

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 78-151R

O. E. Bunnell Mobile Home Park  
(Name of Facility)

This permit hereby authorizes the applicant:

<u>Bunnell</u> (Last)	<u>O.</u> (First)	<u>E.</u> (Middle)
<u>817 Russell Avenue</u> (Street or P.O. Box)		
<u>Worland</u> (City)	<u>Washakie</u> (County)	<u>Wyoming 82401</u> (State)

to construct, install, or modify a Water Distribution and Wastewater Collection  
facility located in Section 24, T47N, R93W  
(Legal Description)

in the County of Washakie, 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. Sundin  
Director  
Wyoming Dept. of Environmental Quality

May 12, 1978

Date of Issuance

cc: John W. Donnell & Associates, P. O. Box 13, Worland, Wyoming 82401

8

REVIEW OF PLANS AND SPECIFICATIONS

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

PROJECT: O. E. Bunnell Mobile Home Park, Waste Treatment Facility,  
Washakie County

ARCHITECT OR ENGINEER: John W. Donnell & Associates, P. O. Box 13,  
Worland, Wyoming 82401

WATER QUALITY DIVISION REFERENCE NUMBER: 78-151

REVIEWING ENGINEER: Roy E. Prior - William L. Garland, P.E.

DATE OF REVIEW: April 25, 1978

*William L. Garland*

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

Telephone conversation this date with owner and engineer indicated changes in the drawing are being made. The review will proceed upon receipt of additional information.

cc: O. E. Bunnell  
817 Russell Avenue  
Worland, Wyoming 82401

PERMIT TO CONSTRUCT

New

Renewal

Modified

Permit No. 78-152RR

Ray Walker Four-Plex

(Name of Facility)

This permit hereby authorizes the applicant:

<u>Walker</u>	<u>Ray</u>	
(Last)	(First)	(Middle)
<u>94 Jonquil</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 Septic Tank-Lift Station-Leach Field  
facility located in Section 33, T34N, 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.

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

Authorized by:

William J. Garland  
Administrator  
Water Quality Division

Robert E. Sandlin  
Director  
Wyoming Dept. of Environmental Quality

June 15, 1978  
Date of Issuance

cc: Western Construction, ATTN: Ed Rate, P.E., P. O. Box 930, Casper, WY 82601

*JS*

REVIEW OF PLANS AND SPECIFICATIONS

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

PROJECT: Ray Walker Four-Plex, Waste Treatment Facility, Section 33,  
T34N, R80W, Natrona County

ARCHITECT OR ENGINEER: Western Construction, ATTN: Ed Rate, P.E., P. O. Box  
930, Casper, Wyoming 82601

WATER QUALITY DIVISION REFERENCE NUMBER: 78-152R

REVIEWING ENGINEER: David W. Hill - William L. Garland, P.E.

DATE OF REVIEW: May 30, 1978

*William L. Garland*

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

- 1). Submit detailed drawings and/or specifications of the lift station manhole etc.

44

REVIEW OF PLANS AND SPECIFICATIONS

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

PROJECT: Ray Walker Four-Plex, Waste Treatment Facility,  
Section 33, T34N, R80W - Natrona County

ARCHITECT OR ENGINEER: Edwin Rate, P.E. - Western Construction, Inc.,  
P. O. Box 930 - Casper, Wyoming 82601

WATER QUALITY DIVISION REFERENCE NUMBER: 78-152

REVIEWING ENGINEER: David W. Hill - William L. Garland, P.E.

DATE OF REVIEW: April 20, 1978

*William L. Garland*

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

- 1). Indicate the size of the line to the septic tank. It should be a six inch line.
- 2). Submit complete details (drawings and/or specifications) of the lift pump station.

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 78-153M

Saratoga Sewer Outfall Line & Sewage Lagoon  
(Name of Facility)

This permit hereby authorizes the applicant:

<u>Town of Saratoga</u>		
(Last)	(First)	(Middle)
<u>c/o Western Engineers</u>		
<u>501 North Sun Drive</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 Sewer Outfall Line & Sewage Lagoon  
facility located in Saratoga Wyoming  
(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. O'Connell  
Administrator  
Water Quality Division

Robert E. Anderson  
Director  
Wyoming Dept. of Environmental Quality

April 14, 1978

Date of Issuance

File

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 78-154R  
 REF. 77-512, 78-211R, 78-285, 78-312

16-SR1 and 16-SR5 Reservoirs  
 (Name of Facility)

This permit hereby authorizes the applicant:

AGENT: Banner Associates  
 (Last) (First) (Middle)  
P. O. Box 550  
 (Street or P.O. Box)  
Laramie Albany Wyoming 82070  
 (City) (County) (State)

to construct, install, or modify a Stormwater Runoff Ponds  
 facility located in Section 16, T43N, R70W  
 (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. Jones  
 Administrator  
 Water Quality Division

Robert E. Landon  
 Director  
 Wyoming Dept. of Environmental Quality

June 15, 1978

Date of Issuance  
 cc: Thunder Basin Coal Company, ATTN: E. M. Sunwoo, P. O. Box 1569, Gillette, WY  
 Atlantic Richfield, Coal Operations, ATTN: D. R. Christiansen, 1500 Security  
 Life Building, 1616 Glenarm Place, Denver, CO 80202

c.f.

REVIEW OF PLANS AND SPECIFICATIONS

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

PROJECT: Black Thunder Mine 16-SR1 and 16-SR5 Reservoirs,  
Section 16, T43N, R70W, Campbell County

ARCHITECT OR ENGINEER: Joseph C. Lord, P.E. - Banner Associates, Inc.,  
P. O. Box 550 - Laramie, Wyoming 82070

WATER QUALITY DIVISION REFERENCE NUMBER: 78-154

REVIEWING ENGINEER: David W. Hill - William L. Garland, P.E.

DATE OF REVIEW: April 20, 1978

*William L. Garland*

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

- 1). Two (2) copies of all plans and specifications are needed. One set shall be returned to you upon our approval.
- 2). Complete design criteria for sizing is needed (i.e. runoff area, runoff flow, equations, sediment loadings, etc.).
- 3). Soil information is needed for the reservoir and diking (i.e. classification, seepage rates etc.).
- 4). Indicate the distance to groundwater.
- 5). The discharge permit requires flow measuring. Provide details.
- 6). Will seepage collars be needed on the CMP outlet pipes?

Enclosures

## GUIDELINES FOR WASTEWATER POND CONSTRUCTION PERMIT APPLICATIONS

AUTHORITY: Wyoming Water Quality Rules and Regulations, Chapter III

The following is a list of items which should be included in a construction permit application for wastewater ponds. These guidelines are general in nature and should not be construed as a complete application.

Certain applications having specific unique problems may require additional information and design data.

Any impoundment, diversion, or use of surface or underground water must have clearance of the Office of State Engineer, Barrett Building, Phone 307-777-7354, Cheyenne, WY 82002.

The application shall contain all applicable information listed below:

- I. Completed Permit Application Form
- II. Design Information
  - A. Wastewater Characteristics
    1. Physical, chemical, bacteriological and radiological.
    2. State source of wastewater and an explanation of any process which affects wastewater characteristics.
  - B. Soil profiles noting groundwater depths, also percolation rates.
  - C. Engineering Design Information.
    1. Justify all aspects of facility design, (ie, all facts and estimations used in sizing treatment ponds, runoff diversion ditch, stormwater settling ponds, piping, etc.)
    2. Design calculations of the wave action utilized to establish freeboard of pond.  
NOTE: Winds in Wyoming often reach 90 mph.
  - D. Discharging Facilities
    1. Must have applied for a discharge permit to determine effluent quality parameters that the treatment facility must meet.  
(Contact DEQ-NPDES permit section)
  - E. General Geology (to the extent data is available, or required; not required for runoff settling ponds or artificial impervious lined ponds)
    1. Surface geology maps
      - a. areal distribution of formations or units
      - b. dip and strike
      - c. faults, dikes, and sills, other intrusives and extrusives

2. Stratigraphic information
    - a. columnar or stratigraphic section
    - b. lithologies of rock units
    - c. thickness of rock units
  3. Supporting information and documents
    - a. geologic reports of the area
    - b. information obtained from soil, percolation and other tests, geophysical surveys
- F. Hydrology (groundwater) (to the extent data is available or required; not required for runoff settling ponds or artificial impervious lined ponds)
1. Piezometric surface (water table) map
  2. Identification of aquifers
    - a. distribution and depth range
    - b. water quality
    - c. characteristics
    - d. aquifer-test data
  3. Water quality variations
  4. Locations of existing water wells and relevant data such as well completion information, yields, quality, water uses, etc.
  5. Any knowledge of future underground water development in the area? If yes, answer item 4 with regard to proposed uses, quantity, required quality, etc.

III. Plans and Specifications

1. Seal or signature of Wyoming licensed designing engineer.
2. Location map indicating location of facility, piping structures, waterways, drainage, etc.
3. Topography of area
4. Construction & installation procedures, (ie, compaction specifications, pipe installation, depth of pipe bury, pressure testing, etc.)
5. Details of all aspects of facility (dikes, control structures, treatment plant, pumping facilities, overflow or outfall structures, flow measuring devices, etc.)
6. Specifications for all materials used in the construction.

NOTES:

- A. A permit to discharge is required for the following mining-related wastewater discharge points:
1. All settling ponds which have an outfall structure and which receive any "mine water" (including underground water encountered while mining or during overburden removal).
  2. All settling ponds which have an outfall structure and which receive runoff from disturbed areas and which are not designed to hydraulically accommodate the runoff from a ten year - twenty four hour precipitation event.
  3. All facilities with a surface discharge which receive any sanitary waste.
- B. A permit to discharge is not required for the following mining-related wastewater discharge points:
1. Any facility which does not have a "point of discharge" (outfall structure).
  2. All settling ponds which receive runoff from disturbed areas only and which are designed to completely contain all of the runoff from a ten year - twenty four hour precipitation event.
- C. 1. All runoff settling ponds require control structures or accommodations to draw off supernatant five (5) days after a storm. Drawoff must be accomplished within fifteen (15) days after a storm.
- D. 1. Past experience has shown smooth outfall pipes protruding through a dike or embankment impounding water are extremely susceptible to washing out. Therefore, design consideration for cutoff structures should be provided as necessary.
- E. 1. Fencing may be required depending on nature of wastewater.
- F. 1. Ponds requiring artificial impervious liners will also require a leak detection system.
- G. 1. Latest technology for determining runoff for settling pond capacity shall be used. "Analysis of Runoff from Small Drainage Basins in Wyoming", U.S. Department of Interior, Geological Survey (Open file 77-727); "Techniques for Estimating Flow Characteristics of Wyoming Streams", PB-264 224 Geological Survey, Cheyenne, Wyoming, Water Resources Division.

All application correspondence should be mailed to:

Department of Environmental Quality  
Water Quality Division  
Hathaway Building  
Cheyenne, WY 82002

PERMIT TO CONSTRUCT

New  
 Renewal  
 Modified

Permit No. 78-155M

Town of Mills  
(Name of Facility)

This permit hereby authorizes the applicant:

Town of Mills  
(Last) (First) (Middle)  
c/o Worthington, Lenhart & Carpenter  
632 South David  
(Street or P.O. Box)  
Casper Natrona Wyoming 82601  
(City) (County) (State)

to construct, install, or modify a Water and Sewer 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 2 years  
from the date of issuance of this permit not to exceed five (5) years.

Authorized by:

William J. O'Neal  
Administrator  
Water Quality Division

Robert E. Aurdin  
Director  
Wyoming Dept. of Environmental Quality

May 1, 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

- New  
 Renewal  
 Modified

Permit No. 78-156

Water Line Extension - Kinsey Property  
(Name of Facility)

This permit hereby authorizes the applicant:

<u>Kinsey</u> (Last)	<u>T.</u> (First)	<u>F.</u> (Middle)
<u>Box 2401</u> (Street or P.O. Box)		
<u>Casper</u> (City)	<u>Natrona</u> (County)	<u>Wyoming 82601</u> (State)

to construct, install, or modify a Water Main  
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.

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

Authorized by:

William J. Quinn  
Administrator  
Water Quality Division

Robert E. Anderson  
Director  
Wyoming Dept. of Environmental Quality

April 21, 1978

Date of Issuance  
cc: Global Engineering, ATTN: B. F. Cronin, P.E., P. O. Box 532, Casper, WY 82601  
Nix Anderson, Natrona County Santarian

PERMIT TO CONSTRUCT

- New  
 Renewal  
 Modified

Permit No. 78-157

Sugarland South Subdivision  
(Name of Facility)

This permit hereby authorizes the applicant:

<u>Sugarland Development Company</u>		
(Last)	(First)	(Middle)
c/o Walter J. Pilch & Associates		
P. O. Box 6498		
<u>(Street or P.O. Box)</u>		
<u>Sheridan</u>	<u>Sheridan</u>	<u>Wyoming 82801</u>
(City)	(County)	(State)

to construct, install, or modify a Water Distribution and Sewage Collection  
facility located in Section 35, T56N, R84W  
(Legal Description)

in the County of Sheridan, in the State of  
Wyoming. This permit shall be effective for a period of 3 years  
from the date of issuance of this permit not to exceed five (5) years.

Authorized by:

William J. Gals  
Administrator  
Water Quality Division

Robert E. Lundin  
Director  
Wyoming Dept. of Environmental Quality

May 11, 1978

Date of Issuance  
cc: District Sanitarian

PERMIT TO CONSTRUCT

New  
 Renewal  
 Modified

Permit No. 78-158R

Green Mountain Village Inc.  
(Name of Facility)

This permit hereby authorizes the applicant:

<u>Barney</u> (Last)	<u>Gary</u> (First)	<u>A.</u> (Middle)
<u>227 Main Street</u> (Street or P.O. Box)		
<u>Lander</u> (City)	<u>Fremont</u> (County)	<u>Wyoming 82520</u> (State)

to construct, install, or modify a Waste Collection & Water Distribution  
facility located in Section 14, T29N, R92W  
(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. Galbraith  
Administrator  
Water Quality Division

Robert E. Sundin  
Director  
Wyoming Dept. of Environmental Quality

May 25, 1978

Date of Issuance

js

REVIEW OF PLANS AND SPECIFICATIONS

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

PROJECT: Green Mountain Village Mobile Home Community  
Fremont County

ARCHITECT OR ENGINEER: Rollins, Brown & Gunnell, Inc., P. O. Box 711,  
Provo, Utah 84601

WATER QUALITY DIVISION REFERENCE NUMBER: 78-158

REVIEWING ENGINEER: Roy E. Prior - William L. Garland, P.E.

DATE OF REVIEW: May 4, 1978

*William L. Garland*

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

1). The slope of the sewer lines should be 0.60 feet per 100 feet.

cc: Gary A. Barney  
227 Main Street  
Lander, Wyoming 82520

THE STATE



OF WYOMING

ED HERSCHLER  
GOVERNOR*Department of Environmental Quality**Water Quality Division*

HATHAWAY BUILDING

April 3, 1978

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

Johnson-Fermelia & Crank, Inc.  
Consulting Engineers & Land Surveyors  
P. O. Box 631  
Kemmerer, Wyoming 83101

Dear Mr. Crank:

Believe it or not, water meter plans do not have to be reviewed or approved by DEQ/Water Quality Division.

Has the Town of Kemmerer standards been submitted to DEQ?

Sincerely,

A handwritten signature in cursive script, appearing to read "Tom Hamm", followed by a long horizontal line.

Thomas F. Hamm  
Environmental Engineer

TFH/do

cc

PERMIT TO CONSTRUCT

New

Renewal

Modified

Permit No. 78-160M

South McKinley Street Sewer Extensions  
(Name of Facility)

This permit hereby authorizes the applicant:

Casper Board of Public Utilities

(Last)

(First)

(Middle)

200 North David Street

(Street or P.O. Box)

Casper

Natrona

Wyoming 82601

(City)

(County)

(State)

to construct, install, or modify a Sewage Collection System

facility located in Section 15, 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.

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

Authorized by:

William L. Gulea

Administrator  
Water Quality Division

Robert E. Sundin

Director  
Wyoming Dept. of Environmental Quality

May 17, 1978

Date of Issuance

cc: Worthington, Lenhart & Carpenter, Inc., 632 South David, Casper, Wyoming  
82601

REVIEW OF PLANS AND SPECIFICATIONS

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

PROJECT: City of Casper - South McKinley Street Sewer Extention  
Natrona County

ARCHITECT OR ENGINEER: Worthington, Lenhart & Carpenter, Inc., 632 South  
David Street, Casper, Wyoming 82601

WATER QUALITY DIVISION REFERENCE NUMBER: 78-160M

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

DATE OF REVIEW: May 15, 1978

ACTION: AUTHORIZED FOR CONSTRUCTION

COMMENTS:

The Director of the Casper Board of Public Utilities has given verbal assurance that all design will be in compliance with the State Standards known as the "Ten State Standards". In those instances where the mains have been designed using certain sections of the Casper 1978 Standards which are less stringent than the Ten State Standards it will be necessary to redesign to comply with the latter. To obtain compliance the following section of the Ten State Standards for Sewage Works shall be incorporated into the specifications for this project:

Section 25.8 Joints and Infiltration

cc: Casper Board of Public Utilities  
200 North David  
Casper, Wyoming 82601

PERMIT TO CONSTRUCT

New

Renewal

Modified

Permit No. 78-161

Sweetwater Uranium Project Industrial Waste Treatment  
(Name of Facility)

This permit hereby authorizes the applicant:

Minerals Exploration Company  
(Last) (First) (Middle)

P. O. Box 1500  
(Street or P.O. Box)

Rawlins Carbon Wyoming 82301  
(City) (County) (State)

to construct, install, or modify a Waste Treatment  
facility located in Section 15, T24N, R93W  
(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.

Authorized by:

William L. Garland  
Administrator  
Water Quality Division

Robert E. Lundin  
Director  
Wyoming Dept. of Environmental Quality

May 11, 1978

Date of Issuance

May 11, 1978

L. G. Dykers  
General Manager  
Minerals Exploration Company  
Sweetwater Uranium Project  
P. O. Box 1500  
Rawlins, Wyoming 82301

ATTN: Jack Marshall

RE: Industrial Waste Treatment Facility  
Water Quality Reference Number 78-161

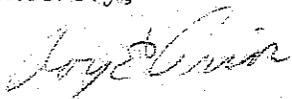
Dear Mr. Dykers:

Enclosed is a permit to construct the above referenced facility.

You will also need a permit to construct for the collection system serving this facility. The application for a permit to construct the collection should include, but not be limited to, plan and profiles, material specifications, installation specifications, etc. Ten State Standards for sewage works should be used in designing the collection system.

If you have any questions, please contact this office.

Sincerely,



Roy E. Prior  
Environmental Engineer

REP/do

cc

Book

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 78-162R

Dry Reservoir

(Name of Facility)

This permit hereby authorizes the applicant:

Arch Mineral Corporation

(Last)

(First)

(Middle)

P.O. Box 530

(Street or P.O. Box)

Hanna

(City)

Carbon

(County)

Wyoming

(State)

to construct, install, or modify a settling pond

facility located in Sec 7 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 P. [Signature]

Administrator  
Water Quality Division

Robert E. [Signature]

Director  
Wyoming Dept. of Environmental Quality

6-29-78

Date of Issuance

JK

REVIEW OF PLANS AND SPECIFICATIONS

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

PROJECT: Dry Reservoir, Industrial Wastewater Treatment, Section 7,  
T22N, R81W - Carbon County

ARCHITECT OR ENGINEER: Malalur K. Sateesha, P.E., Arch Mineral Corporation,  
500 North Broadway, St. Louis, Missouri 63102

WATER QUALITY DIVISION REFERENCE NUMBER: 78-162

REVIEWING ENGINEER: David W. Hill - William L. Garland, P.E.

DATE OF REVIEW: May 1, 1978

*William L. Garland*

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

- 1). Please submit two (2) copies of all plans and specifications. One set of plans and specifications will be returned to you upon our approval.
- 2). Provide soil characteristic information for the reservoir and diking (i.e. classification, seepage rates, etc.).
- 3). Compaction specifications are needed for the embankment.
- 4). Please provide chemical characteristics of the pit water.
- 5). The discharge permit will require constant flow monitoring. Provide details.
- 6). Will 2.3 feet of freeboard be enough to stop wave overlapping of the dikes? Provide design calculations.
- 7). It is recommended that the outfall structure be capable of drawing off effluent from varying depths. A baffle to keep floatable material out of the effluent is also needed.

Enclosures: Guidelines for Wastewater Pond Construction Permit Applications

## GUIDELINES FOR WASTEWATER POND CONSTRUCTION PERMIT APPLICATIONS

AUTHORITY: Wyoming Water Quality Rules and Regulations, Chapter III

The following is a list of items which should be included in a construction permit application for wastewater ponds. These guidelines are general in nature and should not be construed as a complete application.

Certain applications having specific unique problems may require additional information and design data.

Any impoundment, diversion, or use of surface or underground water must have clearance of the Office of State Engineer, Barrett Building, Phone 307-777-7354, Cheyenne, WY 82002.

The application shall contain all applicable information listed below:

I. Completed Permit Application Form

II. Design Information

A. Wastewater Characteristics

1. Physical, chemical, bacteriological and radiological.
2. State source of wastewater and an explanation of any process which affects wastewater characteristics.

B. Soil profiles noting groundwater depths, also percolation rates.

C. Engineering Design Information.

1. Justify all aspects of facility design, (ie, all facts and estimations used in sizing treatment ponds, runoff diversion ditch, stormwater settling ponds, piping, etc.)
2. Design calculations of the wave action utilized to establish freeboard of pond.  
NOTE: Winds in Wyoming often reach 90 mph.

D. Discharging Facilities

1. Must have applied for a discharge permit to determine effluent quality parameters that the treatment facility must meet.  
(Contact DEQ-NPDES, permit section)

E. General Geology (to the extent data is available, or required; not required for runoff settling ponds or artificial impervious lined ponds)

1. Surface geology maps
  - a. areal distribution of formations or units
  - b. dip and strike
  - c. faults, dikes, and sills, other intrusives and extrusives

2. Stratigraphic information
    - a. columnar or stratigraphic section
    - b. lithologies of rock units
    - c. thickness of rock units
  3. Supporting information and documents
    - a. geologic reports of the area
    - b. information obtained from soil, percolation and other tests, geophysical surveys
- F. Hydrology (groundwater) (to the extent data is available or required; not required for runoff settling ponds or artificial impervious lined ponds)
1. Piezometric surface (water table) map
  2. Identification of aquifers
    - a. distribution and depth range
    - b. water quality
    - c. characteristics
    - d. aquifer-test data
  3. Water quality variations
  4. Locations of existing water wells and relevant data such as well completion information, yields, quality, water uses, etc.
  5. Any knowledge of future underground water development in the area? If yes, answer item 4 with regard to proposed uses, quantity, required quality, etc.

### III. Plans and Specifications

1. Seal or signature of Wyoming licensed designing engineer.
2. Location map indicating location of facility, piping structures, waterways, drainage, etc.
3. Topography of area
4. Construction & installation procedures, (ie, compaction specifications, pipe installation, depth of pipe bury, pressure testing, etc.)
5. Details of all aspects of facility (dikes, control structures, treatment plant, pumping facilities, overflow or outfall structures, flow measuring devices, etc.)
6. Specifications for all materials used in the construction.

NOTES:

- A. A permit to discharge is required for the following mining-related wastewater discharge points:
1. All settling ponds which have an outfall structure and which receive any "mine water" (including underground water encountered while mining or during overburden removal).
  2. All settling ponds which have an outfall structure and which receive runoff from disturbed areas and which are not designed to hydraulically accommodate the runoff from a ten year - twenty four hour precipitation event.
  3. All facilities with a surface discharge which receive any sanitary waste.
- B. A permit to discharge is not required for the following mining-related wastewater discharge points:
1. Any facility which does not have a "point of discharge" (outfall structure).
  2. All settling ponds which receive runoff from disturbed areas only and which are designed to completely contain all of the runoff from a ten year - twenty four hour precipitation event.
- C. 1. All runoff settling ponds require control structures or accommodations to draw off supernatant five (5) days after a storm. Drawoff must be accomplished within fifteen (15) days after a storm.
- D. 1. Past experience has shown smooth outfall pipes protruding through a dike or embankment impounding water are extremely susceptible to washing out. Therefore, design consideration for cutoff structures should be provided as necessary.
- E. 1. Fencing may be required depending on nature of wastewater.
- F. 1. Ponds requiring artificial impervious liners will also require a leak detection system.
- G. 1. Latest technology for determining runoff for settling pond capacity shall be used. "Analysis of Runoff from Small Drainage Basins in Wyoming", U.S. Department of Interior, Geological Survey (Open file 77-727); "Techniques for Estimating Flow Characteristics of Wyoming Streams", PB-264 224 Geological Survey, Cheyenne, Wyoming, Water Resources Division.

All application correspondence should be mailed to:

Department of Environmental Quality  
Water Quality Division  
Hathaway Building  
Cheyenne, WY 82002

mailed to  
S. 1/15/79

PERMIT TO CONSTRUCT

New

Renewal

Modified

Permit No. 78-163MR

Well Pumping Stations - 1978  
(Name of Facility)

This permit hereby authorizes the applicant:

City of Gillette  
(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 Public Water Supply  
facility located in Gillette, WY  
(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. G... ..  
Administrator  
Water Quality Division

Robert E. Sunden  
Director  
Wyoming Dept. of Environmental Quality

December 31, 1978  
Date of Issuance

8

REVIEW OF PLANS AND SPECIFICATIONS

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

PROJECT: City of Gillette - Well Pumping Stations 1978  
Campbell County

ARCHITECT OR ENGINEER: Jeff Smith, City Engineer, P. O. Box 540, Gillette,  
Wyoming 82716

WATER QUALITY DIVISION REFERENCE NUMBER: 78-163M

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

DATE OF REVIEW: June 6, 1978

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

As per our telephone conversation of June 5, 1978 with Mr. Jeff Smith, Gillette City Engineer, addenda will be issued covering compliance with the following items:

1. Each pumphouse shall be raised enough to place the floor elevation at least six inches above finished grade.
2. Sampling taps shall be provided so that water samples can be obtained from each of the 4 wells.
3. The City will obtain or retain sufficient property at each well site to provide a minimum separation of 50 feet between the well and the closest site property line. This property shall be reserved for water supply purposes and no septic tanks, sewers, etc., shall be located therein.
4. The open end of the air relief pipe from the air release vacuum valve shall extend up out of the valve pit to a point at least one foot and preferably two feet above grade and be provided with a screened, downward facing elbow.
5. The pressurized 3000 gallon chlorine detention tank will be properly baffled. It is recommended that at least 3 evenly spaced vertical baffles be provided with each baffle closing off approximately 2/3 of the diameter of the tank and with adjacent baffles extending to opposite sides of the tank. It is, also, recommended that the tank inlet and outlet pipes joint the tank at opposite elevations. That is if the inlet joints the top at one end, the outlet should take off from the bottom at the other end. A small opening at the bottom of each baffle might be provided to facilitate tank cleaning utilizing a blow-off at one end of the tank.

PAGE 2

PROJECT: City of Gillette - Well Pumping Stations 1978

COMMENTS (CONT)

6. The chlorination room exhaust fan shall have a minimum capacity of one air change minute.
7. Chambers, pits or manholes containing valves, blow-offs, meters, etc., shall be drained to the surface of the ground or to absorption pits underground.
8. Provide an approved atmospheric type vacuum breaker in the water line to the ejector and immediately upstream from the ejector. This vacuum breaker shall be located at a higher elevation than the ejector and all other appurtenances and points in the line between it and the well.
9. The plans shall carry the seal or signature of the designing engineer, who is registered in the State of Wyoming.

PERMIT TO CONSTRUCT

New

Renewal

Permit No. 78-164R

Modified

South and Jones Mobile Home Park  
(Name of Facility)

This permit hereby authorizes the applicant:

South & Jones Lumber Company  
(Last) (First) (Middle)

P. O. Box 788

(Street or P.O. Box)

Evanston Uinta Wyoming 82930  
(City) (County) (State)

to construct, install, or modify a Waste Collection & Water Distribution  
facility located in Section 17, 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. Paulson

Administrator  
Water Quality Division

Robert E. Sardin

Director  
Wyoming Dept. of Environmental Quality

May 23, 1978

Date of Issuance

cc: Uinta Engineering, 808 Main, P. O. Box 746, Evanston, Wyoming 82930

REVIEW OF PLANS AND SPECIFICATIONS

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

PROJECT: South & Jones Mobile Home Park, Evanston, Wyoming  
Uinta County

ARCHITECT OR ENGINEER: John A. Proffit, Uinta Engineering & Surveying,  
P. O. Box 746, Evanston, Wyoming 82930

WATER QUALITY DIVISION REFERENCE NUMBER: 78-164

REVIEWING ENGINEER: Roy E. Prior<sup>REF</sup> - William L. Garland, P.E.

DATE OF REVIEW: May 9, 1978

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

- 1). Fill out and return the enclosed applications for a Permit to Construct.
- 2). The City of Evanston specifications have not been formally approved. They must be submitted with each application that refers to the specifications. The City must make a formal application to have the specifications reviewed if they want them approved for reference use.

cc: South and Jones Lumber Company, Inc.  
P. O. Box 788  
Evanston, Wyoming 82930

*The Engineer was in the office, He said He would send the information requested. This review was not sent to owner or engineer. REF*



REVIEW OF PLANS AND SPECIFICATIONS

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

PROJECT: McStain Enterprises, Wastewater System, Section 28 & 33,  
T56N, R84W - Sheridan County

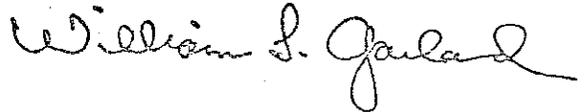
ARCHITECT OR ENGINEER: Thomas R. Hoyt, P.E., 4840 Riverbend, Boulder,  
Colorado

WATER QUALITY DIVISION REFERENCE NUMBER: 78-165

REVIEWING ENGINEER: David W. Hill - William L. Garland, P.E.

DATE OF REVIEW: April 21, 1978

ACTION: NOT AUTHORIZED FOR CONSTRUCTION



COMMENTS:

- 1). Complete detailed specifications for the sewer line material and installation are needed. Reference to the City of Sheridan sewer specifications would be sufficient.
- 2). How will the pipe be installed across State Highway 331? Complete details are needed for installing the pipe through a casing if this method is used.

PERMIT TO CONSTRUCT

New  
 Renewal  
 Modified

Permit No. 78-166R

Addition to Raw Water Supply System  
(Name of Facility)

This permit hereby authorizes the applicant:

<u>Novack</u> (Last)	<u>Frank</u> (First)	<u>L.</u> (Middle)
<u>Housing Services, Inc.</u> <u>1600 Security Life Building</u> (Street or P.O. Box)		
<u>Denver</u> (City)	<u></u> (County)	<u>Colorado 80202</u> (State)

to construct, install, or modify a Water Well and Transmission Line  
facility located in Section 35, T44N, 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 L. Gulea  
Administrator  
Water Quality Division

Robert E. Sundin  
Director  
Wyoming Dept. of Environmental Quality

May 18, 1978

Date of Issuance

cc: Gingery Associates, Inc., 2840 South Vallejo Street, Englewood, CO 80110

100

REVIEW OF PLANS AND SPECIFICATIONS

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

PROJECT: Wright Wyoming Addition to Raw Water Supply  
Section 35, T44N, R72W - Campbell County

ARCHITECT OR ENGINEER: Deyrl W. Gingery, P.E., Gingery Associates, Inc.,  
2840 South Vallejo Street, Englewood, Colorado 80110

WATER QUALITY DIVISION REFERENCE NUMBER: 78-166

REVIEWING ENGINEER: David W. Hill - William L. Garland, P.E.

DATE OF REVIEW: April 19, 1978

*William L. Garland*

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

WELL

- 1). Please indicate drop pipe material and specifications.
- 2). Casing details are needed (i.e. material specifications, weight per foot, etc.).
- 3). A chemical and bacteriological analysis of the well water is needed upon completion.
- 4). More detailed well disinfection specifications are needed (in accordance to AWWA A100-66, Section 1-7).

WATER LINE

- 5). The hydrostatic pressure testing-leakage testing shall be in accordance to AWWA C600 or UNI-B-3-77 which requires a test period of no less than two (2) hours.

Book

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 78-167MR

Bridger Valley Water Project  
(Name of Facility)

This permit hereby authorizes the applicant:

Bridger Valley Joint Powers Board  
 (Last) (First) (Middle)

P. O. Box 328  
 (Street or P.O. Box)

Lyman Uinta Wyoming 82937  
 (City) (County) (State)

to construct, install, or modify a Water Treatment Plant & Storage Tank  
 facility located in Section 21, T15N, R115W  
 (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 F. [Signature]  
 Administrator  
 Water Quality Division

Robert E. [Signature]  
 Director  
 Wyoming Dept. of Environmental Quality

July 24, 1978  
 Date of Issuance

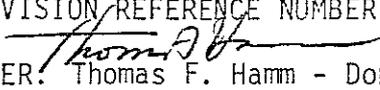
REVIEW OF PLANS AND SPECIFICATIONS

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

PROJECT: Bridger Valley Joint Powers Board, Bridger Valley Water Project  
Lyman, Wyoming - Uinta County

ARCHITECT OR ENGINEER: Uinta Engineering & Surveying, Inc., 808 Main  
Street, Evanston, Wyoming 82930

WATER QUALITY DIVISION REFERENCE NUMBER: 78-167M

REVIEWING ENGINEER:  Thomas F. Hamm - Don Armstrong, P.E.

DATE OF REVIEW: April 4, 1978

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

1). GENERAL COMMENTS

- a. What is the design capacity of the plant? What is its maximum capacity? What should be the normal operational flow rate?
- b. Additional information and data are required on the filter system. Single or mixed media and what other than sand?
- c. Percolation test data are required for the leach field area.
- d. If complete historical data relative to the supply stream can be provided which will conclusively show that the water is conducive to direct filtration, then DEQ will re-evaluate its position.
- e. As presented, the plant and its equipment appears to be "locked in" with all assemblies and sub-assemblies required to meet secondary requirements.
- f. Since the equipment relies on electrical energy for the pumps and all filtering, flocculation and clarification, it appears that a means of standby power generation is in order. Is sufficient data available for the plant site electrical power outages to demonstrate the probability of a power failure to be very low?

2). SPECIFICATIONS

- 50-Dual chlorine injectors are required. An alarm system is required.
- 85-Dual feeders are required.
- 87-What is the accuracy of the sensors?

PROJECT: Bridger Valley Joint Powers Board, Bridger Valley Water Project  
WATER QUALITY REFERENCE NUMBER: 78-167M

2). SPECIFICATIONS (CONT)

-88-What is the accuracy of the flow meter?

Sketch no. 2, Level Monitor - Is the telemetry cable to be buried or pole mounted and how?

3). SPECIAL PROVISIONS

SP-1: The Town of Lyman standards and specifications are not an approved document. Until they are DEQ approved, all detailed specifications will be required.

NOTE: The Town of Lyman standards have been submitted to DEQ and are under review with a planned May 1 completion date for the water quality sections.

SP-7: A steel tank must be 1AW AWWA requirements/specifications and plans approved by DEQ.

SP-8.01.02: Building footings must be in plans.

SP-?: Signs for perimeter required.

Technical Specification 80: (Repeat) The Town of Lyman standards and specifications are not DEQ approved.

80-4: Disinfection per AWWA standard D102.

81-3.06: Put in specifications or on drawings.

84-2: Why doesn't the west side of the clarifier require compaction?

87-2: AWWA specifications. If the sewer line is within 50 feet of the storage tank, then the pipe must meet the requirements of Ten State Standards - Section 7.02.b.

88-4: Delineate on drawings locations. All outlets located in and around water must have ground fault protection devices.

4). DRAWINGS

Sheet 1: The waste pond cannot drain into the ditch. It must either be evaporative or the settled water pumped back into the influent. See attached DEQ policy letter. Recommend the chlorination building be moved to the outlet of the clarifier, inlet to the filter.

Sheet 2: Two feeders are required.

PROJECT: Bridger Valley Joint Powers Board, Bridger Valley Water Project

WATER QUALITY REFERENCE NUMBER: 78-167M

4). DRAWINGS (CONT)

Sheet 6: Outlet must have a silt stop.

Sheet 7: Chlorination Building - Exhaust fan should be within 12 in. of floor, louvered inlet. Chlorine detection and alarm system is required. Filter Building Electrical Layout - Outlets do not conform to NEC 6 ft. requirement.

Sheet 8: What about wiring for pump in chlorine building? Receptacles in rest room, pump building, filter building bay need ground fault protection.

Sheet 10: Percolation test results for the leach field required. Waste pond must be deeper because the sediment will quickly fill the pond.

- 5). The office is amenable to any meeting or discussions you desire in an attempt to alleviate the financial anomaly that is present. Prior arrangements/notification is required to insure the proper DEQ personnel are present for the meeting.
- 6). This may not be construed as a final review.
- 7). Questions and/or clarifications should be directed to Tom Hamm, (307) 777-7781.

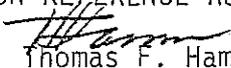
REVIEW OF PLANS AND SPECIFICATIONS

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

PROJECT: Town of Lyman - Standards & Specifications  
Uinta County

ARCHITECT OR ENGINEER: Uinta Engineering & Surveying, Inc., 808 Main  
Street, P. O. Box 746, Evanston, Wyoming 82930

WATER QUALITY DIVISION REFERENCE NUMBER: 78-168M

REVIEWING ENGINEER:  Thomas F. Hamm - Don  Armstrong, P.E.

DATE OF REVIEW: April 21, 1978

ACTION: NOT APPROVED FOR DEQ PERMIT REQUIRED CONSTRUCTION/MODIFICATION

COMMENTS:

This office has reviewed sections 301, 302, 303, 401, 402, 403, 501, 502, 503 and 700 of the subject specifications and standards. All other sections are not within the direct cognizance of the Water Quality Division of DEQ.

The standards and specifications as written are totally unacceptable in that they lead the reader into believing the only permits and permissions required is that of the Town of Lyman Department of Public Works. The requirements for State (DEQ), County and others as/where applicable must be addressed. It would be advantageous to both the DEQ and the Town of Lyman if the permit procedures insure a DEQ permit before issuance of a permit or "go ahead" by the Town.

Is the requirements for someone from the Town of Lyman Department of Public Works to inspect all pipe and fittings and to inspect all pipe before it is covered and/or backfilled realistic? If a full time inspector is available then the requirements are great for all, however, why have all of these requirements if it is known that they will not be complied with.

301-3: Minimum static head of 100 feet (43 psi) not 200 feet (86 psi). Normal distribution pressure shall exceed 35 psi with a normal operating pressure around 60 psi.

301-6.0: The 800 and 1,500 foot valve distances are not IAW Ten State recommendations.

PAGE 2

PROJECT: Town of Lyman - Standards and Specifications

WATER QUALITY REFERENCE NUMBER: 78-168M

COMMENTS (CONT)

301-8.0: Why restrict pipe type? By covering all applicable pipe it would save efforts at a later date.

301-10.0: Bedding IAW AWWA and/or manufacturer's recommendations.

302-2.0: Add "J. Wyoming Registered Professional Engineers seal and/or signature and number".

303-1.2: Add the requirement that where applicable before any construction is initiated a copy of the DEQ permit accompany the 48 hour written notice.

303-2.0: Add PVC pipe, all water pipe shall be AWWA pipe.

303-2.1: Not ASTM but AWWA C400, C401, C402. The second 303-2.1 should be 303-2.2.

201-2.6: Should be 303-2.6.

303-3.1: AS DELINEATED ON THE DRAWINGS.

303-3.3: Define "rock excavations".

303-3.5: Reaction blocking should be 303-3.6. Add bends over  $11\frac{1}{2}^{\circ}$ .

303-3.5.1: Unless there is a full time inspector available and present, which is not realistic for the Town of Lyman, the last sentence

Add 303-3.5.1: Water line sewer line crossings. See comments on 401-6.0.

303-3.10: No flushing devices shall connect or empty into a sewage system.

- Change "ten parts per million" to "25 parts per million".

303-3.11: Define/delineate allowable leakage and the procedures for testing.

401-3.0: Add interceptor data.

401-4.0: Change "6 inch to 8 inch" and add "six inch pipe may be used only under conditions".

401-6.0: Rewrite in compliance with the following:

PROJECT: Town of Lyman - Standards and Specifications

WATER QUALITY REFERENCE NUMBER: 78-168M

COMMENTS (CONT)

29.3 Relation To Water Mains

29.31 Horizontal Separation

Whenever possible, sewers should be laid at least 10 feet, horizontally, from any existing or proposed water main. Should local conditions prevent a lateral separation of 10 feet, a sewer may be laid closer than 10 feet to a water main if:

- a. It is laid in a separate trench.
- b. It is laid in the same trench with the water mains located at one side on a bench of undisturbed earth.
- c. In either case the elevation of the crown of the sewer is at least 18 inches below the invert of the water main.

29.32 Vertical Separation

Whenever sewers must cross under water mains, the sewer shall be laid at such an elevation that the top of the sewer is at least 18 inches below the bottom of the water main. When the elevation of the sewer cannot be buried to meet the above requirement, the water main shall be relocated to provide this separation or reconstructed with slip-on or mechanical-joint cast-iron pipe, asbestos-cement pressure pipe or prestressed concrete cylinder pipe for a distance of 10 feet on each side of the sewer. One full length of water main should be centered over the sewer so that both joints will be as far from the sewer as possible.

29.33 Special Conditions

When it is impossible to obtain proper horizontal and vertical separation as stipulated above, the water main should be constructed of slip-on or mechanical-joint cast-iron pipe, asbestos-cement pressure pipe or prestressed concrete cylinder pipe and the sewer constructed of mechanical-joint cast-iron pipe and both services should be pressure tested to assure watertightness.

402-1.0: Changes also must be approved by DEQ if for other than for service connection and/or house to service line.

PAGE 4

PROJECT: Town of Lyman - Standards and Specifications

WATER QUALITY REFERENCE NUMBER: 78-168M

COMMENTS (CONT)

402-2.0: Add "F. Wyoming Registered Professional Engineer's seal and/or signature and number".

402-1.2: If applicable a copy of the DEQ permit must be submitted when applying for the Town permit.

403-2.2: Add 3034.

403-3.7: Add "a maximum deflection of 5%",

502-2.0: Add "Wyoming Registered Professional Engineers seal and/or signature and number".

503-1.2: Same as 403-1.2.

This is a preliminary review.

Questions and/or clarifications should be directed to Tom Hamm, 777-7781.

PERMIT TO CONSTRUCT

New  
 Renewal  
 Modified

Permit No. 78-169

Clear Creek View Addition  
(Name of Facility)

This permit hereby authorizes the applicant:

Kraen                      Donald  
(Last)                      (First)                      (Middle)  
344 South Wyoming  
(Street or P.O. Box)  
Buffalo                      Johnson                      Wyoming 82834  
(City)                      (County)                      (State)

to construct, install, or modify a Water Distribution and Sewer Collection  
facility located in Section 34, T51N, R82W  
(Legal Description)

in the County of Johnson, 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.

NOTE: This Permit authorizes the "Alternate" Sewer System Route, to Park Avenue. The "Proposed" Sewer System, along Parmalee Street is not authorized.

Authorized by:

William L. Garland  
Administrator  
Water Quality Division

Robert E. Sunden  
Director  
Wyoming Dept. of Environmental Quality

May 9, 1978

Date of Issuance

May 9, 1978

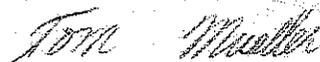
Mr. John B. Wesnitzer  
R. G. Stuckert & Associates  
55 Western Avenue  
Buffalo, Wyoming 82834

Dear Mr. Wesnitzer:

Enclosed are the Permit to Construct and approved plans for the Clear Creek View Addition water and sewer. You will see that the alternate sewer line was approved, rather than the proposed one. Although the 6 inch line does not meet standards, your calculations indicated that it will probably work adequately and would be the lesser of the two evils. A lift station is not warranted for an extension of this size.

Thank you for showing the alternate and providing the flow calculations.

Yours truly,



Tom Mueller  
Environmental Engineer

TM/do

cc: Chronological File

Enclosures

PERMIT TO CONSTRUCT

New  
 Renewal  
 Modified

Permit No. 78-170

Skull Point Coal Mine

(Name of Facility)

This permit hereby authorizes the applicant:

FMC Corporation

(Last)

(First)

(Middle)

P. O. Box 750

(Street or P.O. Box)

Kemmerer

(City)

Lincoln

(County)

Wyoming 83101

(State)

to construct, install, or modify a Wastewater Discharge Point

facility located in Section 27, T20N, R117W

(Legal Description)

in the County of Lincoln, 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. Galano

Administrator  
Water Quality Division

Robert E. Sardin

Director  
Wyoming Dept. of Environmental Quality

May 11, 1978

Date of Issuance

PERMIT TO CONSTRUCT

New

Renewal

Modified

Permit No. 78-171M

City of Casper

(Name of Facility)

This permit hereby authorizes the applicant:

Casper Board of Public Utilities

(Last)

(First)

(Middle)

200 North David Street

(Street or P.O. Box)

Casper

(City)

Natrona

(County)

Wyoming 82601

(State)

to construct, install, or modify a Sanitary Sewer Collection System

facility located in Goldwater Addition (Ramada Inn Sewer Relocation)

(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.

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

Authorized by:

William J. Janda  
Administrator  
Water Quality Division

Robert E. Sunden  
Director  
Wyoming Dept. of Environmental Quality

June 6, 1978

Date of Issuance

cc: Worthington Lenhart & Carpenter, 632 South David, Casper, Wyoming 82601

REVIEW OF PLANS AND SPECIFICATIONS

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

PROJECT: City of Casper, Sanitary Sewer Relocation on Ramada Inn Site, Goldwater Addition, Natrona County

ARCHITECT OR ENGINEER: Worthington, Lenhart & Carpenter, 632 South David, Casper Wyoming 82601

WATER QUALITY DIVISION REFERENCE NUMBER: 78-171M

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

DATE OF REVIEW: May 30, 1978

ACTION: AUTHORIZED FOR CONSTRUCTION

COMMENTS:

1). To obtain compliance with the Wyoming Standards the following sections of the "Ten State Standards" for Sewage Works shall be incorporated into the specifications for this project:

Section 25.8 - Joints and Infiltration

2). Submit another copy of the profile drawing.

cc: Casper Board of Public Utilities  
200 North David Street  
Casper, Wyoming 82601

PERMIT TO CONSTRUCT

New  
 Renewal  
 Modified

Permit No. 78-172M

Sunridge II Apartments - City of Casper  
(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 Water Distribution System  
facility located in Casper Wyoming  
(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.

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

Authorized by:

William J. Jones  
Administrator  
Water Quality Division

Robert E. Lundin  
Director  
Wyoming Dept. of Environmental Quality

May 18, 1978  
Date of Issuance

cc: Gerald Deines & Associates, 136 South Walcott, Casper, Wyoming 82601

REVIEW OF PLANS AND SPECIFICATIONS

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

PROJECT: City of Casper Sunridge II Apartments - Water Main Extensions

ARCHITECT OR ENGINEER: Gerald Deines & Associates, 136 South Walcott,  
Casper, Wyoming 82501

WATER QUALITY DIVISION REFERENCE NUMBER: 78-172M

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

DATE OF REVIEW: May 4, 1978

ACTION: AUTHORIZED FOR CONSTRUCTION

COMMENTS:

- 1). As per our telephone conversation of May 16, 1978 with Mr. C. O. Anderson, Assistant Superintendent of the Casper Board of Public Utilities, we understand that the water main is constructed of duriron pipe.
- 2). To obtain compliance with the Wyoming Standards the following sections of the "Ten State Standards" for Water Works shall be incorporated into the specifications for this project.
  - a. Section 8.6.3 Crossings
  - b. Section 8.6.4 Exceptions

cc: Casper Board of Public Utilities  
200 North David  
Casper, Wyoming 82601

PERMIT TO CONSTRUCT

- New  
 Renewal  
 Modified

Permit No. 78-173M

City of Casper  
(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 Water and Sewer System  
facility located in Tower Hills Subdivision  
(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.

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

Authorized by:

William L. Gailard  
Administrator  
Water Quality Division

Robert E. Sundin  
Director  
Wyoming Dept. of Environmental Quality

May 18, 1978

Date of Issuance

cc: Bob Rohrer, P.E., 2435 East 9th, Casper, Wyoming 82601

REVIEW OF PLANS AND SPECIFICATIONS

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

PROJECT: City of Casper Water and Sewer Line Extensions in Tower  
Hills Subdivision, Natrona County

ARCHITECT OR ENGINEER: Bob Rohrer, P.E., 2435 East 9th, Casper, Wyoming  
82601

WATER QUALITY DIVISION REFERENCE NUMBER: 78-173M

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

DATE OF REVIEW: May 11, 1978

ACTION: AUTHORIZED FOR CONSTRUCTION

COMMENTS:

As per our telephone conversation of April 16, 1978 with Mr. C. O. Anderson the proposed 16 inch water main will, in the near future, supply water to the Valley Hills and Meadow Hills areas.

To obtain compliance with the Wyoming Standards the following sections of the "Ten State Standards" shall be incorporated into the specifications for this project:

- a. Standards for Water Works: Section 8.6.3 Crossing and Section 8.6.4 Exceptions
- b. Standards for Sewage Works: Section 25.8 Joints and Infiltration

cc: Casper Board of Public Utilities  
200 North David  
Casper, Wyoming 82601

PERMIT TO CONSTRUCT

New  
 Renewal  
 Modified

Permit No. 78-174M

City of Casper  
(Name of Facility)

This permit hereby authorizes the applicant:

Casper Board of Public Utilities

(Last)

(First)

(Middle)

200 North David Street

(Street or P.O. Box)

Casper

(City)

Natrona

(County)

Wyoming 82601

(State)

to construct, install, or modify a Distribution by Water Main Replacement  
facility located in Casper Wyoming  
(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.

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

Authorized by:

William L. Gale  
Administrator  
Water Quality Division

Robert E. Sundin  
Director  
Wyoming Dept. of Environmental Quality

June 6, 1978

Date of Issuance

REVIEW OF PLANS AND SPECIFICATIONS

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

PROJECT: City of Casper Water Main Replacement on Minnesota Avenue and Dee Place and on Bonnie Brae, Lind Avenue, Trigood Drive & Sun Drive  
Natrona County

ARCHITECT OR ENGINEER: Clarence O. Anderson, P.E., Assistant Superintendent,  
Casper Board of Public Utilities, 200 North David  
Street, Casper, Wyoming 82601

WATER QUALITY DIVISION REFERENCE NUMBER: 78-174M

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

DATE OF REVIEW: May 30, 1978

ACTION: CONSTRUCTION AUTHORIZED

COMMENTS:

- 1). To obtain compliance with the Wyoming Standards, the following sections of the "Ten State Standards" for Water Works shall be incorporated in the specifications for this project:

Section 8.6.3 - Crossings

Section 8.6.4 - Exceptions

PERMIT TO CONSTRUCT

New  
 Renewal  
 Modified

Permit No. 78-175

Wyoming Beverages, Inc.  
(Name of Facility)

This permit hereby authorizes the applicant:

Wyoming Beverages, Inc.  
(Last) (First) (Middle)  
P. O. Box 18  
(Street or P.O. Box)  
Worland Washakie Wyoming 82401  
(City) (County) (State)

to construct, install, or modify a Septic Tank - Leach Field  
facility located in Section 21, T16N, R73W  
(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 P. Jala  
Administrator  
Water Quality Division

Robert E. Lundin  
Director  
Wyoming Dept. of Environmental Quality

May 10, 1978

Date of Issuance  
cc: Fiske Consulting Engineers, ATTN: Dale E. Sitz, P.E., 1216 16th West Suite  
26, Billings, Montana 59102  
Hanson-Kelly Const., 1812 Monad Road, Billings, Montana, 59102  
ATTN: W. R. Kelly

PERMIT TO CONSTRUCT

- New  
 Renewal  
 Modified

Permit No. 78-176R

Paintbrush Hills Subdivision Filing No. 1  
(Name of Facility)

This permit hereby authorizes the applicant:

Housing Services, Inc.

(Last)

(First)

(Middle)

1600 Security Life Bldg. - 1616 Glenarm Street

(Street or P.O. Box)

Denver

(City)

Colorado

(State)

to construct, install, or modify a Water Distribution and Wastewater Collection  
facility located in Section 34, T44N, 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 L. Galand  
Administrator  
Water Quality Division

Robert E. Sunden  
Director  
Wyoming Dept. of Environmental Quality

May 10, 1978

Date of Issuance  
cc: Gingery Associates, ATTN: Gary Anderson, 2840 South Vallejo Street,  
Englewood, Colorado 80110

js

REVIEW OF PLANS AND SPECIFICATIONS

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

PROJECT: Paintbrush Hills Subdivision, Filing No. 1, Section 34, T44N,  
R72W, Campbell County

ARCHITECT OR ENGINEER: Gingery Associates, ATTN: Deryl W. Gingery, P.E.,  
2840 South Vallejo, Englewood, Colorado 80110

WATER QUALITY DIVISION REFERENCE NUMBER: 78-176

REVIEWING ENGINEER: David W. Hill - William L. Garland, P.E.

DATE OF REVIEW: May 2, 1978

*William L. Garland*

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS: SEWER SYSTEM

- 1). The maximum allowable infiltration should be expressed in gallons per day per mile per inch of pipe diameter.

WATER SYSTEM

- 2). The hydrostatic pressure-leakage testing shall be in accordance to AWWA C600 or UNI-B-3-77 which requires a test period of no less than two (2) hours.

PERMIT TO CONSTRUCT

New  
 Renewal  
 Modified

Permit No. 78-177MR

Wyoming State Penitentiary - WCCM Site  
(Name of Facility)

This permit hereby authorizes the applicant:

State of Wyoming

(Last) (First) (Middle)

State Board of Charities & Reform  
136 South Wolcott

(Street or P.O. Box)

Casper

(City)

Natrona

(County)

Wyoming 82601

(State)

to construct, install, or modify a Water Transmission & Sewer Outfall  
facility located in Section 23, 26-30, T21, R87  
(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. Garland  
Administrator  
Water Quality Division

Robert E. Lundin  
Director  
Wyoming Dept. of Environmental Quality

June 6, 1978

Date of Issuance

cc: Western Engineers-Architects, Inc., ATTN: Duane Fehringer, 501 North  
Sun Drive, Casper, Wyoming 82601

REVIEW OF PLANS AND SPECIFICATIONS

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

PROJECT: Wyoming State Penitentiary, Water and Sewer Off-Site Utilities  
WCCM Site - Carbon County

ARCHITECT OR ENGINEER: Western Engineers-Architects, Inc., ATTN: Duane  
Fehringer, P.E., 501 North Sun Drive, Casper, 82601

WATER QUALITY DIVISION REFERENCE NUMBER: 78-177M

REVIEWING ENGINEER: Dan H. Kim - Don Armstrong, P.E.

DATE OF REVIEW: May 15, 1978

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

- 1). Enclosed is an application form for a permit to construct, which must be completed and returned to our office.
- 2). AWWA Standards C104-71 for ductile iron pipe, C504-70 for butterfly valves and C400-75 for AC pipe are outdated. These should reference to the latest revisions of the Standards.
- 3). Compaction by jetting or inundating is not acceptable unless the trenches are composed of very permeable soils from which water drains away quickly. Please justify water tamping in this particular area.
- 4). There should be specifications concerning excessive sidefill pressures and ovalation of the sewer pipe. The maximum deflection allowed shall not exceed 5% of the pipes internal diameter. This test may be accomplished by pulling a mandrel (i.e. Go-No-Go deflection gauge) through the pipe.

\*This cannot be considered a final review.

PERMIT TO CONSTRUCT

*mailed -  
9/11/78*

- New
- Renewal
- Modified

Permit No. 78-178MR

City of Rawlins - Peaking Reservoir #2  
(Name of Facility)

This permit hereby authorizes the applicant:

City of Rawlins  
(Last) (First) (Middle)

P. O. Box 219  
(Street or P.O. Box)

Rawlins Carbon Wyoming 82301  
(City) (County) (State)

to construct, install, or modify a Peaking Reservoir  
facility located in Section 31, T21, R87  
(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. Galand  
Administrator  
Water Quality Division

Robert E. Furdin  
Director  
Wyoming Dept. of Environmental Quality

August 22, 1978

Date of Issuance

8

REVIEW OF PLANS AND SPECIFICATIONS

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

PROJECT: City of Rawlins - Peaking Reservoir Number Two  
Carbon County

ARCHITECT OR ENGINEER: Meurer, Serafini & Meurer, Inc., 570 West 44th,  
Denver, CO 80216

WATER QUALITY DIVISION REFERENCE NUMBER: 78-178M

REVIEWING ENGINEER: <sup>RHP</sup> Robert H. Pinther, P.E.

DATE OF REVIEW: May 12, 1978

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

- 1). On sheet #2, change item #6 under General Notes to read:  
"Vertical clearance between water and sewer lines shall be a minimum of 18 inches between the outside of the water main and the outside of the sewer. When it is impossible to obtain the specified separation distance, concrete encasement shall be used a minimum of 10 feet in both directions from the center of the crossing. Pipe joints shall always be equally spaced from the center of all crossings."
- 2). The water main disinfecting procedure shall require a residual chlorine strength of at least 25 milligrams per liter after a 24 hour contact period in the main.
- 3). A water main leakage test shall be specified and the test shall be conducted in accordance with Section 13.7 - Leakage Test of AWWA Standard C-600-64. The allowable leakage shall be in accordance with table 3 of this standard.
- 4). Specify the type and material of construction of the water main.
- 5). Submit a description of the proposed peaking reservoir, associated reservoir piping and soil study.

PERMIT TO CONSTRUCT

New  
 Renewal  
 Modified

Permit No. 78-179M

Wardwell Water and Sewer District  
(Name of Facility)

This permit hereby authorizes the applicant:

Wardwell Water and Sewer District  
(Last) (First) (Middle)  
P. O. Box 728  
(Street or P.O. Box)  
Mills Natrona Wyoming 82644  
(City) (County) (State)

to construct, install, or modify a Chlorine Renovation  
facility located in Mills, Wyoming  
(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.

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

Authorized by:

William L. Conland  
Administrator  
Water Quality Division

Robert E. Sandin  
Director  
Wyoming Dept. of Environmental Quality

April 10, 1978

Date of Issuance  
cc: Western Engineers & Architects, 501 North Sun Drive, Casper, WY 82601

PERMIT TO CONSTRUCT

New  
 Renewal  
 Modified

Permit No. 78-180

Gorsuch Septic System  
(Name of Facility)

This permit hereby authorizes the applicant:

<u>Gorsuch</u> (Last)	<u>Leslie</u> (First)	<u>L.</u> (Middle)
<u>211 East 6th</u> (Street or P.O. Box)		
<u>Casper</u> (City)	<u>Natrona</u> (County)	<u>Wyoming 82601</u> (State)

to construct, install, or modify a Septic Wastewater  
facility located in Section 32, 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.

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

Authorized by:

William L. Garland  
Administrator  
Water Quality Division

Robert E. Dundin  
Director  
Wyoming Dept. of Environmental Quality

April 17, 1978

Date of Issuance

cc: Nix Anderson, County Sanitarian  
Western Engineers, 501 North Sun Drive, Casper, Wyoming 82601

PERMIT TO CONSTRUCT

New  
 Renewal  
 Modified

Permit No. 78-181

Temporary Septic Tank for Construction Office  
(Name of Facility)

This permit hereby authorizes the applicant:

Minerals Exploration Company  
(Last) (First) (Middle)  
P. O. Box 1500  
(Street or P.O. Box)  
Rawlins Wyoming 82301  
(City) (County) (State)

to construct, install, or modify a Wastewater Treatment  
facility located in Section 15, T24N, R93W  
(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.

Authorized by:

William L. Paulson  
Administrator  
Water Quality Division

Robert E. Sundin  
Director  
Wyoming Dept. of Environmental Quality

May 10, 1978

Date of Issuance  
cc: Kaiser Engineers, Inc., P. O. Box 23210, Oakland, CA 94623

May 17, 1978

Meurer, Serafini & Meurer, Inc.  
P. O. Box 219  
Rawlins, Wyoming 82301

ATN: Kim Keaten, Design Engineer

RE: Feasibility Analysis for Hidden Valley Estates  
On-Site Wastewater Systems

Dear Ms. Keaten:

This Department has reviewed the preliminary plat and proposed on-site wastewater treatment system.

The presence of hard bedrock within one-two feet of the surface makes the use of conventional septic tank-leach fields unusable. It is our understanding that this subdivision would be seasonally occupied only. In this case, evapotranspiration beds or holding tanks should be used.

The proposed evapotranspiration bed system is unacceptable. Our Rules and Regulations require a bed designed for no less than 350 gallons per household at a loading no greater than 0.17 gallons per square foot per day. This means an evapotranspiration bed no less than 2058 square feet in size. The evapotranspiration bed liner must be very carefully installed with a sand layer on each side of the liner to prevent punctures. A leaking liner has the potential to contaminate wells through fractured bedrock.

If holding tanks are used, they should be sized so that pumping would be required only once or twice a season. This Department will not issue a homeowner a "Permit to Construct" for a holding tank until a firm commitment is procured from a seepage hauler for pumping and ultimate disposal of the wastewater.

I must emphasize that a "Permit to Construct" is needed by all the homeowners before they can start construction of their on-site system.

Page 2  
May 17, 1978

If we can be of any further help, please let us know.

Sincerely,

*David W. Hill*  
David W. Hill  
Environmental Engineer

DWH/do

cc

PERMIT TO CONSTRUCT

New

Renewal

Modified

Permit No. 78-183MR

City of Evanston Water Treatment Plant Repairs  
(Name of Facility)

This permit hereby authorizes the applicant:

City of Evanston

(Last) (First) (Middle)  
c/o Uinta Engineering & Surveying  
808 Main Street - P. O. Box 746  
(Street or P.O. Box)

Evanston Uinta Wyoming 82930  
(City) (County) (State)

to construct, install, or modify a Water Treatment Plant

facility located in Section 21, T15, R120  
(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 S. Carlson  
Administrator  
Water Quality Division

Robert E. Sundin  
Director  
Wyoming Dept. of Environmental Quality

April 18, 1978

Date of Issuance

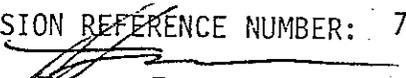
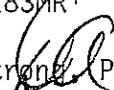
REVIEW OF PLANS AND SPECIFICATIONS

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

PROJECT: City of Evanston - Water Treatment Plant Repairs  
Uinta County

ARCHITECT OR ENGINEER: Uinta Engineering & Surveying, 808 Main Street,  
Evanston, Wyoming

WATER QUALITY DIVISION REFERENCE NUMBER: 78-183MR

REVIEWING ENGINEER:  Thomas F. Hamm - Don Armstrong, P.E. 

DATE OF REVIEW: April 17, 1978

ACTION: AUTHORIZED FOR CONSTRUCTION

COMMENTS:

No equipment other than electrical heating and lighting authorized  
for the building interior.

REVIEW OF PLANS AND SPECIFICATIONS

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

PROJECT: City of Evanston - Uinta County  
Water Treatment Plant Repairs

ARCHITECT OR ENGINEER: Uinta Engineering & Surveying, 808 Main Street,  
Evanston, Wyoming 82930

WATER QUALITY DIVISION REFERENCE NUMBER: 78-183M

REVIEWING ENGINEER:  Thomas F. Hamm - Don Armstrong, R.E. 

DATE OF REVIEW: April 6, 1978

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

1). SPECIFICATIONS

- a. 70-4: Breakout "disinfect IAW Section 4 (AWWA B100-72)". Make separate item since it is very important.
- b. 80: Before application of any epoxy sealer or paint, the concrete and metal should be cleaned (sand blasted).
- c. 81: No details relative to interior of chlorination building are given/delineated relative to electrical, chlorine leak detection and alarm or chlorination equipment.
- d. 81-2: Details not delineated on drawing.

2). DRAWINGS

- a. To achieve the required chlorine building forced ventilation, the exhausted air must be drawn from the floor level. This can be accomplished by placing a direct exhaust fan, with no ducting near the floor or by placing the exhaust fan any place with a source duct inlet located near the floor. To provide a good fluid flow system the inlet should be located at a high level on a directly opposite wall.
- b. Details are required on piping/lines from the chlorination building to the injection system.
- c. Will the existing wall into the WTP be breached?

PAGE 2

PROJECT: City of Evanston - Uinta County  
Water Treatment Plant Repairs

WATER QUALITY REFERENCE NUMBER: 78-183M

2). DRAWING (CONT)

- d. Ground preparation for the foundation not stipulated/delineated.
  - e. Electrical details required.
  - f. Roof insulation is?
- 3). No P.E.'s seal or signature present.
- 4). This may not be construed as a final review.
- 5). Questions and/or clarifications should be directed to Tom Hamm, (307) 777-7781.

REVIEW OF PLANS AND SPECIFICATIONS

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

PROJECT: City of Evanston - Water Treatment Equipment  
Uinta County

ARCHITECT OR ENGINEER: Uinta Engineering & Surveying, 808 Main Street,  
Evanston, Wyoming 82930

WATER QUALITY DIVISION REFERENCE NUMBER: 78-184M

REVIEWING ENGINEER: Thomas F. Hamm - Don Armstrong, P.E.

DATE OF REVIEW: April 17, 1978

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

Per the telecon between Mr. Proffit and Tom Hamm on April 18th 1978, the water treatment equipment specifications will be held in abeyance until full information on the installation, points of application and layout of the equipment is received.

The requirements of Section 5 of the Ten State Standards should be closely reviewed prior to purchase of any equipment and in preparing the previously stated data.

This may not be construed as a final review.

Questions and/or clarifications should be directed to Tom Hamm, 777-7781.

PERMIT TO CONSTRUCT

New  
 Renewal  
 Modified

Permit No. 78-185MR

City of Evanston Water Department  
(Name of Facility)

This permit hereby authorizes the applicant:

Evanston Joint Powers Board  
(Last) (First) (Middle)  
P. O. Box 130  
(Street or P.O. Box)  
Evanston Uinta Wyoming 82930  
(City) (County) (State)

to construct, install, or modify a Water Storage Tanks  
facility located in Section 16, 20, T15, R120  
(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. Gales  
Administrator  
Water Quality Division

Robert E. Jundin  
Director  
Wyoming Dept. of Environmental Quality

May 9, 1978

Date of Issuance

cc: Uinta Engineering, P. O. Box 746, Evanston, Wyoming 82930

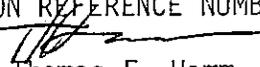
REVIEW OF PLANS AND SPECIFICATIONS

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

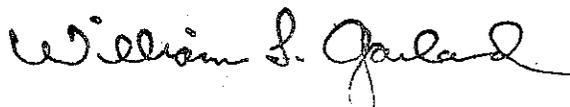
PROJECT: City of Evanston - 1.0 MG and 1/4 MG Water Storage Tanks  
Uinta County

ARCHITECT OR ENGINEER: Uinta Engineering, P. O. Box 746, Evanston,  
Wyoming 82930

WATER QUALITY DIVISION REFERENCE NUMBER: 78-185MR

REVIEWING ENGINEER:  Thomas F. Hamm - William L. Garland, P.E.

DATE OF REVIEW: May 9, 1978



ACTION:

COMMENTS:

The City of Evanston standards and specifications have not received DEQ approval (Reference attached letter). Per the discussions between Mr. Ken Walker and Tom Hamm on May 3, 1978, Section 700 of the City of Evanston standards and specifications, as adopted by the City, March 1974, is approved for use on the Evanston Water Storage Tanks project. This approval is only for use of Section 700 on this one project. No other approvals of this type will be made and no references to the aforementioned standards and specifications will be allowed in any plans or specifications until they are officially approved by DEQ.



*Department of Environmental Quality*  
*Water Quality Division*

HATHAWAY BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

May 9, 1978

Mr. John Proffitt  
Uinta Engineering & Surveying, Inc.  
808 Main Street  
Evanston, Wyoming 82930

Dear Mr. Proffitt:

On May 3, 1978, Mr. Ken Walker of your office officially submitted Standards & Specifications for the City of Evanston, to DEQ for review and approval.

The DEQ, Water Quality Division, has no record of any formal review or approval of the City of Evanston's Standards & Specifications. David Hill of this office states, "a formal review of the City of Evanston's Standards & Specifications has not been accomplished, and no known written or oral approval has been made by DEQ, Water Quality Division's Engineers or Supervisors. Both Lyman's and Evanston's Standards & Specifications were given a preliminary/cursory review but no written comments were made".

When a non-approved set of standards and specifications is referenced into a set of plans, the lack of comments relative to the non-approved document does not, and cannot be considered as tacit approval; but only shows the reviewer did not do a thorough job.

Until such time as an official review is made and written approval for use is accomplished, all required data must be delineated in the specific data covering the project(s) at hand.

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

Thomas F. Hamm  
Environmental Engineer

TFH/clf

cc: Mayor Dan South

REVIEW OF PLANS AND SPECIFICATIONS

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

PROJECT: City of Evanston, Water Storage Tank - Uinta County

ARCHITECT OR ENGINEER: Uinta Engineering & Surveying, 808 Main Street,  
Evanston, Wyoming 82930

WATER QUALITY DIVISION REFERENCE NUMBER: 78-185M

REVIEWING ENGINEER: Thomas F. Hamm - Don Armstrong, P.E.

DATE OF REVIEW: April 17, 1978

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

- Why was construction started prior to submission to DEQ for approval? Plans received April 6th, while construction began April 3rd. This is an intentional violation of State statutes.
- No P.E.'s seal or signature are on specifications and drawings.
- Where does overflow from the 1/4 MG tank go? Since it is on top of a steep hill, how will erosion be prevented?

SPECIFICATIONS

The City of Evanston Standards and Specifications have not been approved by the Water Quality Division of DEQ. Until they are submitted to DEQ and are approved for use, all required data must be delineated in/on the bid specifications and/or drawings.

SP-6.01: Any deviation from the delineated tank must be submitted to DEQ for approval.

80-3.03: What type material?

80-5: Soils data is required to determine surface/ground preparation for tanks.

82: The existing tank must be disinfected after the connections are made.

PAGE 2

PROJECT: City of Evanston - Water Storage Tank

WATER QUALITY REFERENCE NUMBER: 78-185M

(CONT)

DRAWINGS

Sheet 1: Soils data required to insure adequate ground preparation. Since a portion of the hill below the tank site has eroded/washed away, there is concern over stability. How much compaction of the soil under the tanks is programmed. What is the allowable deflection of the concrete structure, especially the floor? Will the footings, both roof beams and walls, receive the same loading? If there is a difference, could it affect the structures integrity?

Grade to within how many feet from top of the tank? Dimensions.

Sheet 2: Concrete overflow box details are not on sheet number two as referenced on sheet number one. The outlet must have a silt stop. Vertical wall joints use what kind/type material?

Sheet 2 & 3: What material is used for the construction joints?

Sheet 4: Soils data required for the 1/4 MG tank site, especially since there are no structures located on the hill. Same questions apply as on sheet number one. Waste material to within how many feet of top of tank?

"Overflow box detail", what existing tank?

"Connection to existing tank", no other tank is nearby.

Sheet 5: What type level indicator and level control system will be used. How will it be installed and how will it work? (Applies to both 1 MG and 1/4 MG.) Silt stop is required on outlet. Same questions apply with respect to joints as on 1 MG tank.

This may not be construed as final approval.

Questions and/or clarifications should be directed to Tom Hamm, 777-7781.

REVIEW OF PLANS AND SPECIFICATIONS

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

PROJECT: Mountain View Wyoming, Sewage Collection & Trunk Lines for  
Mountain View Joint Powers Board - Uinta County

ARCHITECT OR ENGINEER: Uinta Engineering & Surveying, 808 Main Street,  
Evanston, Wyoming 82930

WATER QUALITY DIVISION REFERENCE NUMBER: 78-186M

REVIEWING ENGINEER: Thomas F. Hamm - Don Armstrong, P.E.

DATE OF REVIEW: April 8, 1978

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

Sewer line-water line crossings are not addressed.

SPECIFICATIONS

SP-4.01: Second paragraph - compact the first (one) foot.

20-4.01: Is this a realistic statement?

21.3: Specify caulking material.

DRAWINGS

These areas require special covering to minimize the probability of turbulence of water flow during wet periods eroding away the backfill and floating and/or destroying the integrity of the line. Recommend a standard drawing as per our conversation of March 30th 1978. Large rock and/or riprap packed down would minimize this possible condition.

Sheet 2: Ditch at wooden bridge near sta 6+56.83.

Sheet 6: Culvert drains near sta 17+93 and sta 20+34.05.

Sheet 9: Culvert drains near sta 47+38.

Sheet 12: Culvert drains near sta 109+93.

Sheet 13: Three low places between sta 124+67.07 and sta 132+67.07.

Sheet 14: Low place between sta 140+67.07 and sta 144+67.07.

PAGE 2

PROJECT: Mountain View Sewage Collection and Trunk Lines

WATER QUALITY REFERENCE NUMBER: 78-186M

DRAWINGS (CONT)

Sheet 5: Sta 0+45 is the cleanout angle correct and the drawing wrong? It does not appear to be 45°.

This cannot be construed as a final review.

Questions and/or clarifications should be directed to Tom Hamm, 777-7781.

PERMIT TO CONSTRUCT

New  
 Renewal  
 Modified

Permit No. 78-187MR

Town of Cokeville

(Name of Facility)

This permit hereby authorizes the applicant:

<u>Town of Cokeville</u>		
(Last)	(First)	(Middle)
<u>P. O. Box 90</u>		
(Street or P.O. Box)		
<u>Cokeville</u>	<u>Lincoln</u>	<u>Wyoming 83114</u>
(City)	(County)	(State)

to construct, install, or modify a Water Distribution Line (County Road  
Distribution)  
facility located in Section 5, T24N, R119W  
(Legal Description)

in the County of Lincoln, 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 F. Garland  
Administrator  
Water Quality Division

Robert E. Sordin  
Director  
Wyoming Dept. of Environmental Quality

May 9, 1978

Date of Issuance

cc: Uinta Engineering, P. O. Box 746, Evanston, Wyoming 82930

REVIEW OF PLANS AND SPECIFICATIONS

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

PROJECT: Town of Cokeville - Water Improvement Project  
Distribution System - Lincoln County

ARCHITECT OR ENGINEER: Uinta Engineering & Surveying, 808 Main Street,  
Evanston, Wyoming 82930

WATER QUALITY DIVISION REFERENCE NUMBER: 78-187M

REVIEWING ENGINEER: Thomas F. Hamm - Don Armstrong, P.E.

DATE OF REVIEW: April 7, 1978

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

1). DRAWINGS

Sheet 1: Thrust blocking required where 8 in. and 10 in. T off  
and cross road, two places.

Details of the river crossing are required, especially the backfill  
and bed replacement to minimize possibilities of washout of excavated  
material. (Reference Ten State Standards, Section 8.7.2)

Sheet 2: Thrust blocking required where lines T off across street.

2). SPECIFICATIONS

30-15.1: Pressure and leak tests must be accomplished IAW AWWA C600  
specification. Delineate duration and test pressure.

30-15.2: Gages must be calibrated within 90 days prior to the test.

30-16.2: Change "trench not in a right-of-way may be backfilled  
without tamping" to read "trench not in a right-of-way be backfilled  
without tamping after the bedding is emplaced and the initial one (1)  
foot of backfill is compacted."

30-17: Last sentence delete ". . .or to the satisfaction of the Engineer".  
There is not compromise on disinfection, it must be per AWWA C601.

3). GENERAL

PAGE 2

PROJECT: Town of Cokeville

WATER QUALITY REFERENCE NUMBER: 78-187M

3). GENERAL(CONT)

- a. There are too many items and too much work left to the discretion of the Engineer.
- b. This may not be construed as a final review.
- c. Questions and/or clarifications should be directed to Tom Hamm,  
(307) 777-7781.

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 78-188R

Cotter Ferguson Mine Property (Peach Project)  
(Name of Facility)

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

American Nuclear Corporation  
P.O. Box 2713  
Casper, WY 82602

to construct, install, or modify a settling pond

facility according to the procedures and conditions of the application

No. 78-188R. The facility is located in Sec. 2, T. 32N,  
R. 90W

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

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

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

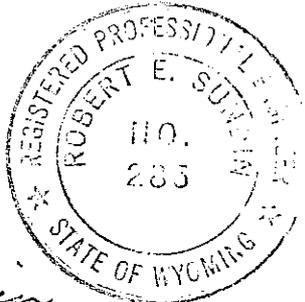
The permittee shall allow authorized representatives from the Department of Environmental Quality, Water Quality Division, upon the notification of conditions and during working hours, to have access to the facility, at the above location, for the purpose of compliance with the provisions of this construction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

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

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

AUTHORIZED BY:

  
*William L. Garland*  
\_\_\_\_\_  
Administrator  
Water Quality Division  
January 21, 1981  
\_\_\_\_\_  
Date of Issuance

  
*Robert E. Sundin*  
\_\_\_\_\_  
Director  
Dept. of Environmental Quality

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

MRC/kn

# AMERICAN NUCLEAR CORPORATION

JOHN C. FERGUSON, PRESIDENT  
TELEPHONE (307) 265-2912

314 WEST MIDWEST AVE  
PO BOX 2713  
CASPER WYOMING 82602

January 16, 1981



Mr. Robin Collins, District Engineer  
Wyoming Department of Environmental Quality  
Water Quality Division  
933 Main Street  
Lander, WY 82520

Re: Peach Project Settling Pond  
Permit No. 78-188R

Dear Mr. Collins:

American Nuclear Corporation requests an extension of two years for the permit to construct a settling pond at the Peach Property (now referenced as the Cotter Ferguson Mine Property). The permit number is 78-188R. All information relative to the settling pond will remain the same as indicated in the permit application.

Construction of the above-referenced settling pond has been delayed. The low market price of uranium and a need for clarification of mineral royalties have necessitated this delay in development of the proposed mine site. We anticipate development will begin within the next two years.

Thank you for your cooperation. If additional information is needed, please contact us.

Sincerely,

A handwritten signature in cursive script that reads "Roy G. Spears". The ink is dark and the signature is fluid.

Roy G. Spears  
Environmental Engineer

RGS/cm

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 78-188R

PEACH PROJECT

(Name of Facility)

This permit hereby authorizes the applicant:

AMERICAN NUCLEAR CORP.

(Last)

(First)

(Middle)

P.O. BOX 2713

(Street or P.O. Box)

CASPER,

WYOMING

82601

(City)

(State)

(Zip Code)

to construct, install, or modify a

SETTLING POND

facility located in

SEC. 2 T.32N

R.90W

(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 S. Paul

Administrator  
Water Quality Division

[Signature]

Director  
Department of Environmental  
Quality

OCTOBER 18, 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: ~~BEACH PROJECT, AMERICAN NUCLEAR CORP.~~

ARCHITECT OR ENGINEER: AMERICAN NUCLEAR CORP. P.O. BOX 2713, CASPER, WYO. 82601

WATER QUALITY DIVISION REFERENCE NUMBER: ~~78-188R~~

REVIEWING ENGINEER: R.E. Prior, P.E. *Roy Prior*

DATE OF REVIEW: SEPTEMBER 26, 1978.

ACTION: ~~NOT AUTHORIZED FOR CONSTRUCTION~~

COMMENTS:

Per our phone conversation and a meeting with Timothy C. Lane, we are awaiting additional information.

88

REVIEW OF PLANS AND SPECIFICATIONS

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

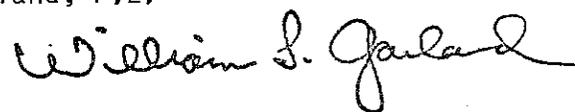
PROJECT: Peach Project - American Nuclear Corporation  
Fremont County

ARCHITECT OR ENGINEER: American Nuclear Corporation, P. O. Box 2713,  
Casper, Wyoming 82601

WATER QUALITY DIVISION REFERENCE NUMBER: 78-188

REVIEWING ENGINEER: Roy E. Prior - William L. Garland, P.E.

DATE OF REVIEW: May 11, 1978



ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

- 1). The plans and specifications must be signed by an engineer registered in the State of Wyoming.
- 2). Please provide two (2) copies of all plans and specifications.
- 3). Provide details of the 001 and 002 discharges, treatment facility, flow meters, etc. and enclose guidelines.
- 4). Provide 100 year flood data for area of ponds. If within the 100 year flood provide flood protection details.
- 5). This cannot be considered a complete review.

## GUIDELINES FOR WASTEWATER POND CONSTRUCTION PERMIT APPLICATIONS

AUTHORITY: Wyoming Water Quality Rules and Regulations, Chapter III

The following is a list of items which should be included in a construction permit application for wastewater ponds. These guidelines are general in nature and should not be construed as a complete application.

Certain applications having specific unique problems may require additional information and design data.

Any impoundment, diversion, or use of surface or underground water must have clearance of the Office of State Engineer, Barrett Building, Phone 307-777-7354, Cheyenne, WY 82002.

The application shall contain all applicable information listed below:

I. Completed Permit Application Form

II. Design Information

A. Wastewater Characteristics

1. Physical, chemical, bacteriological and radiological.
2. State source of wastewater and an explanation of any process which affects wastewater characteristics.

B. Soil profiles noting groundwater depths, also percolation rates.

C. Engineering Design Information.

1. Justify all aspects of facility design, (ie, all facts and estimations used in sizing treatment ponds, runoff diversion ditch, stormwater settling ponds, piping, etc.)
2. Design calculations of the wave action utilized to establish freeboard of pond.  
NOTE: Winds in Wyoming often reach 90 mph.

D. Discharging Facilities

1. Must have applied for a discharge permit to determine effluent quality parameters that the treatment facility must meet.  
(Contact DEQ-NPDES permit section)

E. General Geology (to the extent data is available, or required; not required for runoff settling ponds or artificial impervious lined ponds)

1. Surface geology maps
  - a. areal distribution of formations or units
  - b. dip and strike
  - c. faults, dikes, and sills, other intrusives and extrusives

2. Stratigraphic information
    - a. columnar or stratigraphic section
    - b. lithologies of rock units
    - c. thickness of rock units
  3. Supporting information and documents
    - a. geologic reports of the area
    - b. information obtained from soil, percolation and other tests, geophysical surveys
- F. Hydrology (groundwater) (to the extent data is available or required; not required for runoff settling ponds or artificial impervious lined ponds)
1. Piezometric surface (water table) map
  2. Identification of aquifers
    - a. distribution and depth range
    - b. water quality
    - c. characteristics
    - d. aquifer-test data
  3. Water quality variations
  4. Locations of existing water wells and relevant data such as well completion information, yields, quality, water uses, etc.
  5. Any knowledge of future underground water development in the area? If yes, answer item 4 with regard to proposed uses, quantity, required quality, etc.

### III. Plans and Specifications

1. Seal or signature of Wyoming licensed designing engineer.
2. Location map indicating location of facility, piping structures, waterways, drainage, etc.
3. Topography of area
4. Construction & installation procedures, (ie, compaction specifications, pipe installation, depth of pipe bury, pressure testing, etc.)
5. Details of all aspects of facility (dikes, control structures, treatment plant, pumping facilities, overflow or outfall structures, flow measuring devices, etc.)
6. Specifications for all materials used in the construction.

NOTES:

- A. A permit to discharge is required for the following mining-related wastewater discharge points:
1. All settling ponds which have an outfall structure and which receive any "mine water" (including underground water encountered while mining or during overburden removal).
  2. All settling ponds which have an outfall structure and which receive runoff from disturbed areas and which are not designed to hydraulically accommodate the runoff from a ten year - twenty four hour precipitation event.
  3. All facilities with a surface discharge which receive any sanitary waste.
- B. A permit to discharge is not required for the following mining-related wastewater discharge points:
1. Any facility which does not have a "point of discharge" (outfall structure).
  2. All settling ponds which receive runoff from disturbed areas only and which are designed to completely contain all of the runoff from a ten year - twenty four hour precipitation event.
- C. 1. All runoff settling ponds require control structures or accommodations to draw off supernatant five (5) days after a storm. Drawoff must be accomplished within fifteen (15) days after a storm.
- D. 1. Past experience has shown smooth outfall pipes protruding through a dike or embankment impounding water are extremely susceptible to washing out. Therefore, design consideration for cutoff structures should be provided as necessary.
- E. 1. Fencing may be required depending on nature of wastewater.
- F. 1. Ponds requiring artificial impervious liners will also require a leak detection system.
- G. 1. Latest technology for determining runoff for settling pond capacity shall be used. "Analysis of Runoff from Small Drainage Basins in Wyoming", U.S. Department of Interior, Geological Survey (Open file 77-727); "Techniques for Estimating Flow Characteristics of Wyoming Streams", PB-264 224 Geological Survey, Cheyenne, Wyoming, Water Resources Division.

All application correspondence should be mailed to:

Department of Environmental Quality  
Water Quality Division  
Hathaway Building  
Cheyenne, WY 82002

PERMIT TO CONSTRUCT

New  
 Renewal  
 Modified

Permit No. 78-189

C & M Plumbing  
(Name of Facility)

This permit hereby authorizes the applicant:

C & M Plumbing, Inc.  
(Last) (First) (Middle)  
3801 Brookview  
(Street or P.O. Box)  
Casper Natrona Wyoming 82601  
(City) (County) (State)

to construct, install, or modify a Septic Tank - Leach Field  
facility located in Section 32, T79W, R34N  
(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 P. O'Leary  
Administrator  
Water Quality Division

Robert E. Deenain  
Director  
Wyoming Dept. of Environmental Quality

April 24, 1978

Date of Issuance

cc: Western Construction, ATTN: Edwin Rate, P.E., P. O. Box 930, Casper, WY

*Mailed -  
9/14/78*

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 78-190R

DILLON VISTA SUBDIVISION (OUTFALL LINE)  
 (Name of Facility)

This permit hereby authorizes the applicant:

DILLON COMPANIES, INC.  
 (Last) (First) (Middle)  
P.O. BOX 1266  
 (Street or P.O. Box)  
HUTCHINSON KANSAS 67501  
 (City) (County) (State)

to construct, install, or modify a WASTE WATER COLLECTION  
 facility located in SEC. 17 T33N R99W  
 (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. Galand  
 Administrator  
 Water Quality Division

Robert E. Lardin  
 Director  
 Wyoming Dept. of Environmental Quality

9-11-78  
 Date of Issuance

Book

REVIEW OF PLANS AND SPECIFICATIONS

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

PROJECT: ~~Dillon Vista Subdivision - Fremont County - Sewer Outfall Line~~

ARCHITECT OR ENGINEER: C. E. Spurlock, Jr. & Associates  
P. O. Box 0  
Lander, WY 82520

WATER QUALITY DIVISION REFERENCE NUMBER: 78-190

REVIEWING ENGINEER: Roy E. Prior

*William S. Garland*

DATE OF REVIEW: 6/30/78

ACTION: ~~NOT AUTHORIZED FOR CONSTRUCTION~~

COMMENTS:

We would agree that with the pipe flowing full (0.59cfs) the velocity of the flow would be greater than 3fps. The problem is the average daily flow (0.081) from the subdivision will not reach the 0.59cfs needed to obtain the required velocity. It is WQD's concern that the solids will settle in the bottom of the siphon and plug the siphon. That the siphon will be a maintenance problem to the Town of Lander.

Other alternate methods of transporting the sewage across the river should be investigated.

cc: Richard W. Dillon, Dillon Real Estate Co., P. O. Box 1266, Hutchinson, KS 67501  
Pete Allen, Town of Lander, 183 South Fourth Street, Lander, WY 82520

12

REVIEW OF PLANS AND SPECIFICATIONS

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

PROJECT: Dillon Vista Subdivision - Fremont County - Sewer Outfall Line

ARCHITECT OR ENGINEER: C. E. Spurlock, Jr. & Associates, P. O. Box 0, Lander,  
Wyoming 82520

WATER QUALITY DIVISION REFERENCE NUMBER: 78-190

REVIEWING ENGINEER: Roy E. Prior - William L. Garland, P.E.

DATE OF REVIEW: June 14, 1978

*William L. Garland*

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

- 1). Manufactures installation instructions indicate the casing size for a 10 inch PVC pipe should be 18 inches in diameter. Please verify re-use of a 16 inch casing.
- 2). Provide specifications for the blocking, sealing of the ends, installation of casing, installation of PVC pipe, etc. and typical drawings of the installation.
- 3). Provide exfiltration specifications.
- 4). Infiltration cannot exceed 200 gallons per day per inch of diameter per mile.
- 5). The water/sewer crossings do not conform to the requirements of Chapter III, Section 15, Water Quality Rules and Regulations.
- 6). How is the backfill from the bottom of the trench to one foot above the pipe placed?
- 7). Compaction by jetting or flooding is not recommended. It will not be authorized unless the following conditions are met:
  - a. Types of native soils allowed and these soils are conducive to jetting.
  - b. The backfill and bedding material is conducive to jetting.
  - c. The exact method for performing the jetting is specified.

PAGE 2

PROJECT: Dillon Vista Subdivision - Fremont County - Sewer Outfall Line

COMMENTS (CONT).

- 8). Provide specification to prevent excessive sidefill pressures and ovalation of the pipe.
- 9). Will the proposed line have any sewer taps? If so, provide details. Wye branches should be used.
- 10). The siphon design information indicates an average flow of 0.193 cfs. Using 131 lots at 350 gal/lot, average flow would be 0.071 cfs. What is the average flow of 0.193 cfs based upon?
- 11). Using the 0.193 cfs average flow, the velocity will not approach the 3 fps required in Ten State Standards for siphons.
- 12). Are there any side overflow weirs or control devices in the inlet and outlet manholes to permit control of the flows into the smaller pipe?
- 13). Will there be any riprap over the pipe to prevent scouring of the river bottom?
- 14). Due to the number of comments, this cannot be considered a final review.

cc: Richard W. Dillon  
Dillon Real Estate Company  
P. O. Box 1266  
Hutchinson, Kansas 67501

PERMIT TO CONSTRUCT

New  
 Renewal  
 Modified

Permit No. 78-192M

City of Casper Water Main Extensions in Sunrise Hills IV  
(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 Water Main Extensions  
facility located in Sunrise Hills IV, Lake Road, Deer Run and Oak Streets  
(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.

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

Authorized by:

William L. Janda  
Administrator  
Water Quality Division

Robert E. Lardin  
Director  
Wyoming Dept. of Environmental Quality

May 11, 1978

Date of Issuance  
cc: Worthington, Lenhart & Carpenter, 632 South David, Casper, Wyoming 82601

REVIEW OF PLANS AND SPECIFICATIONS

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

PROJECT: City of Casper Water Main Extensions in Sunrise Hills IV Replat  
Addition and Sunrise Hills IV Addition - Natrona County

ARCHITECT OR ENGINEER: Worthington, Lenhart & Carpenter, Inc., 632 South  
David, Casper, Wyoming 82601

WATER QUALITY DIVISION REFERENCE NUMBER: 78-192M

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

DATE OF REVIEW: May 10, 1978

ACTION: CONSTRUCTION AUTHORIZED

COMMENTS:

- 1). The Director of the Casper Board of Public Utilities has given verbal assurance that all design will be in compliance with the State standards known as "The Ten State Standards". In those instances where the mains have been designed using certain sections of the Casper 1978 Standards which are less stringent than the Ten State Standards it will be necessary to redesign to comply with the latter. To obtain compliance the following section of the Ten State Standards for Water Works shall be incorporated into the specifications for this project:

Section 8.6.3 Crossings - Section 8.6.4 Exception

- 2). Provide valves at intervals of no greater than 800 feet as per our telephone conversation of May 10, 1978 with Mr. C. O. Anderson.

cc: Casper Board of Public Utilities  
200 North David Street  
Casper, Wyoming 82601

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 78-193

Caballo Mine  
(Name of Facility)

This permit hereby authorizes the applicant:

The Carter Mining Company  
(Last) (First) (Middle)  
Box 209  
(Street or P.O. Box)  
Gillette Campbell Wyoming 82716  
(City) (County) (State)

to construct, install, or modify a Septic Tank - Leach Field  
facility located in Section 25, T48N, 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 P. Gale  
Administrator  
Water Quality Division

Robert E. Anderson  
Director  
Wyoming Dept. of Environmental Quality

April 24, 1978  
Date of Issuance

PERMIT TO CONSTRUCT

New  
 Renewal  
 Modified

Permit No. 78-194M

Town of Saratoga  
(Name of Facility)

This permit hereby authorizes the applicant:

Welton                      Albert                      L.  
(Last)                      (First)                      (Middle)

Box 128  
(Street or P.O. Box)

Saratoga                      Carbon                      Wyoming 82331  
(City)                      (County)                      (State)

to construct, install, or modify a Sanitary Sewer Line Extension  
facility located in Section 14, 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 L. Gable  
Administrator  
Water Quality Division

Robert E. Surdin  
Director  
Wyoming Dept. of Environmental Quality

June 6, 1978  
Date of Issuance

REVIEW OF PLANS AND SPECIFICATIONS

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

PROJECT: Town of Saratoga, Sanitary Sewer Line Extension  
Carbon County

ARCHITECT OR ENGINEER: Robert Jack Smith & Associates, P. O. Box 1104,  
Rawlins, Wyoming 82301

WATER QUALITY DIVISION REFERENCE NUMBER: 78-194M

REVIEWING ENGINEER: <sup>RS/LS</sup> Robert H. Pinther, P.E.

DATE OF REVIEW: May 26, 1978

ACTION: AUTHORIZED FOR CONSTRUCTION

COMMENTS:

As per our telephone conversation of May 29, 1978 with Mr. Paul McCarthy of the consulting engineers staff, the following items will be included in the specifications:

- 1). Sewer leakage testing and test procedures shall be specified. Leakage shall not exceed 200 gallons per inch of pipe diameter per mile per day for any section of sewer main.
- 2). There shall be a specification covering limitation on ovation 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  
3/26/79

PERMIT TO CONSTRUCT

- New
- Renewal
- Modified

Permit No. 78-195MRR

RAWLINS WASTEWATER TREATMENT FACILITY  
(Name of Facility)

This permit hereby authorizes the applicant:

CITY OF RAWLINS, WYOMING  
 (Last) (First) (Middle)

P O Box 953  
 (Street or P.O. Box)

Rawlins Carbon Wyoming 82301  
 (City) (County) (State)

to construct, install, or modify a Sewage treatment facility  
 facility located in S 23, T 21N, R 87W  
 (Legal Description)

in the County of Carbon, in the State of Wyoming. This permit shall be effective for a period of three 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

26 MAR 79  
 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."

# NELSON ENGINEERING

CONSULTING ENGINEERS & SURVEYORS

78-195MR

REGISTERED:  
Wyoming Utah  
Colorado Idaho

POST OFFICE BOX 1141  
JACKSON, WYOMING 83001

MMY/ip  
69-74XII-WTP

August 15, 1979

OK 17 Aug 79

CERTIFIED MAIL

by previous DEQ agreement  
*[Signature]*

Department of Environmental Quality  
State of Wyoming  
Water Quality Division  
Hathaway Building  
Cheyenne, WY 82001



ATTN: Tom Hamm

RE: Rawlins Wastewater Treatment Facilities - C-560106-04

Dear Tom:

Enclosed for your review and action are five (5) duplicate originals of Change Order No. 1 for the referenced project. This Change Order deletes Additive Alternate "A", Chlorination System, Bid Schedule No. 11 from the contract with Westcon Corporation. Since we all have discussed this matter, I think your review and approval would be straightforward. After your approval, please forward all five copies to EPA for their approval since the amount of the Change Order exceeds \$100,000.00.

If you have any questions, please call me.

Sincerely,

*Mickey M. Yamashiro*

Mickey M. Yamashiro, PE & LS  
Vice President

MMY/ip

enc.

cc: City of Rawlins, Mayor  
City of Rawlins, Engineer  
City of Rawlins, Attorney  
Westcon Corporation  
EPA, Jim Brooks

CHANGE ORDER

DUPLICATE ORIGINAL

Order No. WWTP - No. 1

Date: AUGUST 13, 1979

Agreement Date: AUGUST 13, 1979

NAME OF PROJECT: RAWLINS WASTEWATER TREATMENT FACILITIES  
C-560106-04

OWNER: CITY OF RAWLINS, WYOMING

CONTRACTOR: WESTCON CORPORATION, P.O. BOX 2272, GILLETTE, WY 82401

The following changes are hereby made to the CONTRACT DOCUMENTS: Delete from the Contract Additive Alternate "A" Chlorination System, Bid Schedule No. 11.

Justification: By mutual agreement between the Wyoming Department of Environmental Quality and the City of Rawlins.

Change to CONTRACT PRICE: Deduct \$246,413.00.

Original CONTRACT PRICE: \$ 5,705,030.00

Current CONTRACT PRICE adjusted by previous CHANGE ORDER \$ 5,705,030.00

The CONTRACT PRICE due to this CHANGE ORDER will be (~~increased~~) (decreased) by: \$ 246,413.00

The new CONTRACT PRICE including this CHANGE ORDER will be \$ 5,458,617.00

Change to CONTRACT TIME: None

The CONTRACT TIME will be (increased) (decreased) by NONE calendar days.

The date for completion of all work will be subject to Notice to Proceed (Date).

Approvals Required:

To be effective this Order must be approved by the Federal agency if it changes the scope or objective of the PROJECT, or as may otherwise be required by the SUPPLEMENTAL GENERAL CONDITIONS.

Requested by: Nelson Engineering, By *Nelson M. Yamashiro*

Recommended by: Wyoming Department of Environmental Quality

Ordered by: City of Rawlins *Ernest E. Marshall*

Accepted by: *M. J. Pope* Westcon Corp

Federal Agency Approval (where applicable) \_\_\_\_\_

Complete Telephone Review 6 MAR 79  
original sent to Nelson Eng 6 MAR 79

REVIEW OF PLANS AND SPECIFICATIONS

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

Per our 6 MAR 79 12:30 PM  
Telephone Conference.

PROJECT: Rawlins Sewage Facility  
P O Box 953  
Rawlins, Wyoming 82301

ARCHITECT OR ENGINEER: Nelson Engineering  
P O Box 1141  
Jackson, Wyoming 83001

WATER QUALITY DIVISION REFERENCE NUMBER: 78-195MR/5 Mar 79 (EPA CS 40106)

REVIEWING ENGINEER: Thomas P. Hamm, Paul Schwiager

DATE OF REVIEW: 6 Mar 79

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

SPECIFICATIONS:

1. Wage determination form missing
2. Bid schedule 3 # 25- Gas line not required.
3. Pge 4-26- statement on Sugar Creek being raw sewage omitted.
4. General- Test equipment (gages, meters, etc) must be calibrated within 90 days of test.
5. Pge 4-131- Prose does not read correctly, something out of place?
6. Pge 4-133- Type recorder omitted.
7. Pge 4-145- Return to commercial power 15 (x time) min after commercial power is restored and is good.

DRAWINGS

- Sheet 6- Emergency Overflow discharge, add note not to discharge to the creek.  
3- Show Emergency overflow discharge line and low area.  
21- Ref #'s missing two places.  
22- Culvert 95% Modified Proctor; is this correct?  
23- Hard to read, my print or the velum?  
24- Piping between cells should have a splash pad on receiving side.  
25- Same as 24.  
37- With compacted dirt the sludge baffle will float.  
43- Cannot read left side; my print or the velum?  
46- Does the diesel fuel tank have a gage; should have.  
47- The \* is used for two different meanings.  
49- The backflow preventer must be between the drain and the source.  
54- Chlorine drain trough runs to daylight, should drain into a gravel pocket.  
58- Backflow preventers not required on each hose bib.  
60, 61 & 62 Lost the man.  
63- What is the height of the lights over the door?  
67- Is 95% Proctor correct?  
85- Show meters are in line or add note saying so.

This may not be construed as a final review. Questions and/or clarifications should be directed to Tom Hamm, 307-777-7781.

Comme

REVIEW OF PLANS AND SPECIFICATIONS

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

PROJECT: Rawlins Sewage Plant  
City of Rawlins, WY

ARCHITECT OR ENGINEER: Nelson Engineering  
Jackson, WY

WATER QUALITY DIVISION REFERENCE NUMBER: 78-195M (EPA-C560106)

REVIEWING ENGINEER: *THamm* Thomas F. Hamm - *JS* Jake Strohmman, P.E., William Garland, P.E. *WJG*

DATE OF REVIEW: July 24, 1978

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

1. The Rawlins Sewage Treatment System as designed does not meet the EPA approved Step 1 proposal of twice yearly discharge. Only twice per year will the suspended solids in the lagoon be at a level to meet the discharge requirements but your design is for 80-day retention, then discharge that quantity in 28 days. On the other hand you propose using one storage cell and then discharge and maximum storage then discharge. How or by what means do you propose to control algae with the increased discharge rate? What is the designed solids storage for the two settling lagoons?
2. Since this is an EPA project and is to be constructed with 75% Federal Funds, it is the professional opinion of this office that the system as designed is "Gold Plated" and Grant Funds will not be made available unless the City of Rawlins pays the difference or the design is reworked to provide the required treatment without unnecessary frills. The major item of concern is the Headworks building and it's equipment.
3. As covered by separate correspondence, the justification for sole source "Pentec Aerators" is not acceptable. If you still desire to go sole source for any equipment, the analysis must be realistic and fair.
4. The Step I was approved for an aerated lagoon system. Has a cost effectiveness vs. treatment analysis been conducted relative to the many type-varieties aerators on the market or has all of your efforts been assume total dispersion aerobic, therefore, pentec?
5. The manning was to be one man eight hours a day with some help; latest discussions insinuate three or four full time workers. Cannot comprehend this much manpower for a small facility of this type. Cannot believe the annual O & M costs. Manning must be evaluated and firmed before the go ahead.

6. The design analysis calls for 4200 SCFM. Normally 1.5-2 times the required air is planned, this analysis only plans for the required. Why wasn't a factor of safety planned? Is it the intent that a spare compressor will serve the same purpose? If that is the case then another spare compressor with motor should be on hand.

7. What about spare parts? How many of what are planned?

#### DRAWINGS

8. Sheet #3 - The settling lagoons have a depth of 5 feet; how many years sludge storage will be provided and since the bottoms are level, what about the anaerobic sludge buildups at the entrances? Also what about the other lagoons?

9. Will the low flow culverts and creek crossings support the vehicular traffic required to service the lagoons?

10. Sheet #4 - The design and positioning of the flow control structures (F3, F4) and the variable level drawoff structures between the settling lagoons is very conducive to short circuitings. The same applies to the two storage lagoons.

11. Sheet #6 - Is the amount of sodded lawn and the paved driveways really required? The location of the facility does not require aesthetics.

12. Is there a valid requirement for three buildings (compressor, treatment plant head works and administrative offices and chlorine)?

13. The chlorine cylinder transfer station is not required. (orally told it will be removed)

14. The amount of area lighting appears excess in comparison with the work force and work hours to be employed.

15. Sheet #7 - Is the RIP RAP Channel slope protection required for all of the relocated channel?

16. Sheet #15 - Since the Emergency Storage Reservoir will be used for raw influent, a lot of solids will settle out; what are the design plans for settled solids buildup, odors from the solids and what will be done to minimize odor problems? Will the Reservoir remain empty except when required?

17. What is the cost effectiveness analysis tradeoff between a standby power generating system and use of an Emergency Storage Reservoir?

18. Sheet #23 - Will the culverts pass the high water flows of Sugar Creek and is the design such as to not erode with high water or an overflow?

19. Sheet #24 - Access ramps to all lagoons - Are they required and if so will they support the equipment required to service the lagoons? How often will service be required?

20. Sheet #25 - Are the weir structures and diversion structures as designed the most cost effective route to follow? Recommend inverted manhole.

21. The use of cat walks are expensive and require maintenance. Would not three level drawoffs with a manhole in the dike be more effective and less expensive?

22. Sheet #28 - How effective is the wave baffle? Require an Engineering Analysis. Will the baffle control the flow of stratified algae and suspended TSS in the fluid?

23. Why are erosion protection logs required?

24. Sheet #29 - What is the life of fiberglass coated plywood? How will the system work during icing and cold weather? Would not a three pipe system or a less mechanical type system be more economical, less affected by inclement weather and have a longer service life?

25. How will the axle be lubricated and how often will preventive maintenance inspections be required?

26. Sheet #33-34 - What is the rate or percentage of Return Sludge (Flow)?

27. Sheet #36 - Will the high water flow rate, with ensuing debris allow flow under the span so the pipe will not be damaged?

28. Sheet #37 - How many Bronze Sluice gates are required and what is the lubrication requirements to minimize freezing/binding of the valve? Would not conventional gates suffice in most applications?

29. Sheet #38 - Is the liner required or is a lining material to be used? The specifications infer one or the other.

30. What is the expect service life of the liner?

31. What are the affects of sunlight on the decomposition of the material? Is this similiar to the liner used at Thayne?

32. What will be the effects of solids scouring the bottom of the cells?

33. What about erosion if the liner is not deemed necessary? If a liner is not required, then details of the cell inlets and outlets must be delineated.

34. Sheet #43 - Is the aerator geometry designed for maximum and minimum dead spots? Has a flow and mixing analysis been conducted relative to cell geometry and aerator placement?

35. What do the DO probes control other than the strip recorders? Justification of the DO probes and the recorders is required. One portable probe should suffice. If the DO probes are to control DO within the cells by varying the amount of air to the cells then they are acceptable if an economic analysis justifies the cost.

36. Have backflow prevention measures been incorporated so fluid will not enter the air line if/when the compressors shut down?

37. Sheet #44 - Do not call for "Pentec" since sole source has not been justified and/or approved.
38. How are the pumps sealed to prevent leakage between the pump and the discharge line to the aerators?
39. Sheet #45 - The check valves are to be rotated to the horizontal position (verbal word).
40. Sheet #46 - Do not specify "Lenox Heater"
41. The hoist must be arranged so pumps and motors can be loaded directly on a truck.
42. The compressors should be rearranged so a single monorail can be used.
43. What is the designed light intensity within the building?
44. Sheet #47 - A sound abatement system is required within the building to bring noise levels within OSHA requirements. Are the compressors shock-vibration mounted?
45. A maximum internal building sound level must be specified to the contractor.
46. The standby power system is not required since there is a 2-day gravity operated emergency reservoir. (One or the other)
47. Has an analysis been performed to evaluate rusting of the air line from moisture and temperature changes?
48. Sheet #48 - Is the building, especially the fascia, designed to withstand the Rawlins wind velocities?
49. Sheet #49 - Are the filters replacement element or clean type? How often are they to be serviced and has accessibility for maintenance been addressed?
50. Sheet #50 - A four cylinder manifold and four scales does not appear a realistic requirement. (10 ppm 36/120 #/day by the Step I)
51. Why is there a gas heater and electric heater in the same building, wouldn't one type be better?
52. How many one ton Cl<sub>2</sub> cylinders are required to be on hand?
53. Is the second room required and if so, why does it have to be so large?
54. Sheet #51 - Sole source for the jet disinfection system has not been justified. Is this being proffered as such; if so submit to DEQ?
55. Has a cost effectiveness analysis been performed to prove this type Cl<sub>2</sub> injection system in conjunction with the large contact chamber is required. Would not a simple injection probe in a man-hole with the contact chamber suffice?

56. Sheet #52 - Why is the contact chamber 13.5 feet deep yet only 5 feet is used?
57. Is a scum skimmer required?
58. Sheet #53 - Why isn't the top 10.63 feet of the chlorination vault not used?
59. Is there a reason for the large depth?
60. Outfall details are required.
61. Sheet #55 - Same questions/comments as sheet 50.
62. Sheet 57 - The size of the building is quite large for such a small facility. (repeat)
63. Is a mechanical bar screen, manual bar screen, aerated grit chamber and comminutor required?
64. Is a mechanical bar screen the same as was installed in the Green River Facility except for the grinder?
65. Sheet #58 - Why no personnel door in the basement?
66. The basement toilet #2 is not required.
67. The automatic samplers cannot be condoned
68. Is all grating required, would not guard rails be just as effective yet more economical?
69. Why have skylights over the pump when there is a monorail hoist to service the area?
70. Is the design so that solids from the mechanical bar screen and grit will drop into a wheelbarrow or some transportable device so the number of times handled is minimized?
71. The storage areas, work areas and service areas greatly expand the size of the building. If this much area is required, it appears not to be the most practical floor layout.
72. The driveway into the service area will be subject of ice, snow and drifts, won't this provide problems?
73. Sheet #59 - Laboratory
  - a. Too large a LAB-1 and a LAB-2
  - b. Too many sinks, 5 plus cup sink
  - c. Emergency shower-should be overhead deluge with floor drain
  - d. Built-in dishwasher?
  - e. Lab foyer not required

- f. Door opens wrong way
  - g. Two (2) refrigerators?
  - h. Automatic samplers cannot be condoned
  - i. Why viewing windows down into the dry well?
  - j. Too much counter space
  - k. Storage room for what?
  - l. Air and vacuum not required.
74. EPA recommended floor space for a 3 MGD plant - 300 ft<sup>2</sup>, of which 106.5 ft<sup>2</sup> is Bench Space and a cabinet volume of 320 ft<sup>3</sup>. This is the maximum space that will be allowed.
75. Foyer - Too large and too much wasted space; to get to basement and equipment, personnel must go outside.
76. Toilet #1 - Three sinks not required; toilet, shower and dressing area too large; built-in ash trays?
77. Janitor room - large and wasted space
78. Carpet - only if indoor-outdoor
79. Why are viewing windows required in the control room to look at dry well? One window in each room will be condoned.
80. Why are gratings required on wet well? Would not railings suffice?
81. What is the cost of vinyl wall paper vs dry walling?
82. Electric driven monorail cannot be condoned.
83. Sheet #62 - Electrically operated doors?
84. Sheet #66 - Dishwasher and two refrigerators?
85. Sheet #67 - Is a suspended ceiling required? Nice, but for a sewage plant?
86. Sheet #68 - Pump Pads should be vibration dampened
87. Sheet #80 - DO recorder not required.
88. Use 7-day circular flow recorder since strip/roll is hard to read and is a problem.
89. Why no switchable voltmeters - Ammeters on pumps to aid in seeing problems before they occur?
90. Check valve lights not required.

91. High level wet well alarm no - if wet well level rises flow will go into emergency reservoir.
92. Flow totalizers - read from flow chart recorder.
93. Why control lights from control room?
94. Sump pump high level light, No. Why is it required. It is automatic and reliability should be such that an alarm light is not required.
95. Three pen recorder for inlet, outlet and chlorine not required and not Human Engineered.
96. Sheet #81 - Is ducted heat more cost effective than space heaters? The thermostat is in the hall to the lab. Is the whole building required to be at same temperature? Air conditioning not required. Basement heat is not delineated.
97. Sheet #82 - A break tank is required.
98. Sheet #84 - Exhaust fans totaling 6945 CFM seems high. Couple this with the ducted-forced air heat greatly increases costs. Has the heating costs been evaluated?
99. Are there local on-off lockouts on each motor? Will there be locking bars in the control room for all motors?

SPECIFICATIONS Bid Schedule

100. #1 - items 11 & 12 --176 acres to be seeded? Outside of dikes and ground but where is the remainder?
101. #5 - Automatic sampling system - No (repeat)
102. #14 - DO measuring system - NO (repeat)
103. #15 - Stand-by natural gas driven generator - NO (repeat)
104. #6 - Two (2) portable pumpers - NO; One (1) okay
105. #7 - 10,500 feet<sup>2</sup> sod - justify
106. #8 - 9,600 Feet<sup>2</sup> sod - justify
107. #11 - lagoon baffles - Eng. analysis & justify
108. #11 - Additive alternate #1 - Channel slope protection - Is it required or not; if it is make a regular bid item. (repeat)
109. #11 - Additive Alternate #2 - Items 1, 2 & 3 required or not? No alternate and leave to city fathers. (repeat)
110. Sec. 4-7 - What type tests will be performed and where will the testing equipment come from?
111. What are the calibrations requirements on gages, transients, torque wrenches and other measuring and testing equipment that is to be used on the project?
112. Missing #

113. Sec. 4-10 - Where are the areas delineated to be seeded by each method? Is there 176 acres to be seeded? Do not feel that Yellow Sweet Clover will survive and thrive in the local environment.

114. Sec. 4-20 - All buried gravity piping will lapped and madrel tested.

115. Pipe alignment to manufacturer's specs.

116. Sec. 4.24 Polyethylene Pipe "when small diameter pipes ( $\frac{1}{2}$  inch to  $2\frac{1}{2}$  inch nominal diameter). When installation temperature is substantially lower than operating temperature the pipe should be possible to installed with straight alignment and brought up to operating temperature, after joints are properly cured, but before backfilling. This procedure will permit expansion of the pipe to be accommodated by "snaking" action. When installation temperature is substantially above operating temperature, the pipe should be installed by "snaking" in the trench.

117. Sec. 4-34 - Additive alternate #2 - Bid schedule 11 calls for "PVC membrane lining 20 mil." The spec calls for 15 mil for the bottoms" which is correct?

118. The question of the liner being optional will not be debated. Either the soils data and specific application in a constant mixing environment dictates a liner or not. It is assumed it does call for a liner since alternates are left to the owners who are normally non-technical and as a result dollars dictate over Engineering; this must be finalized before approved.

119. Sec. 4.39 - The chief of the DEQ Water Quality Laboratory is of the opinion that since there are no process controls and the number and periodicity of required tests, it would be more cost effective to have the major tests run by a commercial laboratory. If the plant plans to run all tests additional equipment will be needed. The list of laboratory equipment and supplies are not in line with the type and size facility. Some chemicals and equipment are not required for any known or required STP tests. This section including the size and contents of the lab must be readdressed.

120. Sec. 4.41 - Really required?

121. Sec. 4.43 - Cannot condone an electric hoist and electric driven system. For the required useage a chain hoist on a manually moved monorail is sufficient. The compressor building crane system is not acceptable. The equipment should be arranged so that it is serviced by a single simple monorail that will allow equipment to be directly loaded onto a truck. (Repeat)

122. Sec. 4.44 - What is the spacing between bars? Will it empty into a moveable receptacle? Where will the solids be disposed of?

123. Sec. 4.45 - What is the maximum allowable noise level when all three pumps are running? The design and allowable noise level must be within acceptable limits. The requirements for maximum sound levels must be delineated in the specs and/or contracts.

124. What is the capacity of the compressor and what is the volume of the tank? 85 dba for the compressor along with the pumps will result in an excessive noise level.

125. Sec. 4.46 is an aerated grit system required? Will the system empty into a portable container? (repeat)

126. Sec. 4.47 - Pentech has not been justified sole source. "The 382 Std # of 02 per hour per aerated cell" is derived from where?

127. By the Nelson Engineering analysis - Pentech does not meet the 4.1 #/hr/bhp, it delivers 3.69, is there a miscalculation?

128. How can the air flow to the cells be varied other than shutting off a compressor? Can the mix water pumps be run other than all on-all off?

129. Sound abatement in the compressor building must be addressed. (repeat)

130. Sec. 4.48 Has a cost effectiveness analysis been conducted comparing jet disinfection vs the probe in a manhole followed by a large contact chamber? Initial cost, construction costs, upkeep, spare parts and power to operate versus the chlorine savings may be balanced to a more simple less costly system. (repeat)

131. Sec. 4.49 - In most installations the inkless strip chart recorder do not provide acceptable data and service. The 7-day circular recorder with built in totalizer is preferred from a use and reliability point of view.

132. The automatic sampling system has not been justified for this proposed aerated lagoon system with intermittent discharge. (repeat)

133. Sec. 4.50 - The 3 DO probes with 3 pen chart recorder that control nothing have not been justified. One portable DO meter is justified. (repeat)

134. Sec. 4.51 - NO, a 5-ton 4-wheel drive truck with crane cannot be justified.

135. Sec. 4.52 - "TWO" portable units cannot be justified, one is acceptable.

136. Sec. 4.53 - There is no requirement for a standby power generation system since there is a 2-day gravity - in gravity - out emergency reservoir. (repeat)

137. Sec. 4.56 - The lagoon wave protection and baffle system does what? How effective will 12-in. diameter logs be as baffles? (repeat)

138. Since there are no drains for the aerated cells and it will require much time to pump a cell out (approx. 200 hours @ 2,000 gpm), a mechanism so that the aerators could be raised/swiveled for maintenance or replacement without draining the cell should be addressed.

139. Attached are Mr. Kim's comments of 17 May 78, some of which have not been answered/resolved.

\*This may not be construed as a final review

All comments, questions and/or clarifications should be directed to Tom Hamm, 777-7781.

REVIEW OF PLANS AND SPECIFICATIONS

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

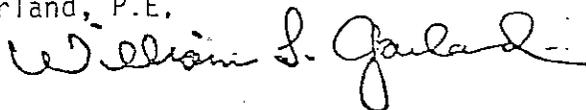
PROJECT: City of Rawlins, Wastewater Treatment Plant - Carbon County

ARCHITECT OR ENGINEER: Nelson Engineering, ATTN: Mickey Yamashiro, Box 1141,  
Jackson, Wyoming 83001

WATER QUALITY DIVISION REFERENCE NUMBER: 78-195M

REVIEWING ENGINEER: Dan H. Kim<sup>DK</sup> - William L. Garland, P.E.

DATE OF REVIEW: May 17, 1978



ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

Attached are the review comments on said project of DEQ and Department of Occupational Health & Safety, which were submitted to the meeting among the City of Rawlins, Nelson Engineering and Department of Environmental Quality on May 15, 1978.

Required information including complete design calculations for each unit process and equipment should be provided prior to any further review.

CITY OF RAWLINS WASTEWATER TREATMENT PLANT

This is not a complete review. A complete review will not be done until such time that a final agreement of the adequacy of the proposed plan is made among EPA, DEQ, City and Nelson Engineering. Required information including complete design calculations for each unit process and equipment should also be provided prior to any further review. The general part is a summary of comments made in the last meeting of February 24, 1978.

The latter part consists of parts of the comments concerning basic required information for review and design consideration for each unit process and equipment.

GENERAL

1. I/I flow is still uncertain - questioned by EPA in last meeting. No new I/I study has been submitted. Does the estimated I/I exceed 1500 gallons per day per inch of pipe diameter per mile?
2. Peak flow rate has been changed from 4300 gpm (4.375 MGD) to 6035 gpm (8.69 MGD). Provide information and background to support this change. Covered
3. Complete design calculations for each unit process, unit operation, equipment, etc.; shall be provided prior to any further review.
4. How can the influent flow to the aerated lagoon be equally distributed to the individual cell and controlled? Covered
5. Sugar Creek channel design values indicated 100 year flow of 2700 cfs, provide the duration or frequency of rainfall.
6. 24"  $\phi$  inlet to aerated lagoon is subject to surcharging. How is this situation going to be avoided? Covered
7. The aerated lagoon inlet system is so designed that wastewater is forced to push into 8" line through submersible pump. How can this type of system prevent influent flow from popping out to the manhole cover where there is less pressure in case that the submersible pump is overloaded. If the inlet manhole is to be modified, please provide engineering calculation to justify the design.
8. Indication of the name of a specific manufacturer of aeration system, "PENTECH" without full technical justification is not acceptable. It must be at least two (2) manufacturers or more on a competitive basis.
9. How can  $O_2$  amount at every outlet be controlled? Cannot be
10. Variable level draw-off structure is too complicated. To be changed
11. Where are the locations of recirculation line and return line from emergency storage being connected to in the pretreatment building? on plans
12. Reconsideration of cost - effectiveness study.

## UNIT EQUIPMENT

### 1. Bar Screen

- a. Design calculation. *covered*
- b. Provide details as to handling of screening.
- c. Ventilation. *To be readdressed*

### 2. Grit Chamber

- a. Design calculation. *covered*
- b. Type of diffuser. *depends on bidder*
- c. An adequate supply of water under pressure shall be provided for clean-up with a backflow preventer provided. *ON P/ANS*

### 3. Pumps & Wet Wells

- a. Performance curve & design calculations for anticipated heads. *depends on*
- b. Show the bubbler tube (pneumatic level control) on the plans. *bidder*
- c. Provide dimensions, design calculations (volume, D.T., etc.) for a wet well. *provide*
- d. Show the sump pump location in the dry well on the plans, pump curve, etc. *OK*
- e. Show the ventilation system for the building. *ON P/ANS*

### 4. Aeration & Compression Equipment

- a. Design calculations for air requirements, aerated lagoon, etc. *contains errors*
- b. Provide complete manufacturer's data for the jet aeration system. *covered*
- c. Blower design calculation including air requirement plus mixing *covered* requirement.
- d. Air diffusion piping & diffusion system shall be capable of *To be evaluated* delivering 200% of the normal air required.
- e. The arrangement of diffusers shall permit their removal for inspection, maintenance and replacement without dewatering the tank and without shutting off the air supply to other diffuser in the tank. Justify this.
- f. The spacing of diffusers should be in accordance with the oxygenated regimen through the length of the pond and should be designed to facilitate adjustment of their spacing without major revision to air header piping.
- g. Show the detail drawings of aeration structure, A5 and A6 where *Probes removed* D.O. probes are installed in the manholes.

### 5. Submersible Pump

- a. Provide design calculation (GPM, head, HP, etc.). *depends on vendor*
- b. Pump curve.
- c. Submersible pump shall be capable of unsubmerged operation without damage or positive provision shall be made to assure submergence.
- d. Gate valve or check valve is required at the discharge line. *IN P/ANS*

*Not applicable; never, should be addressed due the amount of time required, empty a cell.*

CHLORINATION BUILDING AND CHLORINE CONTACT CHAMBER

1. Design calculation and DT. *Covered*
2. Need manufacturers data on jet disinfection system. *Covered*
3. Will the chlorination building be relocated to eliminate the need for *To be*  
construction of a bridge over the creek? *accomplished*

D.O. MEASURING SYSTEM

1. Manufacturers data.

ADDITIONAL DEQ COMMENTS

COMPRESSOR BUILDING Either the emergency reservoir or the standby power system will be allowed. If the standby power system is elected then a by-pass line to the outfall will be required in case the standby power system cannot be brought on-line in time. If the emergency reservoir is elected the dimensions on the compressor building will be reduced from 20x40 to 20x32 (17.5% reduction) with double doors in the end of the building to facilitate direct loading of parts and equipment.

CHLORINE SYSTEM This Office recommends the chlorination building and chlorination system be made Phase III of the Rawlins EPA Grant Project and not be constructed until after the facility is placed in operation and it is determined that a chlorination system is required. The NPDES requirements (30/30/200-400) must be met and the chlorination equipment will be installed as a part of the Grant if the requirements cannot be met.  
For Planning Purposes This Office's interpretation of para 86 of the ten states is that since the chlorination building is a separate unit designed for one purpose, only one room is required. By removing 2 or the 4 cylinders (go to single manifold and single scale) the telemetry and equipment room is not required; therefore delete the small room thereby reducing the building from 15'4"x24' to 15'4"x17'6" (approximate scaled measurements) a 28.5% reduction.

HEADWORKS BUILDING GROUND FLOOR The comminutor was removed by Nelson Engineering; this Office concurs with the grit chamber and although it cannot concur with a mechanical bar screen, a manual bar screen is required. The influent parshall flume, manual bar screen and grit chamber do not have to be inside and will work just as well in the open; however, the grit chamber should be covered. With this philosophy established it naturally follows that the total flow channel length within the building should be decreased from its present 137 foot length to a more realistic length. As stated in our previous discussions/meetings of 1 & 2 August 78, it is the contention of this Office that the Headworks Building should be redesigned in a more economic vein or if the building as designed and equipped is desired by the city of Rawlins, then the city pay the difference in cost between what is determined to be Grant Eligible and what is presented. In following this contention this Office recommends a maximum ground level of 1849 square feet vice approximately 2734 square feet or a 32.4% reduction. Also in consonance with EPA guideline 300 ft<sup>2</sup> for laboratory space is required. The first level should be reduced taking into account the 32.4% reduction in the ground level and inclusion of previous comments within the review. Also this Office cannot understand why the dry well must have a 30 foot ceiling; please justify.

DRY WELL PUMPS Recommend/request a cost effectiveness analysis be conducted relative to using three or four constant speed pumps vice two variable speed and one constant speed pumps. The use of constant speed motors with a variable speed drive pump system is not efficient, energy saving and are much more expensive than constant speed systems. The concept of one pump running continuously with the second cutting in a few minutes each hour is very realistic to the Engineers of this Office.

*TG*  
8 AUG 78

REVIEW OF PLANS AND SPECIFICATIONS

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

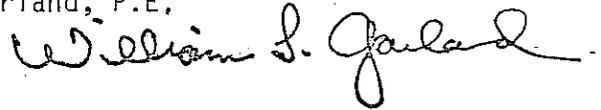
PROJECT: City of Rawlins, Wastewater Treatment Plant - Carbon County

ARCHITECT OR ENGINEER: Nelson Engineering, ATTN: Mickey Yamashiro, Box 1141,  
Jackson, Wyoming 83001

WATER QUALITY DIVISION REFERENCE NUMBER: 78-195M

REVIEWING ENGINEER: Dan H. Kim - <sup>DK</sup>William L. Garland, P.E.

DATE OF REVIEW: May 17, 1978



ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

Attached are the review comments on said project of DEQ and Department of Occupational Health & Safety, which were submitted to the meeting among the City of Rawlins, Nelson Engineering and Department of Environmental Quality on May 15, 1978.

Required information including complete design calculations for each unit process and equipment should be provided prior to any further review.

## CITY OF RAWLINS WASTEWATER TREATMENT PLANT

This is not a complete review. A complete review will not be done until such time that a final agreement of the adequacy of the proposed plan is made among EPA, DEQ, City and Nelson Engineering. Required information including complete design calculations for each unit process and equipment should also be provided prior to any further review. The general part is a summary of comments made in the last meeting of February 24, 1978.

The latter part consists of parts of the comments concerning basic required information for review and design consideration for each unit process and equipment.

### GENERAL

1. I/I flow is still uncertain - questioned by EPA in last meeting. No new I/I study has been submitted. Does the estimated I/I exceed 1500 gallons per day per inch of pipe diameter per mile?
2. Peak flow rate has been changed from 4300 gpm (4.375 MGD) to 6035 gpm (8.69 MGD). Provide information and background to support this change.
3. Complete design calculations for each unit process, unit operation, equipment, etc., shall be provided prior to any further review.
4. How can the influent flow to the aerated lagoon be equally distributed to the individual cell and controlled?
5. Sugar Creek channel design values indicated 100 year flow of 2700 cfs, provide the duration or frequency of rainfall.
6. 24"  $\phi$  inlet to aerated lagoon is subject to surcharging. How is this situation going to be avoided?
7. The aerated lagoon inlet system is so designed that wastewater is forced to push into 8" line through submersible pump. How can this type of system protect influent flow from popping out to the manhole cover where there is less pressure in case that the submersible pump is overloaded. If the inlet manhole is to be modified, please provide engineering calculation to justify the design.
8. Indication of the name of a specific manufacturer of aeration system, "PENTECH" without full technical justification is not acceptable. It must be at least two (2) manufacturers or more on a competitive basis.
9. How can  $O_2$  amount at every outlet be controlled?
10. Variable level draw-off structure is too complicated.
11. Where are the locations of recirculation line and return line from emergency storage being connected to in the pretreatment building?
12. Reconsideration of cost - effectiveness study.

## UNIT EQUIPMENT

1. Bar Screen
  - a. Design calculation.
  - b. Provide details as to handling of screening.
  - c. Ventilation.
2. Grit Chamber
  - a. Design calculation.
  - b. Type of diffuser.
  - c. An adequate supply of water under pressure shall be provided for clean-up with a backflow preventer provided.
3. Pumps & Wet Wells
  - a. Performance curve & design calculations for anticipated heads.
  - b. Show the bubbler tube (pneumatic level control) on the plans.
  - c. Provide dimensions, design calculations (volume, D.T., etc.) for a wet well.
  - d. Show the sump pump location in the dry well on the plans, pump curve, etc.
  - e. Show the ventilation system for the building.
4. Aeration & Compression Equipment
  - a. Design calculations for air requirements, aerated lagoon, etc.
  - b. Provide complete manufacturer's data for the jet aeration system.
  - c. Blower design calculation including air requirement plus mixing requirement.
  - d. Air diffusion piping & diffusion system shall be capable of delivering 200% of the normal air required.
  - e. The arrangement of diffusers shall permit their removal for inspection, maintenance and replacement without dewatering the tank and without shutting off the air supply to other diffuser in the tank. Justify this.
  - f. The spacing of diffusers should be in accordance with the oxygenated regimant through the length of the pond and should be designed to facilitate adjustment of their spacing without major revision to air header piping.
  - g. Show the detail drawings of aeration structure, A5 and A6 where D.O. probes are installed in the manholes.
5. Submersible Pump
  - a. Provide design calculation (GPM, head, HP, etc.).
  - b. Pump curve.
  - c. Submersible pump shall be capable of unsubmerged operation without damage or positive provision shall be made to assure submergence.
  - d. Gate valve or check valve is required at the discharge line.

### CHLORINATION BUILDING AND CHLORINE CONTACT CHAMBER

1. Design calculation and DT.
2. Need manufacturers data on jet disinfection system.
3. Will the chlorination building be relocated to eliminate the need for construction of a bridge over the creek?

### D.O. MEASURING SYSTEM

1. Manufacturers data.

PERMIT TO CONSTRUCT

New

Renewal

Modified

Permit No. 78-196

Kuzara Apartments  
(Name of Facility)

This permit hereby authorizes the applicant:

Kuzara  
(Last)

James  
(First)

(Middle)

35 North Scott

(Street or P.O. Box)

Sheridan  
(City)

Sheridan  
(County)

Wyoming 82801  
(State)

to construct, install, or modify a Waste Treatment

facility located in Section 34, T56N, R84W

(Legal Description)

in the County of Sheridan, 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

May 18, 1978

Date of Issuance

cc: Walter J. Pilch & Associates, Box 6498, Sheridan, Wyoming 82801

Joe Hollingsworth, Sheridan County Planning Office, 224 South Main Street,  
Sheridan, WY 82801

PERMIT TO CONSTRUCT

New

Renewal

Permit No. 78-197M

Modified

City of Gillette Local Improvement District No. 32  
(Name of Facility)

This permit hereby authorizes the applicant:

City of Gillette

(Last) (First) (Middle)

c/o Robert L. Boekencamp, C. E. McGuire, Inc.  
2021 Clubhouse Drive

(Street or P.O. Box)

Greeley

(City)

Colorado 80631

(State)

to construct, install, or modify a Water Distribution System  
facility located in Sections 27 & 34, T50, 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 J. Gaudin  
Administrator  
Water Quality Division

Robert E. Durdin  
Director  
Wyoming Dept. of Environmental Quality

May 18, 1978

Date of Issuance

REVIEW OF PLANS AND SPECIFICATIONS

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

PROJECT: City of Gillette Local Improvement District No. 32 - Water  
Main Extensions - Campbell County

ARCHITECT OR ENGINEER: C. E. McGuire, Inc., ATTN: Robert L. Boekencamp,  
2021 Clubhouse Drive, Greeley, Colorado 80631

WATER QUALITY DIVISION REFERENCE NUMBER: 78-197M

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

DATE OF REVIEW: May 12, 1978

ACTION: AUTHORIZED FOR CONSTRUCTION

COMMENTS:

This review covers the 8 inch and 10 inch PVC water main extensions included in schedule I and 210 feet of 10 inch PVC pipe inserted by the engineer on the plans with red pencil starting at station 11 + 11.38 and running east along Boxelder Road.

As per our telephone conversation on 5-12-78 with Mr. Robert Boekencamp of the consulting engineering firm, the allowable leakage will be calculated in accordance with Section 13-Hydrostatic Test of AWWA Standard C600-64.

cc: City of Gillette  
400 South Gillette Avenue  
Gillette, Wyoming 82716

PERMIT TO CONSTRUCT

New  
 Renewal  
 Modified

Permit No. 78-198R

Sunup Ridge Subdivision - Town of Glenrock  
(Name of Facility) Water Storage Tank & 12" Water Line

This permit hereby authorizes the applicant:

Town of Glenrock  
(Last) (First) (Middle)  
c/o C. K. Wolz  
P. O. Box 322  
(Street or P.O. Box)  
Casper Wyoming 82601  
(City) (County) (State)

to construct, install, or modify a Water Storage & 12" Water Line  
facility located in Section 4, T33, R75  
(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.

Authorized by:

William F. Gauland  
Administrator  
Water Quality Division

Robert E. Sandlin  
Director  
Wyoming Dept. of Environmental Quality

June 15, 1978  
Date of Issuance



*Department of Environmental Quality*  
*Water Quality Division*

HATHAWAY BUILDING

CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

June 12, 1978

Honorable Willard Eckhardt  
P. O. Box 417  
Glenrock, WY 82637

RE: Sunup Ridge Subdivision  
Town of Glenrock  
Steel Storage Tank & 12" DIP  
Waterline 78-198

Dear Mayor Eckhardt:

This is to notify you of the status of review on the said project.

One of our requirements as to the quantity of water supply source is that the total source capacity shall equal or exceed the maximum day demand. Since the town's current sources have a total capacity of only 1,100 gallons per minute (population equivalent of 4,200  $\approx$  4,400), the above mentioned requirement is unable to be met because of the proposed size of the Sunup Ridge Subdivision, which will accommodate 860 residential lots and 60 commercial lots.

However, as indicated by the letter of Mr. Wolz, Town Engineer, if the new wells, having the capacity of 1,000 gallons per minute will be developed, the water yield would become sufficient enough to meet the maximum daily demand.

Therefore, we would like to have a letter of verification from the city prior to our final approval on the project, indicating that:

- 1) The city will accept the construction of the said subdivision and will provide the water service. The flow will maintain the required pressure at any location of the service area; and
- 2) The new wells to be developed will be capable of yielding about 1,000 gpm in order to meet the maximum daily demand. Those wells will be put into operation with a DEQ permit before the entire subdivision will be served by the city system.

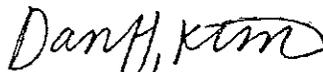
Mayor Eckhardt  
June 12, 1978  
Page 2

Our office agrees that the initial 209 lots to be developed in the first filing will be able to be served by the existing water source. However, the whole subdivision will not be supplied with water of maximum daily demand until the proposed wells start operation.

It should also be noted that, in accordance with our Water Quality Rules and Regulations, Chapter III, the wells may be developed and constructed without DEQ authorization in order to obtain pertinent system design information. However, a permit must be obtained from DEQ before the well can be hooked into the water system. Complete detailed plans and specifications must be submitted.

If I can be of any assistance, please feel free to let me know.

Sincerely yours,



Dan H. Kim  
Environmental Engineer  
Water Quality Division

cc: C. K. Wolz

DHK/sp

REVIEW OF PLANS AND SPECIFICATIONS

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

PROJECT: Sunup Ridge - 12" Water Transmission Line - Steel Storage Tank  
Glenrock, Wyoming - Converse County

ARCHITECT OR ENGINEER: C. K. Wolz, Wolz & Associates, Inc., P. O. Box 322,  
Casper, Wyoming 82601

WATER QUALITY DIVISION REFERENCE NUMBER: 78-198

REVIEWING ENGINEER: Dan H. Kim - Don Armstrong, P.E.

DATE OF REVIEW: May 16, 1978

ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

GENERAL

- 1). Enclosed is an application form for a permit to construct, which must be completed and returned to our office.
- 2). Location map should be provided.
- 3). Is this project (waterline extension and storage tank) intended to supply water service to a new future subdivision?

If so, the following information should be provided:

- a. Numbers of estimated lots, units and population at maximum future expansion.
  - b. Design calculation including water demand (i.e. daily average, maximum, peak hourly flow), fire flow, required storage volume, vs. proposed storage volume, etc.
  - c. Is the proposed 12" water line going to be tapped off to serve the new subdivision in the future? If so, the 12" waterline should meet the requirements of "distribution line" of Ten State Standards.
- 4). Our data indicates that the capacity of existing booster pump is 600 gpm with TDH of 240 feet. (population equivalent of 2335)

Please justify that the existing pump is capable of handling the additional demand without any expansion.

PAGE 2

PROJECT: Sunup Ridge

WATER QUALITY REFERENCE NUMBER: 78-198

- 5). Will the proposed storage tank also supply water to Oregon Trailer Park in the future?
- 6). Your specifications indicate that the control will be set so that the signal from the existing tank will control both tanks. How can this control system work under the circumstances that the maximum water level of the existing tank is 4 feet higher than that of the proposed tank?
- 7). It is my understanding that you indicated to Mr. Pinther of our office that some houses adjacent to the proposed water storage tank will install booster pumps. However, it should be noted that individual home booster pumps are not allowed for any individual service from the Public Water Supply according to Ten State Standards.
- 8). Specifications concerning relieving the bells of the pipe should be provided (i.e. bell holes).

#### WATER STORAGE TANKS

- 9). Detail drawings of access manhole to the storage tank should be provided. The roof hatch must be framed at least 4 inches and preferably 6 inches above the floor. The manhole must be fitted with a solid water tight cover which overlaps the framed opening and extends down around the frame at least 2 inches. It should also be hinged and locked.
- 10). The water drain line from the tank should terminate at least one foot above the ground level. The end of the drain line should also be provided with non-corrodible screen.
- 11). Are low-level warnings or alarms provided?
- 12). What is low water level of the proposed water storage tank?

\*This cannot be considered a final review.

PERMIT TO CONSTRUCT

New

Renewal

Modified

Permit No. 78-199R

Highland Estates Water System Modifications  
(Name of Facility)

This permit hereby authorizes the applicant:

Highland, Inc.

(Last) (First) (Middle)

c/o C.S.S.A.  
P. O. Box 943

(Street or P.O. Box)

Cheyenne Laramie Wyoming 82001

(City) (County) (State)

to construct, install, or modify a Water Distribution System

facility located in Section 20, 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. Galand

Administrator  
Water Quality Division

Robert E. Lundin

Director  
Wyoming Dept. of Environmental Quality

May 24, 1978

Date of Issuance

cc: Malcolm Crawford

JS

REVIEW OF PLANS AND SPECIFICATIONS

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

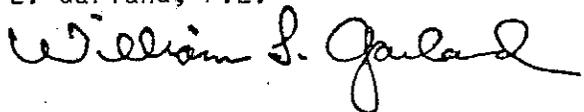
PROJECT: Highland Estates, First and Second Filings, Water System  
Modifications, Gillette Wyoming - Campbell County

ARCHITECT OR ENGINEER: Alvin Bastron, P.E., C.S.S.A., P. O. Box 943,  
Cheyenne, Wyoming 82001

WATER QUALITY DIVISION REFERENCE NUMBER: 78-199

REVIEWING ENGINEER: David W. Hill - William L. Garland, P.E.

DATE OF REVIEW: May 9, 1978



ACTION: NOT AUTHORIZED FOR CONSTRUCTION

COMMENTS:

- 1). A pressure reducing valve station should be located between the two pressure zones and not just a shutoff valve.
- 2). What water line material is to be used? Cast iron or PVC? The PVC specifications in the submitted specifications dated July 16, 1976 do not meet our standards and must be upgraded. Also, AWWA C-900 does not specify leakage.

PERMIT TO CONSTRUCT

New  
 Renewal  
 Modified

Permit No. 78-200M

Town of Pinedale Shanley Avenue Project  
(Name of Facility)

This permit hereby authorizes the applicant:

<u>Town of Pinedale</u> (Last)	<u></u> (First)	<u></u> (Middle)
<u>c/o Rio Verde Engineering</u> <u>P. O. Box 67</u>		
(Street or P.O. Box)		
<u>Pinedale</u> (City)	<u>Sublette</u> (County)	<u>Wyoming 82941</u> (State)

to construct, install, or modify a Water Distribution System  
facility located in Pinedale Wyoming  
(Legal Description)

in the County of Sublette, 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. Galar  
Administrator  
Water Quality Division

Robert E. Sundin  
Director  
Wyoming Dept. of Environmental Quality

April 18, 1978  
Date of Issuance

REVIEW OF PLANS AND SPECIFICATIONS

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

PROJECT: Town of Pinedale - Water Distribution System  
Shanley Avenue Project - Sublette County

ARCHITECT OR ENGINEER: Rio Verde Engineering, P. O. Box 67,  
Pinedale, Wyoming 82941

WATER QUALITY DIVISION REFERENCE NUMBER: 78-200M

REVIEWING ENGINEER: Frank R. Harman, P.E. *Frank R. Harman*

DATE OF REVIEW: April 18, 1978

ACTION: AUTHORIZED FOR CONSTRUCTION WITH COMMENTS.

COMMENTS:

Where the new eight (8) inch water line crosses existing sanitary sewer lines, where feasible the water line shall be laid above the sewer with a vertical separation of at least eighteen (18) inches between the bottom of the water line and the crown of the sewer.

If this vertical separation is not possible, then the requirements of the Ten State Standards shall be carried out (copy attached).

## 29.2 Relation to Water Works Structures

While no general statement can be made to cover all conditions, it is generally recognized that sewers shall meet the requirements of the approving agency with respect to minimum distances from public water supply wells or other water supply sources and structures.

## 29.3 Relation to Water Mains

### 29.31 Horizontal Separation

Whenever possible, sewers should be laid at least 10 feet, horizontally, from any existing or proposed water main. Should local conditions prevent a lateral separation of 10 feet, a sewer may be laid closer than 10 feet to a water main if:

- a. It is laid in a separate trench.
- b. It is laid in the same trench with the water mains located at one side on a bench of undisturbed earth.
- c. In either case the elevation of the crown of the sewer is at least 18 inches below the invert of the water main.

### 29.32 Vertical Separation

Whenever sewers must cross under water mains, the sewer shall be laid at such an elevation that the top of the sewer is at least 18 inches below the bottom of the water main. When the elevation of the sewer cannot be buried to meet the above requirement, the water main shall be relocated to provide this separation or reconstructed with slip-on or mechanical-joint cast-iron pipe, asbestos-cement pressure pipe or prestressed concrete cylinder pipe for a distance of 10 feet on each side of the sewer. One full length of water main should be centered over the sewer so that both joints will be as far from the sewer as possible.

### 29.33 Special Conditions

When it is impossible to obtain proper horizontal and vertical separation as stipulated above, the water main should be constructed of slip-on or mechanical-joint cast-iron pipe, asbestos-cement pressure pipe or prestressed concrete cylinder pipe and the sewer constructed of mechanical-joint cast-iron pipe and both services should be pressure tested to assure water-tightness.