Ed*
DATE: July 25, 1984
SUBJECT: Lucerne Kirby Water Transmission Line - 84-349

The following was discussed with Phil Stuckert:

1. DEQ suggests that the engineer consider the use of fine treaded steam actuators on the gate valves. This may help prevent water hammer effects from becoming critical.
2. Buell, Winter, Mousel, and Assocaites verified that this was the quantity of water available to Kirby (320 gpm at 20 p.s.i.). No additional fire flow calculations are therefore necessary.

EB:dcn

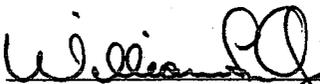
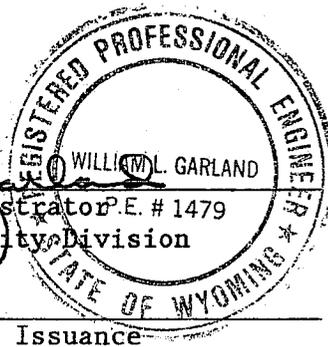
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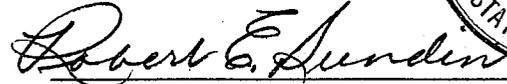
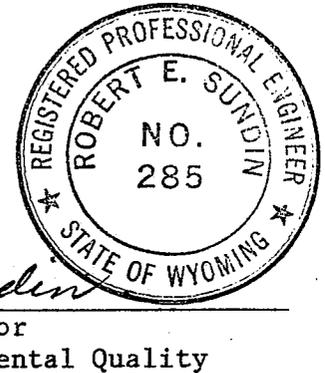
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AUTHORIZED BY:


WILLIAM L. GARLAND
Administrator P.E. # 1479
Water Quality Division

August 29, 1984
Date of Issuance


ROBERT E. SUNDIN
Director
Dept. of Environmental Quality


This permit does not supercede the requirements for obtaining any permit from local agencies.

JH:dcn