

mailed  
12/22/78

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 78-501R

Medicine Bow Well Pump Vault & Control System  
(Name of Facility)

This permit hereby authorizes the applicant:

Town of Medicine Bow  
 \_\_\_\_\_  
 (Last) (First) (Middle)

P. O. Box 550  
 \_\_\_\_\_  
 (Street or P.O. Box)

Medicine Bow Albany Wyoming 82329  
 \_\_\_\_\_  
 (City) (County) (State)

to construct, install, or modify a Pump Vault & Control System  
 facility located in Section 4, T22N, R77W  
 (Legal Description)

in the County of Albany, in the State of  
 Wyoming. This permit shall be effective for a period of 2 years  
 from the date of issuance of this permit not to exceed five (5) years.

Authorized by:

William L. Paul  
 Administrator  
 Water Quality Division

Robert E. Sundin  
 Director  
 Wyoming Dept. of Environmental Quality

December 7, 1978  
 Date of Issuance

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
State Office Building  
Cheyenne, Wyoming 82002

PROJECT: Town of Medicine Bow  
Laramie, WY - Albany County

ARCHITECT OR ENGINEER: Banner Associates, Inc., 309 S. 4th  
Laramie, WY 82070

WATER QUALITY DIVISION REFERENCE NUMBER: 78-501

REVIEWING ENGINEER: Thomas Hamm, Jake Stroman, P.E.

DATE OF REVIEW: 9/7/78

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

This may not be construed as a final review. Questions and/or clarifications should be directed to Tom Hamm, 777-7781.

Sheet 4 - Well vault entry must be above grade.  
- Pump access hatch must be above grade.  
- Vault highwater alarm must be set to shut pump off before water rises to casing flange vice 18 in.  
- Casing must be vented.  
- Check valve required next to pump.  
- What type ground preparation is required for vaults?  
- What type of screen is used for vent line rodent screen?

Sheet 5 - What type of screen is used on vents?  
- How are conduits sealed where they come through the wall?  
- Is not a 1400 CFM vent fan large?  
- Where are controls and wiring for highwater cutoff?  
- 120 VAC receptacle should be ground fault protected because of damp environment.

Sheet 6 - Value vault access hatch must be above grade. 120 VAC receptacle must be ground fault protected.

Sheet 7 - Control vault access hatch must be above grade.

Specs

Section 2.03B.3 - What is the volume and area of thrust blocks?  
2.03i1b - No chain or cable will be used of AC pipe.  
2.03c.za Lay AC pipe IAW AWWA C603 plus state that contractor shall maintain a copy onsite. Alignment deviation shall not exceed manufacturers recommendations.

2.03c.4 - Contractor shall maintain a copy of specs onsite.

All electrical work to NEC standards.

mailed  
10-10-78

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
State Office Building  
Cheyenne, Wyoming 82002

PROJECT: Cedar Hills Water System - City of Gillette

ARCHITECT OR ENGINEER: Kanti Patel, 310-4J Road, Gillette, Wyoming 82716

WATER QUALITY DIVISION REFERENCE NUMBER: 78-503

REVIEWING ENGINEER: Dan H. Kim, Jake Strohman, P.E.

DATE OF REVIEW: September 25, 1978

ACTION: Not authorized for construction

COMMENTS:

Water Well

1. When the well is drilled, yield and drawdown tests are to be performed, and the sustained yield of the well is to be reported to this Division.
2. Chemical and bacteriological analysis of the well should be provided upon completion of the well. What is the initial chlorine demand by H<sub>2</sub>S, iron, etc?
3. Please provide type and depth of grouting.
4. Provide material of drop pipe, material, size and thickness of the well casing.
5. Is the 1" drop pipe adequate for the proposed 100 gpm well?
6. How high is the casing top above the well house floor?
7. Is a check valve provided within the well casing?
8. Flow measuring device, a shutoff valve, a pressure gauge etc. are needed at well discharging pipe.
9. Is a well control valve needed to control surges?
10. How will the well pump be protected from low water level?
11. Provide manufacturer's data on well pump, including capacity and TDM. Also, indicate the elevation of the well pump.

Chlorine Detention Tank and Well House

1. The chlorine detention tank should have a drain for cleaning and maintenance.

### Chlorine Detention Tank and Well House (Cont.)

- The drain should not be directly connected to a sewer and storm sewer.
2. Detail drawing of well house is needed. The drawing shown in the plans does not appear to be in accordance with Section 6.2 of the Ten States Standards.
  3. A tap is needed for obtaining mix water for hypochlorine solution.
  4. At least two booster pumps are required. With one pump out of service, the remaining pump shall be capable of providing the maximum daily pumping demand of the systems.
  5. Design data on the booster pump should be submitted.

### Water Storage Tank

1. Can the storage tank be isolated to permit repairs?
2. We need detailed information as to tank foundation.
3. The Note called for the drain-overflow pipe to terminate at least 12" - 24" above the concrete receiving slab. However, the drawing does not appear to be consistent with the note. Please clarify.
4. Please provide us with manufacturer's information of the altitude control valve. Discuss why the altitude valve is needed in this system.
5. The outlet pipe needs a removable silt stop.
6. Are low level warning or alarms provided?
7. AWWA 30-33 specifications which you referred to for PVC non-pressure pipes are not clear. Please clarify.

### General

1. Specifications concerning installation of the water mains, trench excavation, handling the pipes, relieving the bells, etc., should be provided. The proper plastic water pipe installation specifications is AWWA C600, C603, or UNI-Bell UNI-8-3-77.
2. Provide type and material of joints and fittings to be used.
3. Specifications concerning hydrostatic tests for water mains are needed.

- .. finished grade. Also provide concrete specifications.
3. Drain-overflow pipe should terminate at least 12" above the concrete receiving slab.
4. Please provide the specifications of the altitude valve, air relief valve, etc.
5. Is a removable silt stop provided for the outlet pipe?
6. Are low level warning or alarms provided?
7. There is no AWWA 3033 specifications. It must be ASTM specs. Please clarify.
8. The valve pit needs a drainage. Since the daylight drainage is not practical, an underground adsorption pit would be acceptable.

General

1. The specifications indicate that PVC water pipe will conform to ASTM D2241-SDR21, whereas the "Notes" in the plans call for AWWA C900. Please clarify.
2. Pressure test of the water mains must be conducted before the leakage test is done. Please specify the test duration and hydrostatic pressure of the pressure test. The procedures shall meet AWWA C600 or C603.
3. The water lines shall not rest on the bells. Please insert the specifications concerning relieving the bells.

PERMIT TO CONSTRUCT

mailed  
to S.  
2-1-79

- New
- Renewal
- Modified

Permit No. 78-503RR

CEDAR HILLS SUBDIVISION WATER SYSTEM  
(Name of Facility)

This permit hereby authorizes the applicant:

Cedar Hills Land Company  
(Last) (First) (Middle)

Box 699  
(Street or P.O. Box)

Gillette Campbell Wyoming 82716  
(City) (County) (State)

to construct, install or modify a water system

facility located in Sections 29 and 30, T.50N., R.70W.  
(Legal Description)

in the County of Campbell, in the State of

Wyoming. This permit shall be effective for a period of two (2) years

from the date of issuance of this permit not to exceed five (5) years.

AUTHORIZED BY:

William L. Ojala  
Administrator  
Water Quality Division

Robert E. Lunden  
Director  
Wyoming Dept. of Environmental Quality

January 30, 1979  
Date of Issuance

"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."



REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER QUALITY DIVISION  
933 MAIN STREET,  
LANDER, WYOMING 82520

PROJECT:

BEEL CODY'S RANCH INN  
SEWAGE DISPOSAL SYSTEM

ARCHITECT OR ENGINEER: GEORGE W. TRESLER,  
P.O. BOX 1050, CODY, WYO. 82414

WATER QUALITY DIVISION REFERENCE NUMBER: 78-504

REVIEWING ENGINEER: RICK ENGELMANN, R E

DATE OF REVIEW: 10-4-78

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

1. We need the enclosed applications for permit to construct filled out.
2. Please provide data for the six percolation tests the owner ran. Were these run according to Pub Health Service Pub. 526? Where were the perc. holes?
3. There should be cleanouts at all sewer bends between the septic tank and cabins.
4. The minimum bedding for PVC pipe is Class "C", a trench bottom shaped for the pipe. Since you're planning to bed and backfill with native material, please provide info. on the material type. If it contains large stones or other unacceptable material, specify what must be excluded from the bed and backfill. How will compaction be made?
5. How much vertical separation is there between the cabin "D" water service connection and the sewer pipes. (We're assuming the lines cross.)
6. Is the septic tank a 2200 gallon tank (Item 8, plan sheet 1), or an 1850 gallon tank (Sheet 2)?
7. Minimum distance between drainfield trenches, not pipes, is 6'. You are providing only 3' of separation.
8. How high is the groundwater under the drainfield?
9. The drainfield is in a very steep slope. Laying the drainfield at the specified slope gives a cover of 6' at the upper end of the field, which is too deep for treatment.
10. Will the recreation building have sanitary waste?
11. We need three copies of all submitted material.

....2

BILL CODY'S RANCH INN  
SEWAGE DISPOSAL SYSTEM

#78-504

DATE: 10-4-78

12. Since the building additions will mean 12 water service connections, the water supply will technically be a "public water supply." Because of this, we will need additional information on the existing system (including info on how water is collected from the springs, pipe info, chlorination, valving, etc.) and on the new service connections.
13. Due to the number and types of comments, this cannot be considered a final review.

c.c. Mr. Bill Cody, P.O. Box 1390, Cody, WY 82414

Mr. Mike Ward, Wapiti District Headquarters, U.S. Forest Service, Cody, Wyo. 82414

Book  
2165  
6-19-79

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 78-506R

CABALLO SEDIMENTATION POND NO. 1  
(Name of Facility)

This permit hereby authorizes the applicant:

The Carter Mining Company, Attention: F. L. Skretteberg  
(Last) (First) (Middle)

P.O. Box 209  
(Street or P.O. Box)

Gillette Campbell Wyoming 82816  
(City) (County) (State)

to construct, install, or modify a runoff and pit water control pond  
facility located in Section 25, T.48N., R.71W.  
(Legal Description)

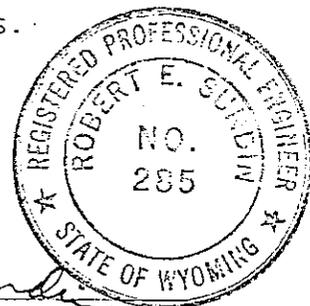
in the County of Campbell, in the State of  
Wyoming. This permit shall be effective for a period of two (2) years  
from the date of issuance of this permit not to exceed five (5) years.

AUTHORIZED BY:

William L. Garland  
Administrator  
Water Quality Division



Robert E. Sandus  
Director  
Wyoming Dept. of Environmental Quality



June 18, 1979  
Date of Issuance

"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."



REVIEW OF PLANS AND SPECIFICATIONS  
WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
933 MAIN STREET,  
LANDER, WYOMING, 82520.  
(307) 332-3144

PROJECT: Pleasant Valley Subdivision Water System

ENGINEER: Kanti R. Patel  
310 - 4J Road  
Gillette, Wyoming 82716

OWNER: Kelly F. Mader  
P.O. Box 699  
Gillette, Wyoming 82716

WATER QUALITY DIVISION REFERENCE NUMBER: 78-507RRRRRR

REVIEWING ENGINEER: Rick Engelmann



DATE OF REVIEW: May 15, 1979

ACTION: NOT AUTHORIZED.

COMMENTS:

1. You have specified the use of 3 Well - X - Trol 252, 87 gallon pressure tanks. Please call this out correctly (spelling, model numbers, etc.) on the plans of the pump house.

In addition, I am curious to know how the model 252 pressure tank diameter became smaller since your last submission: As can be seen on the plan you sent in on May 10, you erased the one circle representing the one pressure tank set up and replaced it with three much smaller circles representing three identical model pressure tanks! Seriously, how are these tanks going to fit in your piping arrangement?

2. Please provide 3 copies of the corrected pump house plans, 1 copy of AWWA C601-68, and 2 copies of AWWA A100, sections A1-7, 1-4, 1-6, and 1-7. These are required to complete our records so that a permit can be issued.

On receipt of a simple explanation for item 1. and the copies requested in item 2., a permit to construct will be issued by Water Quality Division.

RHE:rhe

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER QUALITY DIVISION  
933 MAIN STREET,  
LANDER, WYOMING 82520

PROJECT: PLEASANT VALLEY SUBDIVISION WATER SYSTEM  
OWNER: KELLY F. MADER, P.O. BOX 699, GILLETTE, WYO. 82716

ARCHITECT OR ENGINEER: KANTI R. PATEL  
310 - 4J Road,  
Gillette, Wyo. 82716

WATER QUALITY DIVISION REFERENCE NUMBER:  
78-507RRRRR

REVIEWING ENGINEER: RICK ENGELMANN 

DATE OF REVIEW: APRIL 27, 1979.

ACTION: NOT AUTHORIZED

COMMENTS:

So far the following items of your material and construction specifications and drawings have met our approval:-

1. Spec. entitled - Trenching for Water or Sewer Lines
2. ~~Spec. entitled - Water Mains~~
3. Sheet showing booster pump house (exclusive of pressure tank arrangement) and the well.
4. ~~Blueprint entitled Pleasant Valley Water System~~
5. AWWA C601-68 Disinfecting Water Mains
6. AWWA A100 - Deep Wells, Sections A1-7 - "Testing for Yield and Drawdown", 1-4 - "Testing for Yield and Drawdown", 1-6 - "Testing for Plumbness and Alignment", and 1-1 - "Disinfection".
7. "Typical Water Service Connection Detail "on the Standard Water and Sewer Details blueprint.

In addition, before approval, we will need the following:

1. Model numbers for the pitless adapter model and booster pump incorporated in the spec.s.
2. A vent, shown for the casing. See 3.2.7.5. '76 Ten State Standards.
3. Specified method for attachment of pitless adapter to the casing.
4. Revision of the pressure tank, booster tank set up.

As noted above, and as we discussed on the phone on 27 April, there still may be problems with the booster pump/pressure tank arrangement. I am awaiting additional details on this from you on this.

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER QUALITY DIVISION  
933 MAIN STREET,  
LANDER, WYOMING 82520

PROJECT: PLEASANT VALLEY SUBDIVISION  
OWNER: KELLY F. MADER  
P.O. BOX 699  
GILLETTE, WYO. 82716  
ARCHITECT OR ENGINEER: KANTI R. PATEL  
310 - 4J ROAD  
GILLETTE, WYO. 82716.  
WATER QUALITY DIVISION REFERENCE NUMBER:

78-507 RRRR

REVIEWING ENGINEER: RICK ENGELMANN RE

DATE OF REVIEW: MARCH 26, 1979

ACTION: NOT AUTHORIZED

COMMENTS:

1. What is an 853 Grade B seamless steel pipe? Is this an ASTM pipe?
2. The proposed pressure tank is too small. Since the proposed pump has a discharge capacity of approximately 50 gpm, the pressure tank must be at least 500 gallons. See enclosure.
3. You have decided to use a portion of AWWA A100 for well testing specifications. This is quite acceptable. However, there are blanks in this Standard that are to be filled in by the engineer. Please fill these in. In addition, please include the appendixes called out in the specification.
4. Complete construction and material specifications have still not been provided for the pipe, valves, check valves, hydropneumatic tank, booster pump, well pump, pitless adapter, and hypochlorinator. As stated in an earlier review (see enclosed), underlining manufacturer's literature is not acceptable. These written specifications must be in a form similar to those you provided for the distribution system.
5. I should inform you that federal law requires that you comply with the Federal Safe Drinking Water Act. Patrick Crotty of U.S. E.P.A. in Denver should be your contact on this matter. His address is:

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VIII  
1860 LINCOLN STREET  
DENVER, COLORADO 80295.  
(303) 837-2731.

RE/jky

Enclosures:

DEQ

REVIEW OF PLANS AND SPECIFICATIONS  
WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
933 MAIN STREET,  
LANDER, WYOMING, 82520.  
(307) 332-3144

PROJECT: PLEASANT VALLEY SUBDIVISION WATER SYSTEM

*Fremont*

ENGINEER: KANTI PATEL  
310 - 4J ROAD  
GILLETTE, WYO. 82716

OWNER: KELLY F. MADER  
P.O. BOX 699  
GILLETTE, WYO. 82716

WATER QUALITY DIVISION REFERENCE NUMBER: 78-~~407~~<sup>507</sup>RRR

REVIEWING ENGINEER: RICK ENGELMANN *RE*

DATE OF REVIEW: FEBRUARY 7, 1979.

ACTION: NOT AUTHORIZED.

COMMENTS:

Item 4 under Well, Pump, Storage Tank of the January 18, 1979 review was not answered. Xerox copies out of Ten State Standards are not acceptable as specifications. Ten State Standards are standards and guidelines. They are not written as specifications. If you do not believe this, please refer to the forward of the '68 Ten State Standards, which I have enclosed.

Keep in mind that even though the well is existing, material in the well (casing, pump, screening, etc.) must meet our standards. In addition, specifications for the testing of the well must be provided. See Sect. 3.2.4.1 in the '76 Ten State Standards.

Enclosures:

DBA

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER QUALITY DIVISION  
933 MAIN STREET,  
LANDER, WYOMING 82520

PROJECT: PLEASANT VALLEY SUBDIVISION WATER SYSTEM

OWNER: KELLY F. MADER, P.O. BOX 699, GILLETTE, WYO. 82716

ARCHITECT OR ENGINEER: KANTI PATEL  
310-4J ROAD  
GILLETTE, WYO. 82716

WATER QUALITY DIVISION REFERENCE NUMBER: 78-507RR

REVIEWING ENGINEER: RICK ENGELMANN *RE*

DATE OF REVIEW: JANUARY 18, 1979

ACTION: NOT AUTHORIZED

COMMENTS:

DISTRIBUTION SYSTEM:

1. I wish to apologize for comment 1) of the 8 November, 1978 review. In looking through the plans this time, I found you had submitted a larger scale blueprint for the subdivision. I must have overlooked it.
2. A description should appear in the specification about the procedure to be used in water main disinfection. See AWWA C601-68.

WELL, PUMP, STORAGE TANK

1. Comment 1) of the 8 November, 1978 review was only partially answered. These questions must be answered.
2. There must be a shut-off valve, check valve, and pressure gauge on the discharge side of the well.
3. If there is a problem in making detailed specifications for the water tank, the tank could be made a separate project (i.e. a separate application and permit). From our January 11, 1979 telephone conversation, it appeared that until you were talking to tank manufacturers, it would be difficult to provide us with the detailed specifications that we need.
4. As of yet, we still have not received written specifications for the well, well house, pumps, etc. Nor have we received any written description of the system and source as requested in my letter of November 8, 1978. We must have this before we can approve the project for construction.

The things that must be addressed in the specifications are outlined in the 1968 Ten State Standards, Sections 3.2, 6.2, 6.4, 6.6, and 7.1.5. The '68 standards were formally adopted as part of our regulations. If you do not have a copy of the '68 standards, the equivalent sections in the '76 Ten State Standards are 3.2, 6.4, 6.6., and 7.2.

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REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER QUALITY DIVISION  
933 MAIN STREET,  
LANDER, WYOMING 82520

PROJECT: PLEASANT VALLEY SUBDIVISION

ARCHITECT OR ENGINEER: KANTI R. PATEL P.E., 310 - 4J Road, Gillette, Wyoming. 82716.

WATER QUALITY DIVISION REFERENCE NUMBER: 78-507

REVIEWING ENGINEER: RICK ENGELMANN, ROY E. PRIOR, P.E. *R.E.* *Roy E. Prior*

DATE OF REVIEW: SEPTEMBER 27, 1978.

ACTION: NOT AUTHORIZED.

COMMENTS:

1. Please provide a location map ...We're not sure where the facility is located.
2. Don't you have standard, written specifications for pipe installation, pipe, valving, storage tanks, pumps, pipe and tank disinfection, etc. etc? Notes scattered about blueprints and xerox copies, and underlined manufacturer's literature are not acceptable-as specifications.
3. Your plan view of the system leaves much to be desired. The small xerox sheet is barely legible.
4. Please include a clearer description of your hydraulic analysis for the required storage. In addition, please provide a hydraulic analysis of the distribution system (a loop analysis).
5. Your plans contain many sewer and lift station details, but we did not find any design criteria enclosed, nor did your permit application contain any information on this. Please provide complete design information, sewer profiles, sewer installation spec.s, etc., etc.
6. Please provide three (3) copies of all submitted material.

c.c. Kelly Mader



THE STATE OF WYOMING

EXTENSION OF REVIEW

c.c. Cheyenne

78-507 RRRRRK

ED HERSCHLER  
GOVERNOR

*Department of Environmental Quality*  
*Water Quality Division*

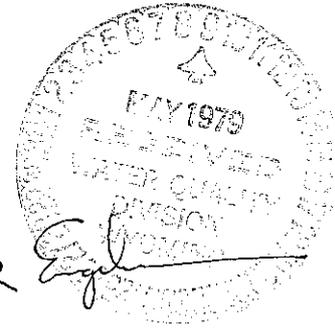
933 MAIN

LANDER, WYOMING 82520

TELEPHONE 307-332-3047

3144

M E M O R A N D U M



TO: KANTI PATEL

FROM: RICK ENGELMANN *Rick Eng*

DATE: MAY 7, 1979.

SUBJECT: BOOSTER PUMP/PRESSURE TANKS FOR PLEASANT VALLEY SUB.

After much in-house discussion, I have decided that the proposed booster pump system with an 87 gallon pressure tank is inadequate; there will no doubt be periods of the day when cycling will be excessive. This decision is based on the following:-

1. There will be 26 homes on the system. Assuming 35 people per home and 100 gpcd demand, the average flow rate will be 6.3 gpm. Depending on the time of day, demand could range anywhere from near 0 to 30+ gpm.

During those parts of the day when demand is running 8 gpm or less, there may likely be problems with excessive cycling of the pump. In discussing why this is so, reference will be made to Exhibit 1 which shows pump curves for the proposed 1 h.p. Sta-Rite Corp HMSE pump. As explained in the Exhibit, it is felt that Curve 2 better represents the proposed pump set-up.

At a demand of 7 gpm (slightly above average) in the system, the discharge pressure for the booster pump will rise to about 65 psi (see Exhibit 1, Curve 2), the specified shut-off pressure for the pump. At this point the system will ride on the pressure tank until pressure drops to 30-40 psi, at which time the pump will kick back on. Between 65 and 30 psi the storage in the tank can be expected to be only 40-50 gallons, thus supplying water for only 6-7 minutes. When the pump comes back on, it will be pumping in the 30-40 psi range @ a rate of 30-40 gpm. The tank will fill up quickly, and the 65 psi shut-off pressure will soon be reached.

Therefore, during demand periods of 7 gpm or less, frequent cycling can be expected. And as shown in Exhibit 2, there can be long periods of the day when flow will hang around the daily average.

2. During the initial construction of homes, it can be anticipated that when few homes are hooked up to the system, flow rates can be assumed to be low, down in the problem cycling range.

MEMORANDUM:

TO: KANTI PATEL

FROM: RICK ENGELMANN

DATE: MAY 7, 1979

SUBJECT: BOOSTER PUMP/PRESSURE TANKS FOR PLEASANT VALLEY SUB.

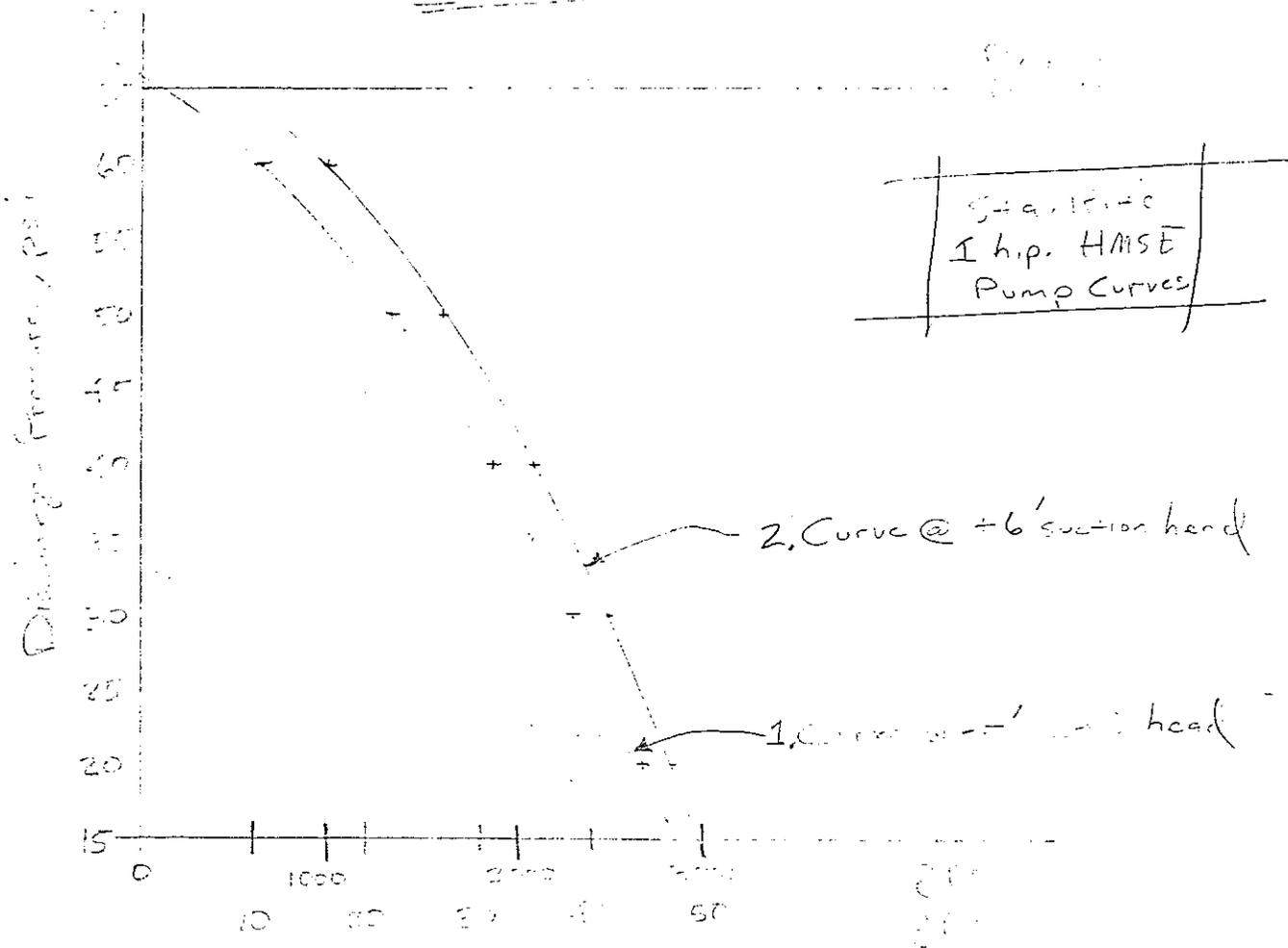
- 2 -

3. As shown in Exhibit 3, our regulations are quite clear about the size of hydropneumatic tanks. Points 1) and 2) above are the reasons that no variance will be granted.

Your options in this matter include providing a tank of 200 gallons or larger, or providing oversized, continuously running pumps that will recirculate into the storage tank during low demand periods to prevent pump overheating (Recirculation also helps prevent tank freezing in winter.)

RE/jky

## Exhibit 1



### Explanations

1. This curve was plotted from manufacturer's data for a 5' static suction lift (note that the attached pump literature speaks of use of this pump for pulling out of shallow wells).
2. This curve was generated from curve 1 by adding 5 psi to the suction side. I.e., instead of 5 feet of negative pressure on the suction side of the pump, there is 6-7 feet of positive pressure on the suction (12 feet x 0.432 psi/foot = 5 psi). Positive suction head would represent the case of a pump sitting at the base of a storage tank — the pump would have positive (above atmospheric) pressure at the pump suction. (The pump discharges for the other suction lifts (10, 15, 20, 25) can be derived from Curve 1 in the same manner.)

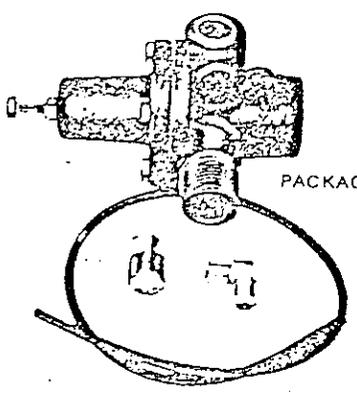
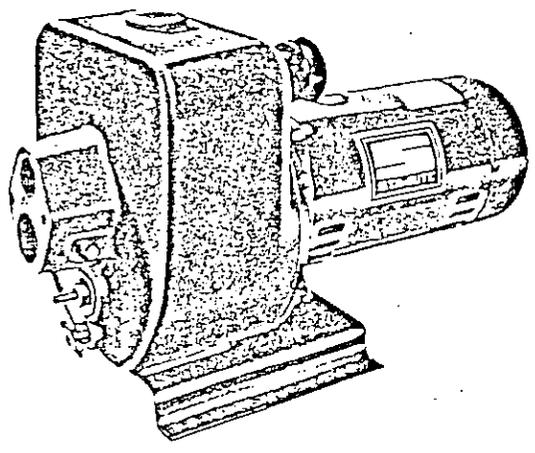
78-507 RKK

H.P.	CAT. NO.	MOTOR VOLTAGE	STAGES	APPROX. SHIP WT. LBS.
1/2	HMSC	115/230	2	72
3/4	HMSD	115/230	2	75
1	HMSE	115/230	2	80
1 1/2	HMSF	115/230	2	90

**AUTOMATIC PRESSURE REGULATOR - DEEP WELL**

CAT. NO.	DESCRIPTION	APPLICATION	APPROX. SHIP WT. LBS.
PKG.#107	Regulator, tubing, pipe plug & compression fitting.	Required for ALL deep well installations.	4

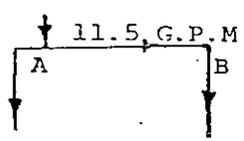
Order pump, and pressure regulator if required, from ordering information tables above. A jet package which may be ordered on the following page, and the automatic pressure regulator described above, are required on all deep well installations. See Jet Pump Accessories Bulletin 1-5.1 for well seal, foot valve or other accessory ordering information.



**PUMP PERFORMANCE - SHALLOW WELL**

H.P.	CAT. NO.	TOTAL SUCT. LIFT FT.	DISCHARGE PRESSURE - P.S.I.					SUCT. PIPE	DISCH. PIPE	SWITCH SETTING	SHUT OFF PRESS P.S.I.	
			20	30	40	50	60					
1/2	HMSC	5	1140	840	510			1 1/2	1	20-40	50#	
		10	1080	780	420			1 1/2	1	20-40	48#	
		15	1020	690	330			1 1/2	1	20-40	46#	
		20	980	630	240			1 1/2	1	20-40	44#	
		25	870	540	120			1 1/2	1	20-40	42#	
3/4	HMSD	5	2040	1710	1320	810		1 1/2	1	30-50	60.5#	
		10	1960	1620	1200	690		1 1/2	1	30-50	58.5#	
		15	1860	1530	1110	540		1 1/2	1	30-50	56.5#	
		20	1710	1470	1020	390		1 1/2	1	30-50	54#	
		25	1470	1350	900			1 1/2	1	30-50	52#	
1	HMSE	5	2670	2310	1860	1350	630	1 1/2	1	30-50	65#	
		10	2600	2190	1770	1230	420	1 1/2	1	30-50	63#	
		15	2520	2100	1650	1080		1 1/2	1	30-50	60.5#	
		20	2360	2010	1550	930		1 1/2	1	30-50	58.5#	
		25	2040	1860	1410	750		1 1/2	1	30-50	56#	
1 1/2	HMSF	5	3420	3030	2580	2070	1380	1 1/2	1	30-50	70#	
		10	3300	2940	2460	1920	1200	1 1/2	1	30-50	68#	
		15	3180	2850	2360	1770	990	1 1/2	1	30-50	66#	
		20	3040	2730	2250	1650	720	1 1/2	1	30-50	63.5#	
		25	2520	2400	2130	1500			1 1/2	1	30-50	61.5#

Tested and rated in accordance with Water Systems Council Standards.



Hourly Peak Demand =  $30 \times 3.5 \times 100 \times 3 = 31500$  Gallons/Day  
 $= 31500 \div 24 \div 60 = 21.88$  G.P.M.

~~Figure 2~~

Exhibit #2

# Water Supply and Pollution Control

second edition

John W. Clark

*Professor of Civil Engineering  
New Mexico State University*

Warren Viessman, Jr.

*Director, Water Resources Research Institute  
and Professor of Civil Engineering  
University of Nebraska*

Mark J. Hammer

*Professor of Civil Engineering  
University of Nebraska*



International Textbook Company  
College Division - Intext Educational Publishers  
Scranton - Toronto - London

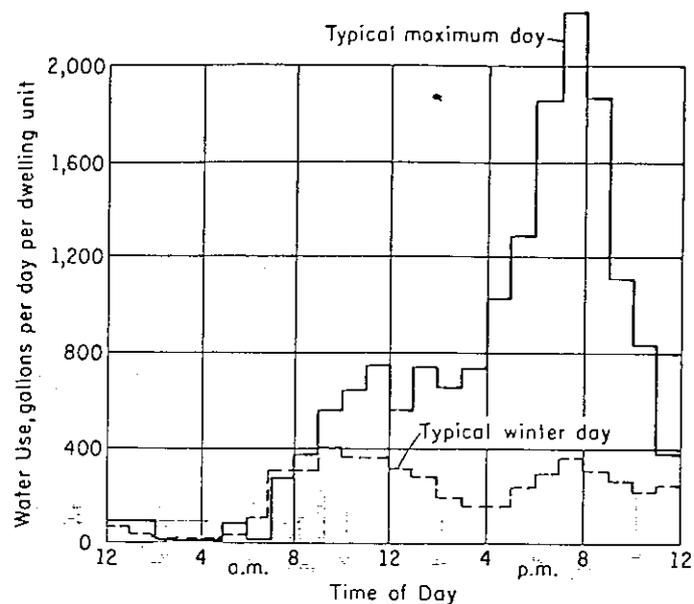


FIG. 4-4. Daily water-use patterns, maximum day and winter day. (Courtesy of the Residential Water-Use Research Project of The Johns Hopkins University and The Office of Technical Studies of the Architectural Standards Division of The Federal Housing Administration.)

communities generally show two peak rates, the first, between the hours of 7 a.m. and 1 p.m., the second in the evening between 5 and 9 p.m.<sup>7</sup> During the summer when sprinkling demands are high, the second peak is usually the greatest while during the colder months or during periods of high rainfall, the morning peak is commonly the larger of the two.

In Fig. 4-5, the effects of lawn-sprinkling demands are strikingly demonstrated. This figure shows the effects of rainfall on two different days—one a hot, dry day with no antecedent rainfall for four days, and the other a day during which rainfall in excess of one inch was recorded. Lawn sprinkling has been found to represent as much as 75 percent of total daily volumes and as high as 95 percent of peak hourly demands where large residential lots are involved.<sup>4</sup>

A 1963 report on the residential Water Use Research Project carried on at the Johns Hopkins University has produced some interesting results obtained from gaging programs on four strata of residential areas in Towson, Maryland.<sup>4</sup> This study indicates that an inverse relationship exists between the number of persons per dwelling unit and the average daily per capita use. Values ranging from 85 gpcd for two persons per dwelling to 47 gpcd for five persons per dwelling are reported. The re-

Exhibit #3

# Recommended Standards

for

# WATER WORKS

POLICIES FOR THE REVIEW AND APPROVAL OF PLANS AND SPECIFICATIONS  
FOR PUBLIC WATER SUPPLIES

1968 EDITION  
WITH 1972 REVISIONS

A REPORT OF COMMITTEE  
OF THE

GREAT LAKES - UPPER MISSISSIPPI RIVER  
BOARD OF STATE SANITARY ENGINEERS

## MEMBER STATES

ILLINOIS	MISSOURI
INDIANA	NEW YORK
IOWA	OHIO
MICHIGAN	PENNSYLVANIA
MINNESOTA	WISCONSIN

PUBLISHED BY:

HEALTH EDUCATION SERVICE P.O. BOX 7283 ALBANY, N.Y. 12224

PRICE: \$1.35 per copy

## 7.1 7.1.4 structures.

- 7.1.5 Pressure Tanks - Hydropneumatic (pressure) tanks may be acceptable in some small water systems. When used, they shall meet ASME code requirements or equal which comply with the requirements of state and local laws and regulations for the construction and installation of unfired pressure vessels.
- a. The tank should be located above normal ground surface and be completely housed, or earth-mounded with one end projecting into an operating house, to prevent freezing.
  - b. The tank should have bypass piping to permit operation of the system while the tank is being repaired or painted.
  - c. Each tank should have an access manhole, a drain, and control equipment consisting of pressure gage, water sight glass, automatic or manual air blow-off, mechanical means for adding air, and pressure-operated start-stop controls for the pumps.
  - d. The capacity of the wells and pumps in a hydropneumatic system should be at least six to ten times the average daily consumption rate of the community.
  - e. The gross volume of the hydropneumatic tank, in gallons, should be at least ten to fifteen times the capacity of the largest pump, rated in gallons per minute. For example, a 250 gpm pump should have minimum 2,500 to 3,750 gallon pressure tank.

7.2 DISTRIBUTION STORAGE - The applicable design standards of Section 7.0 shall be followed for distribution storage.

- 7.2.1 Pressure Variation - The maximum variation between high and low levels in storage structures which float on a distribution system should not exceed 30 feet.
- 7.2.2 Drainage - Storage structures which float on the distribution system should be designed to drain for cleaning or maintenance without necessitating loss of pressure in the distribution system. The drains should discharge to the ground surface with no direct connection to a sewer or storm drain.
- 7.2.3 Level Controls - Adequate controls shall be provided to maintain levels in distribution system storage structures.

mailed -  
10/18/78

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 78-508R

IMPERIAL VALLEY ADDITION

(Name of Facility)

This permit hereby authorizes the applicant:

Imperial Homes, Inc.

(Last)

(First)

(Middle)

1111 East Lincolnway

(Street or P.O. Box)

Cheyenne

(City)

Laramie

(County)

Wyoming 82001

(State)

to construct, install, or modify a public water and sewer system  
facility located in Section 26, T14N, R66W  
(Legal Description)

in the County of Laramie, in the State of  
Wyoming. This permit shall be effective for a period of 2 years  
from the date of issuance of this permit not to exceed five (5) years.

Authorized by:

William L. Janda  
Administrator  
Water Quality Division

Robert E. Eundin  
Director  
Wyoming Dept. of Environmental Quality

October 6, 1978

Date of Issuance

Mailed -  
10/6/78

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 78-509

Dildine School and Our Savior Lutheran Church  
(Name of Facility)

This permit hereby authorizes the applicant:

Laramie County School District No. 1  
 \_\_\_\_\_  
 (Last) (First) (Middle)  
 2810 House Avenue  
 \_\_\_\_\_  
 (Street or P.O. Box)  
 Cheyenne, Laramie Wyoming 82001  
 \_\_\_\_\_  
 (City) (County) (State)

to construct, install, or modify a water and sewer system  
 facility located in Section 26, T14N, R66W  
 \_\_\_\_\_  
 (Legal Description)

in the County of Laramie, in the State of  
 Wyoming. This permit shall be effective for a period of 2 years  
 from the date of issuance of this permit not to exceed five (5) years.

Authorized by:

William J. Gaudin  
 Administrator  
 Water Quality Division

Robert E. Lundin  
 Director  
 Wyoming Dept. of Environmental Quality

October 6, 1978

\_\_\_\_\_  
 Date of Issuance

mailed -  
10/16/78

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 78-510

Grandview Park Addition 3rd Filing  
(Name of Facility)

This permit hereby authorizes the applicant:

BC Homes, Inc. Inc.  
 (Last) (First) (Middle)  
1207 West 22nd St  
 (Street or P.O. Box)  
Cheyenne Laramie Wyoming 82001  
 (City) (County) (State)

to construct, install, or modify a Water and sewer system  
 facility located in Section 35, T14N, R66W,  
 (Legal Description)

in the County of Laramie, in the State of  
 Wyoming. This permit shall be effective for a period of 2 years  
 from the date of issuance of this permit not to exceed five (5) years.

Authorized by:

William L. Gaudin  
 Administrator  
 Water Quality Division

Robert E. Sundin  
 Director  
 Wyoming Dept. of Environmental Quality

October 6, 1978

Date of Issuance

PERMIT TO CONSTRUCT

*mailed*  
*3/6/79*

- New
- Renewal
- Modified

Permit No. 78-511RRR

Neosho Mobile Home Park  
(Name of Facility)

This permit hereby authorizes the applicant:

Neosho Construction Company, Inc.  
 (Last) (First) (Middle)

Box 233  
 (Street or P.O. Box)

Council Grove Kansas  
 (City) (County) (State)

to construct, install, or modify a Water & Sewerage System\*  
 facility located in Section 10, T37N, R70W  
 (Legal Description)

in the County of Converse, in the State of  
 Wyoming. This permit shall be effective for a period of 2 years

from the date of issuance of this permit not to exceed five (5) years.

\*Does not include well water pumping & storage facilities.

AUTHORIZED BY:

William L. Galbreath  
 Administrator  
 Water Quality Division

Robert E. Sinden  
 Director  
 Wyoming Dept. of Environmental Quality

February 6, 1979  
 Date of Issuance

"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."

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
State Office Building  
Cheyenne, Wyoming 82002

PROJECT: Neosho Mobile Home Park, Sewage Collection & Disposal System and  
Water Distribution System\*, Kemmer Estates, Converse County

ARCHITECT OR ENGINEER: John Lambert, P. O. Box 34, Douglas, WY 82633

WATER QUALITY DIVISION REFERENCE NUMBER: 78-511RRR

REVIEWING ENGINEER: Robert H. Pinther, P.E., M.S.; Jake Strohman, P.E.

DATE OF REVIEW: 2/6/79

ACTION: CONSTRUCTION AUTHORIZED

COMMENTS: As per our telephone conversation of February 7, 1979, with the Engineers,  
John Lambert, the following will be accomplished:

Prior to installation of water storage facilities and/or the provision of  
another well plans and specifications shall be submitted to this Division  
and a permit to construct shall have been received from this Division  
covering the items listed below:

1. A description of, and pump curve for, each well pump to be employed.
2. The proposed water storage facilities.

\*Does not include well water pumping & storage facilities.

*mailed*  
*1/17/79*

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
State Office Building  
Cheyenne, Wyoming 82002

PROJECT: Neosho Mobile Home Park, Kember Estates, Converse County

ARCHITECT OR ENGINEER: John Lambert, P.O. Box 34, Douglas, WY 82633

WATER QUALITY DIVISION REFERENCE NUMBER: 78-511RR

REVIEWING ENGINEER: *Robert H. Pinther* Robert H. Pinther, P.E., M.S.; Jake *Strohman* Strohman, P.E.

DATE OF REVIEW: 1/8/79

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

As per our telephone conversation with John Lambert on January 8, 1979, it is our understanding that, since the well capacity is only approximately 10 gpm, an appropriately sized pump and a gravity type storage tank will be provided in lieu of the originally proposed 30 gpm pump and 300 gallon pressure tank.

In view of the aforementioned change of plans our review can be completed and a permit to construct issued upon receipt and review of a satisfactory submittal covering the following:

1. Specifications or a brochure covering the well water pump.
2. Plans and specifications covering the proposed gravity type water storage tank which shall have a capacity which is equal to at least the average daily consumption. The tank shall be in compliance with the current AWWA standards for steel tanks or with the standards for finished water storage in the latest edition of "Recommended Standards for Water Works of the Great Lakes - Upper Mississippi Board of State Sanitary Engineers".

*Mailed  
12/12/78*

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
State Office Building  
Cheyenne, Wyoming 82002

PROJECT: Neosho Mobile Home Park, Kember Estates, Converse County

ARCHITECT OR ENGINEER: John Lambert, P. O. Box 34, Douglas, WY 82633

WATER QUALITY DIVISION REFERENCE NUMBER: 78-511R

REVIEWING ENGINEER: *(RHP)* Robert H. Pinther, M.E., P.E., Jake Strohman, P.E.

DATE OF REVIEW: 11/27/78

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS: As per a telephone conversation of 11/27/78 with John Lambert.

1. Submit a sketch of the non-breakable cap for covering the sewer risers.
2. Submit specifications or a brochure that covers the well water pump along with a pump curve.
3. Submit duplicate copies of the plans & specifications.

mailed  
10/30/78

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
State Office Building  
Cheyenne, Wyoming 82002

PROJECT: ~~Neosho Mobile Home Park, Kember Estates, Converse County~~

ARCHITECT OR ENGINEER: John Lambert, P. O. Box 34, Douglas, WY

WATER QUALITY DIVISION REFERENCE NUMBER: ~~78-511-10~~

REVIEWING ENGINEER: Robert H. Pinther, Jake Strohaman, P.E.

DATE OF REVIEW: 10/10/78

ACTION: ~~NOT AUTHORIZED FOR CONSTRUCTION~~

COMMENTS:

1. Submit a detail of a typical sewer riser, the branch pipe connecting to the sewer main, and a tight-fitting non-breakable cap for covering the sewer riser while it is not in use. A sketch is enclosed.
2. Submit specifications or a brochure that covers the well water pump along with a pump curve.
3. Specify both leakage and pressure tests on the water piping to be conducted in accordance with the procedure of the Uni-Bell Plastic Pipe Association.
4. Specify that the leakage shall not exceed 13.75 gallons per inch of pipe diameter per mile of size length per 24 hours.
5. The allowable leakage at 60 psi shall not exceed 13.75 gallons per inch of pipe diameter per mile of pipe length per 24 hours.
6. Specify the size of the pressure water tank.
7. Specify that the pressure tank shall meet the ASME requirements.
8. Specify that the water service lines shall be at least 3/4" in diameter.
9. All water pipes shall be buried a minimum of 5 feet to the top of the pipe.
10. Infiltration into the sewer system shall not exceed 200 gallons per inch of pipe diameter, per mile, per day.
11. Extend the inlet and outlet tees for the septic tank up to 1 inch from the underside of the septic tank cover.
12. Schedule 40 PVC or cast iron pipe shall be used in and out fo the septic tank.

13. All PVC pipe shall conform to the specifications of the Uni-Bell Plastic Pipe Association.
14. Show on the profile the location of the water line in relation to the sewer main where they cross.
15. As required, and in compliance with the "Ten State Standards for Water Works", provide the necessary separation and/or protection at the water and sewer main crossing.

This is not a final review.

Enclosures (1)

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
PERMIT TO CONSTRUCT

New

Renewal

Modified

Permit No. 78-513

EAST GAS HILLS HEAP LEACH

(Name of Facility)

This permit hereby authorizes the applicant:

UNION CARBIDE CORPORATION

(Last)

(First)

(Middle)

P.O. BOX 1029

(Street or P.O. Box)

GRAND JUNCTION

COLO

81501

(City)

(State)

(Zip Code)

to construct, install, or modify a HEAP LEACH

facility located in SEC 15 T33N R89W

(Legal Description)

in the County of NATRONA, in the State of Wyoming.

This permit shall be effective for a period of 2 years from  
the date of issuance of this permit not to exceed five (5) years.

Authorized by:

William L. Galand  
Administrator  
Water Quality Division

Robert E. Smith  
Director  
Department of Environmental  
Quality

October 16, 1978

Date of Issuance

PERMIT TO CONSTRUCT

New

Renewal

Modified

Permit No. 78-514R

CHARLES M. NELSON SUBDIVISION

(Name of Facility)

This permit hereby authorizes the applicant:

HAZEN

ART

(Last)

(First)

(Middle)

P.O. BOX 717

(Street or P.O. Box)

JACKSON,

WYO.

83001

(City)

(State)

(Zip Code)

to construct, install, or modify a WATER AND WASTWATER DISTRIBUTION

facility located in SEC34 T41N R116W

(Legal Description)

in the County of TETON, in the State of Wyoming.

This permit shall be effective for a period of 2 years from the date of issuance of this permit not to exceed five (5) years.

Authorized by:

[Signature]  
Administrator  
Water Quality Division

\_\_\_\_\_  
Director  
Department of Environmental  
Quality

OCTOBER 23, 1978

Date of Issuance

580

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER QUALITY DIVISION  
933 MAIN STREET,  
LANDER, WYOMING 82520

PROJECT: ~~CHARLES M. NELSON SUBDIVISION~~

ARCHITECT OR ENGINEER: NELSON ENGINEERING  
BOX 1141, JACKSON, WYOMING 83001

WATER QUALITY DIVISION REFERENCE NUMBER: ~~78-514~~

REVIEWING ENGINEER: DOUG CRAIG *dc* ROY E. PRIOR, P.E. *Roy E. Prior*

DATE OF REVIEW: SEPTEMBER 27, 1978

ACTION: ~~NOT AUTHORIZED TO CONSTRUCT~~

COMMENTS:

1. A clean-out may be installed at the end of a lateral in place of a manhole, if the length of the lateral is less than 150 feet. This is not the case for your clean-outs, and therefore, manholes are required.
2. Please submit plans and spec.s from now on in triplicate.
3. The water, sewer line crossings are not per the requirements of Section 15, Chapter III, WQD Rules and Regulations.
4. Provide sewer tapping specifications, wye branches should be used.
5. The water tapping specifications are not acceptable for use with PVC 160 pipe.
6. Provide specifications to prevent excessive side-fill pressures or ovalation of the PVC pipe.
7. This cannot be considered a final review.

c.c. Art Hazer, P.O. Box 717, Jackson, Wyo. 83001.



*mailed*  
*10/19/78*

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 78-516R

Green River Water Treatment Plant  
(Name of Facility)

This permit hereby authorizes the applicant:

Pacific Power and Light Company  
 (Last) (First) (Middle)

920 S.W. 6th Avenue  
 (Street or P.O. Box)

Portland Oregon 97204  
 (City) (County) (State)

to construct, install, or modify a contact sedimentation tank, yard piping, rapid mix unit, flow meters, and vault pits.  
 facility located in Section 22, T18N, R107W  
 (Legal Description)

in the County of Sweetwater, in the State of Wyoming. This permit shall be effective for a period of 2 years from the date of issuance of this permit not to exceed five (5) years.

(See accompanying letter)

Authorized by:

William R. Paula  
Administrator  
Water Quality Division

Robert E. Sunden  
Director  
Wyoming Dept. of Environmental Quality

October 6, 1978  
Date of Issuance

ATTN: Chester E. Elston, P.E.



*Department of Environmental Quality*  
*Water Quality Division*

HATHAWAY BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

October 6, 1978

Pacific Power and Light Company  
920 S.W. Sixth Avenue  
Portland, Oregon 97204

RE: Green River Water Treatment  
Plant Proposed Contact Basin

ATTN: ~~Mr. Chester E. Elston, P.E.~~  
Senior Water Systems Engineer

Dear Chet:

Pacific Power and Light Company has been issued a "Permit to Construct" for improvements at the Green River facility including a new contact-sedimentation basin.

You indicated in your letter of September 18 that the design flow rate of the unit is 6000 gpm, which results in a detention time of 2.75 hours.

Ten State Standards requires a detention time of no less than four hours for "conventional" situations. At the time that the flow through the unit approaches 4125 gpm (4 hours D.T.) a study must be initiated to determine the effectiveness and capabilities of the unit in handling the flows. Sufficient background information should be available (i.e. - specifically, loading rate and influent-effluent turbidity for the unit). Heavier loading may then be possible depending upon the results of the study. I would think the requirements of meeting the primary standards of the Safe Drinking Water Act would be initiative enough.

At 6000 gpm, the weirloading rate is greater than the 20,000 gpd per linear foot allowed by the Ten State Standards. The proposed weir structure would allow for a loading rate of 5236 gpm. The "Permit to Construct" will be issued on that basis. Any loading above that figure will require additional weirs. It is important that the weirs not be overloaded creating excessive rise in velocities.

It is assumed that the plans and specifications for the new filters will be ready sometime this winter. We look forward to working with you on it.

If any question comes up, please feel free to contact me.

Sincerely,

*David W Hill* <sup>sf</sup>

David W. Hill  
Environmental Engineer

Enclosure

DWH/ksl/ks

*No not name  
(just file)*

REVIEW OF SMALL WASTEWATER FACILITY PLANS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
Hathaway Office Building  
Cheyenne, Wyoming 82002  
(307) 777-7781

OWNER/APPLICANT: Green River Water Treatment Plant Modifications  
Sec. 22, T18N, R107W, Sweetwater County

ADDRESS: Pacific Power & Light  
920 S.W. Sixth Avenue  
Portland, OR 97204

WATER QUALITY DIVISION REFERENCE NUMBER: 78-526 516

REVIEWING ENGINEER: David W. Hill

DATE OF REVIEW: September 8, 1978

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

- COMMENTS:
1. What is the proposed design flow for the new sedimentation unit?
  - 2) More details are needed on the in-line mixing assembly.
  - 3) Are the present feeders (alum, polymers, chlorine) large enough to handle the increase in capacity.
  - 4) Why is the center feed well in the sedimentation tank so large?
  - 5) Is the steel sedimentation tank to be painted or cathodically protected? Details are needed.

ALL REPLIES SHOULD BE DIRECTED TO David W. Hill REF. NO. 78-516

*Back*  
*7/21/78*

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 78-517

Carrico Subdivision  
(Name of Facility)

This permit hereby authorizes the applicant:

<u>Carrico,</u>	<u>Gene</u>	<u></u>
(Last)	(First)	(Middle)
<u>P.O. Box 1567</u>		
(Street or P.O. Box)		
<u>Rawlins</u>	<u>Carbon</u>	<u>Wyoming</u> <u>82301</u>
(City)	(County)	(State)

to construct, install, or modify a water and sewer lines  
facility located in Sec. 8, T21N, R87W  
(Legal Description)

in the County of Carbon, in the State of  
Wyoming. This permit shall be effective for a period of \_\_\_\_\_ years  
from the date of issuance of this permit not to exceed five (5) years.

Authorized by:

William S. Garland  
Administrator  
Water Quality Division

Robert E. Sundin  
Director  
Wyoming Dept. of Environmental Quality

September 20, 1978

Date of Issuance

Mailed  
9/21/78

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 78-518

McNellis Addition

(Name of Facility)

This permit hereby authorizes the applicant:

<u>McNellis</u>	<u>John</u>	
(Last)	(First)	(Middle)
<u>Box 1067</u>		
(Street or P.O. Box)		
<u>Saratoga</u>	<u>Carbon</u>	<u>Wyoming 82331</u>
(City)	(County)	(State)

to construct, install, or modify a Water & Sewer Lines  
facility located in Section 11, T17N, R84W  
(Legal Description)

in the County of Carbon, in the State of  
Wyoming. This permit shall be effective for a period of 2 years  
from the date of issuance of this permit not to exceed five (5) years.

Authorized by:

William J. Gale  
Administrator  
Water Quality Division

Robert E. Sunden  
Director  
Wyoming Dept. of Environmental Quality

September 11, 1978  
Date of Issuance

mailed to  
5.1/23/79

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 78-519R

RIVERSIDE INDUSTRIAL PARK - PHASE I  
(Name of Facility)

This permit hereby authorizes the applicant:

Terradel Company, Inc.  
(Last) (First) (Middle)

2161 S. Coffeen Avenue, Suite 602  
(Street or P.O. Box)

Sheridan Sheridan Wyoming 82801  
(City) (County) (State)

to construct, install, or modify a water distribution and sewage collection  
facility located in Section 35, T.56N., R.84W.  
(Legal Description)

in the County of Sheridan, in the State of  
Wyoming. This permit shall be effective for a period of two (2) years  
from the date of issuance of this permit not to exceed five (5) years.

AUTHORIZED BY:

William L. Garland  
Administrator  
Water Quality Division

Robert E. Lundin  
Director  
Wyoming Dept. of Environmental Quality

January 22, 1979  
Date of Issuance

"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."

PERMIT TO CONSTRUCT

*mailed*  
*11/28/78*

- New
- Renewal
- Modified

Permit No. 78-520R

Dan & Tak Subdivision  
(Name of Facility)

This permit hereby authorizes the applicant:

Christopoulos                      Dan    (C & H Development)  
 (Last)                                      (First)                                      (Middle)

3014 Lakeshore Drive  
 (Street or P.O. Box)

Oakland                                      CA    94610  
 (City)                                      (County)                                      (State)

to construct, install, or modify an Extension to Cheyenne W & S System  
 facility located in Section 1, T13N, R67W  
 (Legal Description)

in the County of Laramie, in the State of  
 Wyoming. This permit shall be effective for a period of 2 years  
 from the date of issuance of this permit not to exceed five (5) years.

Authorized by:

William P. O'Neal  
 Administrator  
 Water Quality Division

Robert E. Sundin  
 Director  
 Wyoming Dept. of Environmental Quality

November 21, 1978

Date of Issuance

cc: Board of Public Utilities, 2100 Pioneer Ave., Cheyenne, WY 82001

File  
10/2/78

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
State Office Building  
Cheyenne, Wyoming 82002

PROJECT: City of Cheyenne, Water & Sanitary Improvements, Dan & Tak Subdivisions

ARCHITECT OR ENGINEER: C.S.S.A. 1780 Westland Road, Cheyenne, WY 82001

WATER QUALITY DIVISION REFERENCE NUMBER: 78-520

REVIEWING ENGINEER: Robert Pinther, P.E.; Jake Strohman, P.E.

DATE OF REVIEW: 9/22/78

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

Water Main Extension Specifications

1. The specifications should incorporate the provisions of AWWA Standard C600. Rock excavation shall be 6 inches below the bottom the pipe as per Section 6.4 and backfill under and up to 1 foot over the pipe shall comply with Sections 14.5 & 14.6. Boulders larger than 8 inches are prohibited in filling the rest of the trench. Maximum permissible deflection on curved runs shall comply with Tables 1 and 2 of the standard.
2. Valves and Hydrants - In the water distribution area valves should be at intervals of one block or no greater than 800 feet; hydrants should be 350 to 600 feet apart.
3. Crossings - On page WM-3, paragraph 7 of the specifications make changes to comply with paragraph 8.6.3 Crossings of the Ten State Standards for Water Works\*.
4. Sterilization
  - a. Specify that the disinfection shall be carried out in compliance with AWWA Standard C601.
  - b. On page WM-5, paragraph 11B of the specifications change "10 points per million to "25 parts per million".

\*Recommended Standards for Water Works of the Great Lakes-Upper Mississippi Board of State Sanitary Engineers, 1976 Edition.

Water Main & Sewer Main Extension Plans

An outside casing is required at the I-25 ramp crossing. Check with the Wyoming Highway Department for requirements and submit a detail plan covering the crossing to this Department.

Sanitary Sewer Extension Specifications

1. A drop manhole should be provided where the sewer enters the manhole at an elevation of 24 inches or more above the manhole invert.
2. There shall be a specification covering limitations on ovalation of PVC sewer pipe due to improper backfilling and/or compaction. The maximum vertical deflection should not exceed 5% of the pipe internal diameter.

mailed  
11/14/78

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 78-521R

Improvement District #38 - City of Gillette  
(Name of Facility)

This permit hereby authorizes the applicant:

City of Gillette    ATTN: Curtis Betcher  
 (Last)                      (First)                      (Middle)

P. O. Box 540  
 (Street or P.O. Box)

Gillette                      Campbell                      Wyoming 82716  
 (City)                      (County)                      (State)

to construct, install, or modify a Water Distribution & Sewage Collection  
 facility located in Section 21 & 28, T50N, R72W  
 (Legal Description)

in the County of Campbell, in the State of  
 Wyoming. This permit shall be effective for a period of 2 years  
 from the date of issuance of this permit not to exceed five (5) years.

Authorized by:

William J. Gales  
 Administrator  
 Water Quality Division

Robert E. Mordin  
 Director  
 Wyoming Dept. of Environmental Quality

October 26, 1978  
 Date of Issuance

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
State Office Building  
Cheyenne, Wyoming 82002

PROJECT: Improvement District #35 - City of Gillette

ARCHITECT OR ENGINEER: William Flaherty, City of Gillette, P. O. Box 3003,  
Gillette, WY 82716

WATER QUALITY DIVISION REFERENCE NUMBER: 78-521

REVIEWING ENGINEER: Dan H. Kim, Jake Strohman, P.E.

DATE OF REVIEW: 9/26/78

ACTION: ~~NOT AUTHORIZED FOR CONSTRUCTION~~

COMMENTS:

1. The plans & specifications must carry the signature or seal of the registered engineer in Wyoming.
2. A letter of verification should be provided from the City, stating that the City would provide adequate water & sewer services to the new district area.
3. More information is needed concerning the existing sewer lines into which the proposed lines will be tied, including size, material, existing capacity of the pipe. (Please show all the existing water & sewer lines on the cover sheet).
4. Details of highway crossing should be provided. The information should include installation procedures; type & number of skids, size & material of casing, details of sealing the annular spaces, etc.  
The proper guidelines for highway crossing <sup>are</sup> "Handbook of PVC pipe, UNI-Bell Plastic Pipe Association" or "PVC Sewer Pipe Installation Guide by Johns-Manville Co."
5. Are air relief valves needed at higher points? Show the details

mailed  
11/28/78

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 78-522R

Kerr-McGee - East Gillette #16  
(Name of Facility)

This permit hereby authorizes the applicant:

<u>Kerr-McGee Coal Corporation</u>		
(Last)	(First)	(Middle)
<u>Caller Box 3014</u>		
(Street or P.O. Box)		
<u>Gillette</u>	<u>Campbell</u>	<u>Wyoming 82716</u>
(City)	(County)	(State)

to construct, install, or modify a Sewage Collection & Treatment  
facility located in Section 9, T50N, R71W  
(Legal Description)

in the County of Campbell, in the State of  
Wyoming. This permit shall be effective for a period of 2 years  
from the date of issuance of this permit not to exceed five (5) years.

Authorized by:

William L. Palmer  
Administrator  
Water Quality Division

Robert E. Sundin  
Director  
Wyoming Dept. of Environmental Quality

November 24, 1978  
Date of Issuance

P. Kim  
9/26/78

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
State Office Building  
Cheyenne, Wyoming 82002

PROJECT: Kerr-McGee Coal Co. - East Gillette Mine #16 - Wastewater Treatment Facility

ARCHITECT OR ENGINEER: P. Rechar, P.E. 316 Stuart St. Laramie, WY 82070

WATER QUALITY DIVISION REFERENCE NUMBER: 78-522

REVIEWING ENGINEER: Dan H. Kim, Jake Strohm, P.E.

DATE OF REVIEW: 9/26/78

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

1. The proposed area of drain field appears to be undersized. Our Division uses  $Q = \frac{5}{\sqrt{t}}$  for determination of allowable rate of sewage application Q, in terms of gallons per square foot per day, where t is percolation rate in minutes per inch. (Ref: Manual of Septic Tank Practice. U.S. Dept. of Health, Education & Welfare. Public Health Science).
2. Maximum depth of cover over drain tile is 36 inches.
3. What is the highest seasonal groundwater table or impervious layer?
4. Cleanouts may only be used at the end of a line in place of manhole, if the length of the line is less than 150 feet. Therefore, manholes should be installed at all changes in grade, alignment, etc. and at a maximum spacing of 400 feet.
5. Please provide more detailed information on sewer pipe. Are those pipes specified in ASTM standards?
6. What is the slope of the 6" sewer line?
7. More detailed bedding & backfilling specifications are needed, including typical drawing.
8. Please show the details of septic tank, including baffles, access manholes, etc. Access manhole opening should be at least 20" x 20" in diameter over inlet & outlet of the tank.

cc: Darryl Maunder, Kerr-McGee Coal Corp., Caller Box 3014, Gillette, WY 82716



mailed  
10/20/78

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 78-526

4-K Addition to the City of Buffalo

(Name of Facility)

This permit hereby authorizes the applicant:

4-K Company C/O Karl Begner  
 (Last) (First) (Middle)

130 South Main  
 (Street or P.O. Box)

Buffalo Weston WY 82834  
 (City) (County) (State)

to construct, install, or modify a water distribution and sewage collection  
 facility located in Section 3; T50N; R82W  
 (Legal Description)

in the County of Johnson, in the State of  
 Wyoming. This permit shall be effective for a period of two years  
 from the date of issuance of this permit not to exceed five (5) years.

Authorized by:

William S. Paul  
 Administrator  
 Water Quality Division

Robert E. Austin  
 Director  
 Wyoming Dept. of Environmental Quality

September 22, 1978

Date of Issuance



*Mailed -  
10/13/78*

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
State Office Building  
Cheyenne, Wyoming 82002

PROJECT: Modification of Community Water Supply, Seminoe Dam, Wyoming

ARCHITECT OR ENGINEER: None indicated, Submitted by Bureau of Reclamation,  
Regional Ofc., Lower Missouri Region, P. O. Box 25247, Bldg. 20,  
Denver Federal Center, Denver, CO 80225  
WATER QUALITY DIVISION REFERENCE NUMBER: 78-528

REVIEWING ENGINEER: Robert H. Pinther

DATE OF REVIEW: October 10, 1978

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

1. Pressure sand filters shall not be used in the filtration of polluted waters. See para. 4.2.2 Rapid Rate Pressure Filters of the "Ten State Standards for Water Works".
2. Since the storage tank "floats" on the distribution system and could be automatically by-passed during periods of maximum water usage, the design provides no assurance that the required chlorine contact period of 2 hours prior to consumption will be provided under all operating conditions.
3. The chlorinator booster pump shall take suction from finished waters following storage rather than nonchlorinated filtered water.
4. A standby chlorinator shall be provided.
5. Specify the capacity of the chlorinator. Recommend that the respiratory protective equipment at the chlorination facility use compressed air and supply at least a 30 minute supply of air.
6. Provide adequate housing for the chlorination equipment and for storing the chlorine as set forth in para. 5.4.1 of the aforementioned standards.
7. The minimum size of water main for providing fire protection and serving fire hydrants shall be six inch diameter.
8. The open end of each automatic air release valve shall be piped to a point at least one foot above grade. The pipe shall terminate with a screened, downward facing elbow which, in turn, terminates at least one foot above grade.

9. The 4-inch steel pipe shall conform to AWWA Standard C205, latest edition.
10. All gate valves shall conform to AWWA Standard C500, latest edition.
11. Pressure and leakage tests shall be specified as set forth in Section 13, Hydrostatic Test of AWWA Standard C600, latest edition.
12. All bends shall be provided with reaction blocking, the rods or joints designed to prevent movement.
13. All water pipes and tanks shall be disinfected prior to putting into service. Applicable sections of AWWA Standards C600 and D102 shall be followed in carrying out disinfection.
14. The plans shall bear the seal or signature of an engineer whos is registered in Wyoming.
15. What is the capacity of the existing water storage tank?
16. The waste water disposal system shall be of a type which will not discharge to any surface water sewer or drainage way.
17. This is not a final review.

cc: U.S. EPA, Region VIII  
Water Supply Section  
1860 Lincoln St.  
Denver, CO 80295

PERMIT TO CONSTRUCT

*Mailed*  
*11/25/78*

- New
- Renewal
- Modified

Permit No. 78-529R

Hanna Water Tank

(Name of Facility)

This permit hereby authorizes the applicant:

Town of Hanna - Carbon Co. Impact Joint Powers Board  
(Last) (First) (Middle)

P. O. Box 841  
(Street or P.O. Box)

Hanna Carbon Wyoming 82327  
(City) (County) (State)

to construct, install or modify a Public Water Supply  
facility located in Section 17, T22N, R81W  
(Legal Description)

in the County of Carbon, in the State of  
Wyoming. This permit shall be effective for a period of 2 years  
from the date of issuance of this permit not to exceed five (5) years.

Authorized by:

William L. Galan  
Administrator  
Water Quality Division

Robert E. Sardin  
Director  
Wyoming Dept. of Environmental Quality

November 21, 1978  
Date of Issuance

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
State Office Building  
Cheyenne, Wyoming 82002

PROJECT: Hanna Water Tank

ARCHITECT OR ENGINEER: Richard Rensser      Robert Jack Smith & Assoc.  
P. O. Box 1104, Rawlins, WY 82301

WATER QUALITY DIVISION REFERENCE NUMBER: 78-529

REVIEWING ENGINEER: Robert Pinther, P.E.      Jake Strohman, P.E.

DATE OF REVIEW: 9/25/78

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

Water Pipe Construction

The specification shall incorporate the provisions of AWWA standard C600. Rock excavation shall be 6 inches below the bottom of the pipe as per Section 6.4 and backfill under and up to 1 foot over the pipe shall comply with Sections 14.5 & 14.6. Boulders larger than 8 inches are prohibited in filling the rest of the trench.

All tees, binds and plugs shall be provided with reaction blocking the rods or joints designed to prevent movement. The area of bearing on the pipe and on the ground in each instance shall be shown. Reaction backing shall be concrete of a mix not leaner than one part of cement to 2½ parts sand and 5 parts stone.

The tank disinfection procedure shall incorporate the provisions of AWWA Standard D102.

The valve pits at the tanks should be protected against flooding by sloping the ground away from the pits in all directions.

Each valve pit shall preferably be drained to the surface of the ground. If this is not practical they can drain to underground adsorption pits.

Copies of all shop drawings covering items not shown in detail on the plans shall be submitted to this Division and no construction covering the same shall take place until authorized by the Division.

The open end of the air relief pipe from the vacuum air release valve shall terminate at a point at least one foot above grade and shall be screened.

This shall not be construed as a final review.

THE STATE



OF WYOMING

COURSE:  
A COPY has been given CSSA  
This Per files

ED HERSCHLER  
GOVERNOR

*Department of Environmental Quality*  
*Water Quality Division*

HATHAWAY BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

September 8, 1978

CSSA  
1780 Westland Road  
P.O. Box 943  
Cheyenne, Wyoming 82001

Subject: Roy Merritt Waste Facility (Lots 14  
and 15, Ridge Road and Miles Court,  
Cheyenne) DEQ #78-530

Dear Mr. Anderson:

As stated in our telephone conversations and meeting, this office does not issue permits to construct on AS Builts. Based on the data submitted and conversations with Mr. Gus Lopez, this office is providing tacit concurrence with the system and will take no actions against the owner.

A handwritten signature in cursive script that reads "Thomas F. Hamm".

Thomas F. Hamm  
Environmental Engineer

TFH/nc

cc: Mr. Gus Lopez  
County Sanitation Department

PERMIT TO CONSTRUCT

*mailed*  
*10/3/78*

- New
- Renewal
- Modified

Permit No. 78-531

GETTER TRUCKING SEPTIC

(Name of Facility)

This permit hereby authorizes the applicant:

Western Construction  
 (Last) (First) (Middle)

Box 428  
 (Street or P.O. Box)

Buffalo Johnson Wyoming  
 (City) (County) (State)

to construct, install, or modify a septic system

facility located in Section 3, T33N, R80W  
(Legal Description)

in the County of Natrona, in the State of

Wyoming. This permit shall be effective for a period of 2 years

from the date of issuance of this permit not to exceed five (5) years.

Authorized by:

William J. Galand  
 Administrator  
 Water Quality Division

Robert E. Sundin  
 Director  
 Wyoming Dept. of Environmental Quality

September 20, 1978  
Date of Issuance

This permit does not supercede the requirements for obtaining a Septic Tank Permit from Natrona County Health Department.

*mailed  
10/20/78*

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 78-532

McEvoy Oil Field Septic

(Name of Facility)

This permit hereby authorizes the applicant:

Burd                      Bill  
 (Last)                      (First)                      (Middle)

1410 Mariposa Boulevard  
 (Street or P.O. Box) (No.)

Casper,                      Natrona,                      Wyoming 82601  
 (City)                      (County)                      (State)

to construct, install, or modify a septic system  
 facility located in Section 6, T33N, R79W  
 (Legal Description)

in the County of Natrona, in the State of  
 Wyoming. This permit shall be effective for a period of \_\_\_\_\_ years  
 from the date of issuance of this permit not to exceed five (5) years.

Authorized by:

William S. Garland  
 Administrator  
 Water Quality Division

Robert E. Anderson  
 Director  
 Wyoming Dept. of Environmental Quality

September 20, 1978  
 Date of Issuance

This permit does not supercede the requirements for obtaining a Septic Tank Permit from Natrona County Health Department.

mailed -  
10/18/78

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 78-533R

Hollandsworth Subdivision

(Name of Facility)

This permit hereby authorizes the applicant:

<u>Hollandsworth</u>	<u>Don</u>	<u>Don</u>
(Last)	(First)	(Middle)
<u>Box 204 204</u>		
(Street or Post Office Box)		
<u>Evansville</u>	<u>Natrona</u>	<u>Wyoming</u>
(City)	(County)	(State)
		<u>826362636</u>

to construct, install, or modify a water and sewer lines  
 facility located in Sec. 1, T33N, R79W  
 (Legal Description)

in the County of Natrona, in the State of  
 Wyoming. This permit shall be effective for a period of 2 years  
 from the date of issuance of this permit not to exceed five (5) years.

Authorized by:

William S. Galand  
 Administrator  
 Water Quality Division

Robert E. Sundin  
 Director  
 Wyoming Dept. of Environmental Quality

October 6, 1978

Date of Issuance

This permit does not supercede the requirements for obtaining a Septic Tank Permit from Natrona County Health Department.

mailed  
10/16/78

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 78-535

Aspens Sewage Treatment System - Leach Field Expansion, Phase I  
(Name of Facility)

This permit hereby authorizes the applicant:

Racquet and Club Ventures, Inc.  
 (Last) (First) (Middle)

Star Route, P. O. Box 362A  
 (Street or P.O. Box)

Jackson Teton Wyoming 83001  
 (City) (County) (State)

to construct, install, or modify a elevated leach field with pressure distribution system  
 facility located in Section 11, T41N, R117W  
 (Legal Description)

in the County of Teton, in the State of  
 Wyoming. This permit shall be effective for a period of 2 years  
 from the date of issuance of this permit not to exceed five (5) years.

Authorized by:

William J. Gales  
 Administrator  
 Water Quality Division

Robert E. Lundin  
 Director  
 Wyoming Dept. of Environmental Quality

October 6, 1978

Date of Issuance

cc: Peter M. Jorgensen, P.E., P. O. Box 1142, Jackson, WY 83001  
 Robert Ablondi, Teton Ct. Planning Comm., Teton Ct. Courthouse, Jackson, WY 83001

mailed  
11/28/78

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 78-536R

Prospector Village - Sewage Lagoon Modifications  
(Name of Facility)

This permit hereby authorizes the applicant:

Amax Coal Company			ATTN: Russell Larson		
(Last)	(First)	(Middle)			
Larson Engineering			310 Miller Suite K		
(Street or P.O. Box)					
Gillette		Campbell		Wyoming 82716	
(City)		(County)		(State)	

to construct, install, or modify a Sewage Lagoon  
facility located in Section 20, T51, R72  
(Legal Description)

in the County of Campbell, in the State of  
Wyoming. This permit shall be effective for a period of 2 years  
from the date of issuance of this permit not to exceed five (5) years.

Authorized by:

William L. Janda  
Administrator  
Water Quality Division

Robert E. Hendin  
Director  
Wyoming Dept. of Environmental Quality

November 22, 1978  
Date of Issuance

*mailed*  
*10/20/78*

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
State Office Building  
Cheyenne, Wyoming 82002

PROJECT: Prospector Village Fitting No. 1 - Sewage Lagoon System

ARCHITECT OR ENGINEER: Ted Hick, Larson Engineering, 310 Miller, Suite K,  
Gillette, Wyoming 82716

WATER QUALITY DIVISION REFERENCE NUMBER: 78-536 Ref 77-78RR

REVIEWING ENGINEER: Dan H. Kim, Jake Strohman, P.E.

DATE OF REVIEW: October 3, 1978

ACTION: Not authorized for construction

COMMENTS:

1. Please provide the HUL and LWL in the chlorine contact chamber. Also, provide the weir elevation.
2. Blower for air lift pump shall not be located inside the chlorination building unless a gas-tight partition is provided.
3. Submit heating details for the chlorination building.
4. Are scales to be provided for weighing cylinders?

cc: Mike Elmer  
MSM Consultants, Inc.  
350 W. A Street  
Casper, WY 82601

MSM  
10-23-79

PERMIT TO CONSTRUCT

New

Permit No. 78-537R

Renewal

Modified

SAGE BLUFFS SUBDIVISION, FILING #3  
(Name of Facility)

This permit hereby authorizes the applicant:

Pulte Home Corporation, North Wyoming Division  
(Last) (First) (Middle)

P.O. Box 1736  
(Street or P.O. Box)

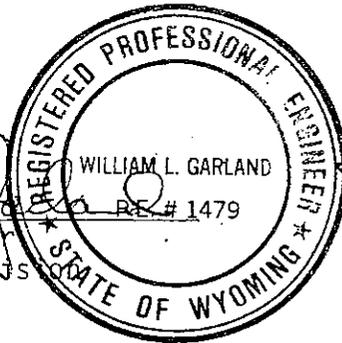
Gillette Campbell Wyoming 82716  
(City) (County) (State)

to construct, install, or modify a water distribution and sewage collection  
facility located in Section 33, T.50N., R.72W.  
(Legal Description)

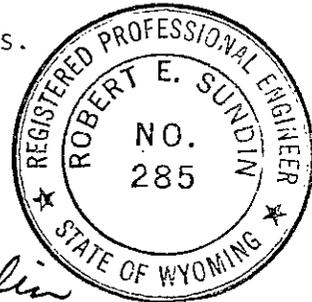
in the County of Campbell, in the State of  
Wyoming. This permit shall be effective for a period of two (2) years  
from the date of issuance of this permit not to exceed five (5) years.

AUTHORIZED BY:

William L. Garland  
Administrator  
Water Quality Division



Robert E. Sundin  
Director  
Wyoming Dept. of Environmental Quality



October 12, 1979  
Date of Issuance

"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."

Book

REVIEW OF ~~STANDARD~~ FACILITY PLANS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
Hathaway Office Building  
Cheyenne, Wyoming 82002  
(307) 777-7781

OWNER/APPLICANT: Sage Bluff Subdivision, Filing #3

ADDRESS: Genge/Meurer, Serafini, Meurer, Inc.  
570 West 44th Avenue  
Denver, CO 80216

WATER QUALITY DIVISION REFERENCE NUMBER: 78-537

REVIEWING ENGINEER: Dan H. Kim, William L. Garland, P.E.

DATE OF REVIEW: September 7, 1978

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS: 1. A letter from the City of Gillette should be provided, stating that the City can provide adequate water & sewer services to the subdivision.

WATER LINES

- 2) The water mains shall be installed in accordance to applicable AWWA standards (AWWA C600 or AWWA C603). Please insert this into the specifications.
- 3) All fire hydrants shall meet AWWA C502-73.
- 4) All gate valves shall meet AWWA C500-71.
- 5) Disinfection of the water line shall comply with AWWA C601-68.
- 6) Provide specifications of Joints & fittings for water pipes. These shall meet the applicable AWWA standards (AWWA C110 or C111)
- 7) Specifications concerning hydrostatic tests of the water main should be provided.
- 8) Backfilling specification should include degree of compaction.

SEWER LINES

- 9) Specifications concerning pipe installation is needed. The proper standard is ASTM D2321, "Standard Recommended Practice for Underground Installation of Flexible Thermo-plastic sewer pipe."

ALL REPLIES SHOULD BE DIRECTED TO           Dan H. Kim           REF. NO.           78-537

Mailed -  
9/25/78

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 78-538R

Reno Ranch Isl. Sewage Lagoon  
(Name of Facility)

This permit hereby authorizes the applicant:

Rocky Mountain Energy Corporation  
 (Last) (First) (Middle)  
 ATTN: A, D, Luck  
 4704 Harlan  
 (Street or P.O. Box)  
 Denver Wyoming 80212  
 (City) (County) (State)

to construct, install, or modify a Sewage Treatment - Lagoon  
 facility located in Section 27, T43N, R73W  
 (Legal Description)

in the County of Campbell, in the State of  
 Wyoming. This permit shall be effective for a period of 2 years  
 from the date of issuance of this permit not to exceed five (5) years.

Authorized by:

William P. ...  
 Administrator  
 Water Quality Division

Robert E. Sundin  
 Director  
 Wyoming Dept. of Environmental Quality

September 15, 1978  
 Date of Issuance

Book

Mailed  
10/3/78

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 78-539

Highland Park Addition

(Name of Facility)

This permit hereby authorizes the applicant:

City of Casper

(Last) (First) (Middle)

200 North David

(Street or P.O. Box)

Casper Natrona Wyoming 82601  
(City) (County) (State)

to construct, install, or modify a sewer lines

facility located in City of Casper (Lots 24, 25, 26, 27, and 28, Block 6)  
(Legal Description)

in the County of Natrona, in the State of

Wyoming. This permit shall be effective for a period of 2 years

from the date of issuance of this permit not to exceed five (5) years.

Authorized by:

William L. Janda  
Administrator  
Water Quality Division

Robert E. Sundin  
Director  
Wyoming Dept. of Environmental Quality

September 26, 1978

Date of Issuance

This permit does not supercede the requirements for obtaining a Septic Tank Permit from Natrona County Health Department.

PERMIT TO CONSTRUCT

*Mailed*  
*10/13/78*

- New
- Renewal
- Modified

Permit No. 78-540

MOYLE ADDITION

(Name of Facility)

This permit hereby authorizes the applicant:

Casper Board of Public Utilities  
 (Last) (First) (Middle)  
200 North David  
 (Street or P.O. Box)

Casper Natrona Wyoming 82601  
 (City) (County) (State)

to construct, install, or modify a sewer and water lines  
 facility located in City of Casper - Moyle Addition  
 (Legal Description)

in the County of Natrona, in the State of  
 Wyoming. This permit shall be effective for a period of 2 years  
 from the date of issuance of this permit not to exceed five (5) years.

Authorized by:

William L. Gales  
 Administrator  
 Water Quality Division

Robert E. Sundin  
 Director  
 Wyoming Dept. of Environmental Quality

September 20, 1978

Date of Issuance

This permit does not supercede the requirements for obtaining a Septic Tank Permit from Natrona County Health Department.

Filed  
10/2

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 78-541

Garry Rieck Water Extension  
(Name of Facility)

This permit hereby authorizes the applicant:

<u>Rieck</u>	<u>Garry</u>	
(Last)	(First)	(Middle)
<u>819 Oregon Trail</u>		
(Street or P.O. Box)		
<u>Casper</u>	<u>Natrona</u>	<u>Wyoming 82601</u>
(City)	(County)	(State)

to construct, install, or modify a Water Distribution System  
facility located in Section 29, T34N, R79W  
(Legal Description)

in the County of Natrona, in the State of  
Wyoming. This permit shall be effective for a period of 2 years  
from the date of issuance of this permit not to exceed five (5) years.

Authorized by:

William L. Galand  
Administrator  
Water Quality Division

Robert E. Sundin  
Director  
Wyoming Dept. of Environmental Quality

September 20, 1978  
Date of Issuance

This permit does not supercede the requirements for obtaining a Septic Tank  
Permit from Natrona County Health Department.  
Attachment: Permit Comments

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
State Office Building  
Cheyenne, Wyoming 82002

PROJECT: Gerry Rieck Water Extension  
819 Oregon Trail  
Casper, Natrona, Wyoming 82601

ARCHITECT OR ENGINEER: Worthinton, Lenhart & Carpenter  
632 South David St.  
Casper, Wyoming 82601

WATER QUALITY DIVISION REFERENCE NUMBER: 78-541

REVIEWING ENGINEER: Thomas F. Hamm, Jake Strohman, P.E.

DATE OF REVIEW: September 8, 1978

ACTION: AUTHORIZED FOR CONSTRUCTION WITH COMMENTS.

COMMENTS:

This project is authorized for construction with the incorporation of the attached comments and changes to the Wardwell Water and Sewer Standards and Specifications.

This does not constitute approval of any portion of the Wardwell Standards and Specifications for any other endeavors.

Larson

PERMIT TO CONSTRUCT

- New  
 Renewal  
 Modified

Permit No. 78-542

Larson Construction Septic  
(Name of Facility)

This permit hereby authorizes the applicant:

Larson Construction Company  
(Last) (First) (Middle)  
1624 South Chestnut Street  
(Street or P.O. Box)  
Casper Natrona Wyoming 82601  
(City) (County) (State)

to construct, install, or modify a septic system  
facility located in Section 32, T34N, R79W (Lot 28, Interstate Industrial Park)  
(Legal Description)  
in the County of Natrona, in the State of  
Wyoming. This permit shall be effective for a period of 2 years  
from the date of issuance of this permit not to exceed five (5) years.

Authorized by:

William L. Garland  
Administrator  
Water Quality Division

Robert E. Sundin  
Director  
Wyoming Dept. of Environmental Quality

September 26, 1978

Date of Issuance

This permit does not supercede the requirements for obtaining a Septic Tank Permit from Natrona County Health Department.

mailed  
10/19/78

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 78-543R

Saratoga Real Estate Westside Addition

(Name of Facility)

This permit hereby authorizes the applicant:

<u>McNellis</u>	<u>John</u>	
(Last)	(First)	(Middle)
<u>Box 127</u>		
(Street or P.O. Box)		
<u>Saratoga</u>	<u>Carbon</u>	<u>WY 82371</u>
(City)	(County)	(State)

to construct, install, or modify a sewer and water lines  
 facility located in Section 11; T17N; R84W  
 (Legal Description)

in the County of Carbon, in the State of  
 Wyoming. This permit shall be effective for a period of two years  
 from the date of issuance of this permit not to exceed five (5) years.

Authorized by:

William L. Gales  
 Administrator  
 Water Quality Division

Robert E. Sardin  
 Director  
 Wyoming Dept. of Environmental Quality

October 6, 1978  
 Date of Issuance

This permit does not supercede the requirements for obtaining a Septic Tank Permit from Natrona County Health Department.

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
PERMIT TO CONSTRUCT

*mailed*  
*10/18/78*

New

Renewal

Permit No. 78-544

Modified

GOMEZ MOBILE HOME PARK

(Name of Facility)

This permit hereby authorizes the applicant:

GOMEZ

GILBERT

(Last)

(First)

(Middle)

P.O. BOX 7

(Street or P.O. Box)

EVANSTON,

WYOMING

82930

(City)

(State)

(Zip Code)

to construct, install, or modify a WATER DISTRIBUTION

facility located in SEC. 16

T15N

R120W

(Legal Description)

in the County of UINTA

, in the State of Wyoming.

This permit shall be effective for a period of 2 years from the date of issuance of this permit not to exceed five (5) years.

Authorized by:

William L. Jala  
Administrator  
Water Quality Division

Robert E. Hardin  
Director  
Department of Environmental  
Quality

SEPTEMBER 28, 1978.

Date of Issuance

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
PERMIT TO CONSTRUCT

New

Renewal

Permit No. 78-545

Modified

WEST GAS HILLS SETTLING RESERVOIRS 1 AND 2, AREA 7 SETTLING RESERVOIR  
(Name of Facility)

This permit hereby authorizes the applicant:

PATHFINDER MINES CORPORATION

(Last)

(First)

(Middle)

LUCKY MC MINE, P.O. BOX 831

(Street or P.O. Box)

RIVERTON,

WYOMING

82501

(City)

(State)

(Zip Code)

to construct, install, or modify a INDUSTRIAL WASTE AND STABILIZATION  
SETTLING POND

facility located in SEC18 T32N R90W

(Legal Description)

in the County of FREMONT, in the State of Wyoming.

This permit shall be effective for a period of 2 years from  
the date of issuance of this permit not to exceed five (5) years.

Authorized by:

William J. Quinn  
Administrator  
Water Quality Division

Robert E. Brown  
Director  
Department of Environmental  
Quality

OCTOBER 10, 1978.  
Date of Issuance

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
PERMIT TO CONSTRUCT

New

Renewal

Modified

Permit No. 78-547R

GREYBULL WATER DISTRIBUTION SYSTEM IMPROVEMENTS  
(Name of Facility)

This permit hereby authorizes the applicant:

TOWN OF GREYBULL

(Last)

(First)

(Middle)

CITY HALL

24 SO. 5TH ST.

(Street or P.O. Box)

GREYBULL,

(City)

WYOMING

(State)

82426

(Zip Code)

to construct, install, or modify a PUBLIC WATER AND MUNICIPAL  
facility located in SEC8 T52N R93W  
(Legal Description).

in the County of BIG HORN, in the State of Wyoming.

This permit shall be effective for a period of 2 years from  
the date of issuance of this permit not to exceed five (5) years.

Authorized by:

William L. Galand  
Administrator  
Water Quality Division

[Signature]  
Director  
Department of Environmental  
Quality

OCTOBER 6, 1978.

Date of Issuance

DEQ

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER QUALITY DIVISION  
933 MAIN STREET,  
LANDER, WYOMING 82520

PROJECT: GREYBULL WATER DISTRIBUTION SYSTEM IMPROVEMENTS

ARCHITECT OR ENGINEER: L. M. NELSON  
JOHN W. DONNELL & ASSOCIATES  
P.O. BOX 13, WORLAND, WYO. 82401

WATER QUALITY DIVISION REFERENCE NUMBER: 78-547

REVIEWING ENGINEER: RICK ENGELMANN, R. E.

DATE OF REVIEW: SEPTEMBER 29, 1978.

ACTION: NOT AUTHORIZED.

COMMENTS:

GENERAL:

1. We need some kind of engineering report in order to evaluate how this project will fit into and affect the existing dist. system. Such a report would include a description of the town's entire system, the pressures now in the system, water use rates, and a topographic map of the town.
2. The fire protection appears to be rather sparse in this section of town.

SPECIFICATIONS:

3. Water mains appear to be acceptable - however, we don't know what kind of pressures they will be handling. How did you estimate these?
4. 4,3,e,m para, 2, We approved this section for the Town of Ten Sleep because of the great number of house connections in that town that would be affected. Since this does not appear to be the problem in Greybull, we will not approve it.

In addition, if water mains are laid below sewers, the sewers must be constructed of water class pipe.

5. 4.5, "Main Disinfection. AWWA C601-68 is cited, but this section then goes on to say that 10 ppm residual after 24 hours is acceptable. C601-68 states 25 ppm residual.
6. Due to the types of comments made, this cannot be considered a final review.

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
State Office Building  
Cheyenne, Wyoming 82002

*mailed*  
*10/30/78*  
*Replaced*  
*by*  
*79-35*

PROJECT: ~~Charley Johnson, Septic Tank/Drainfield; Charley Johnson,~~  
Cheyenne, WY 82001

ARCHITECT OR ENGINEER: CSSA Consulting Engineers, P.O. Box 943,  
Cheyenne, WY 82001

WATER QUALITY DIVISION REFERENCE NUMBER: ~~78-5489~~

REVIEWING ENGINEER: Robert H. Pinther, P.E., *J* Jake Strohman, P.E.

DATE OF REVIEW: 10/19/78

ACTION: ~~NOT AUTHORIZED FOR CONSTRUCTION~~

COMMENTS:

Revise to comply with the standards referred to in our letter of 9/26/78 to the engineer, Mr. Jon Anderson and resubmit along with an application for a permit to construct a mobile home park. A copy of the above referenced letter is enclosed.

This is not a final review.

Enclosure

cc: Cheyenne-Laramie County Health Dept, 315 W. 20th Street, Cheyenne, WY 82001  
Mr. Charley Johnson, 4410 E. 10th Street, Cheyenne, WY 82001

PERMIT TO CONSTRUCT

*mailed*  
*11/14/78*

New

Renewal

Modified

Permit No. 78-549R

Sage Creek Trunk Sewer

(Name of Facility)

This permit hereby authorizes the applicant:

City of Casper, Board of Public Utilities

(Last) (First) (Middle)

200 North David

(Street or P.O. Box)

Casper Natrona Wyoming 82601

(City) (County) (State)

to construct, install, or modify a Trunk Sewer

facility located in City of Casper

(Legal Description)

in the County of Natrona, in the State of

Wyoming. This permit shall be effective for a period of 2 years

from the date of issuance of this permit not to exceed five (5) years.

Authorized by:

William S. Gaudin  
Administrator  
Water Quality Division

Robert E. Sunden  
Director  
Wyoming Dept. of Environmental Quality

November 8, 1978

Date of Issuance

This permit does not supercede the requirements for obtaining a Septic Tank Permit from Natrona County Health Department.

*mailed*  
*10/23/78*

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
State Office Building  
Cheyenne, Wyoming 82002

PROJECT: Casper Board of Public Utilities, Sage Creek Trunk Sewer,  
Casper, WY

ARCHITECT OR ENGINEER: Black & Veatch Consulting Engineers, 12075 East 45th AV,  
Suite 333, Denver, CO 80239

WATER QUALITY DIVISION REFERENCE NUMBER: 78-549

REVIEWING ENGINEER: Robert H. Pinther, P.E. *Robert H. Pinther*

DATE OF REVIEW: 10/10/78

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

1. Where the sewer line passes over or less than 18 inches under water main it should be constructed of mechanical joint cast iron pipe. One full length of sewer pipe should be centered at the water main so that both joints will be as far from the sewer as possible.
2. Revise Section 3 - A.2. Exfiltration of the specification to limit the leakage outward or inward to 200 gallons per inch of pipe diameter per mile per day (see paragraph 25.8 "Joints and Infiltration" of the "Ten State Standards for Sewage Works").

PERMIT TO CONSTRUCT

New

Renewal

Modified

Permit No. 78-550

RIVERSIDE DEVELOPMENT

(Name of Facility)

This permit hereby authorizes the applicant:

RIVERSIDE DEVELOPMENT INC.  
(Last) (First) (Middle)

408 SUMMIT ST.  
(Street or P.O. Box)

EVANSTON, WYOMING 82930  
(City) (State) (Zip Code)

to construct, install, or modify a WATER AND WASTEWATER DISTRIBUTION

facility located in SEC22 T15N R120W  
(Legal-Description)

in the County of UINTA, in the State of Wyoming.

This permit shall be effective for a period of 2 years from the date of issuance of this permit not to exceed five (5) years.

Authorized by:

William J. O'Connell  
Administrator  
Water Quality Division

[Signature]  
Director  
Department of Environmental  
Quality

OCTOBER 23, 1978  
Date of Issuance

CARLTON & CARLTON  
P.O. BOX 435  
EVANSTON, WYO. 82930

PCQ

REVIEW OF PLANS AND SPECIFICATIONS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

uinta Co.

WATER QUALITY DIVISION  
933 MAIN STREET,  
LANDER, WYOMING 82520

PROJECT:

~~RIVERSIDE DEVELOPMENT~~

ARCHITECT OR ENGINEER: CARLTON & CARLTON

WATER QUALITY DIVISION REFERENCE NUMBER:

~~78-550~~

REVIEWING ENGINEER: DOUG CRAIG *d.c.*

DATE OF REVIEW: SEPTEMBER 21, 1978

ACTION: ~~NOT AUTHORIZED TO CONSTRUCT~~

COMMENTS:

1. Manholes are required at the termination of all sewer lines.
2. The line between manholes STA. 3 + 21 and STA. 5 + 59 will require an additional manhole. The existing line will be dug up and straightened to within the allowable deflection of the PVC pipe.
3. The lift station does not appear to be protected from flooding, i.e., the top is nearly flush with the ground surface.
4. State Water Quality requirements indicate a minimum size sewer line of 8 inches provide sufficient justification for the 6-inch line.
5. How are you servicing Lot 6 and Lot 7?
6. Provide hydraulic information on water main i.e., maximum and minimum pressures.
8. This cannot be considered a complete review due to the number of comments.

