



## **Board of Health Agenda**

**Tuesday - July 09, 2019 5:30 PM**

**Community Room, City County Complex, 414 E Callender Street, Livingston, MT**

### **BOH ADMIN**

Call to Order/Roll Call

Conflict of Interest

Public Comments for Items not on the Agenda (5 Minutes)

Minutes from BOH meeting April 9, 2019

[BOHAttendance.docx](#)

### **OLD BUSINESS**

### **NEW BUSINESS**

Introduce the two new board members: Mike Inman/City and Chris Pearson/County

Variance Request for Busby

[Busby\\_Complete.pdf](#)

Variance Request for Bryington

[Bryington\\_Complete.pdf](#)

### **REPORTS**

Sanitarian Report

Health Department Director Report

Code Enforcer's Report

### **BOH CLOSING**

Public Comment (5 Minutes)



Adjourn



## PARK COUNTY BOARD OF HEALTH MEETING

Tuesday April 9, 2019

City County Complex/West Room

414. E. Callender St.

**Attendance:** BOH Members-Peggy O'Neill, Mary Beebe, Caleb Minnick, Bill Berg; County Commissioner, Trish Fievet; Health Dept., Dr. Desnick; Temporary Health Officer, Cid Morrison; Public Health Nurse, Julie Anderson; Health Dept. Director. Jill

Call to Order: 4:45 PM

**Approval of Minutes:** Caleb M. moved to approve the January 8<sup>th</sup> minutes. Mary seconded the motion. Minutes approved.

**Old Business:** None

**New Business:**

Jill talked about the Board decided on a three-person interview panel that will work with Jill from HR to review applicants for prescreening. The Board also chose three people for this panel. These three people are Mike Inman, Peggy O'Neill, One reprehensive from CHP. Shannon Piccolo Park County Attorney will be an alternative.

Mary Beebe motioned to create this interview panel Bill Berg seconded the motion. Motioned passed.

Bill make a motion to approve the job description. Mary seconded the motion. Job description approved.

The board also discussed a salary for the Health Officer. The board agreed on 65.00 an hour. Mary motioned to set salary for Health officer at \$65.00 hr. Bill second the motion. Motioned passed.

Rasmuson property variance request. There is a septic on the property with no records found of a permitted septic. The current owner would like to abandon this system and install a permitted one. This site is constrained due to Flathead Creek running through the home site area and the

flood plain associated with it. The plan with Allied Engineering is to propose installing the new drain field on a bench well above the creek bed.

Bill motioned to adopt the PC sanitarian Kaleb Pearson findings. Mary seconded the motion. Variance granted.

Gardiner Business Park variance request. Bill motioned to accept the variance with the PC sanitarian Kaleb Pearson finding and conditions noted. Caleb M seconded the motion. Variance granted.

The Board talked about different ways they could get the community involved in being on the BOH.

Sanitarian Report: None Kaleb P. at training.

Nursing Report: Cid talked about the training the nurses have been to. She talked about different things happening in the nursing dept. The flu in the county, baby home visits and dog bites.

Health Dept. Director: Julie let the board know of her future trainings. Also about the Health Dept. getting the AMB west grant. The health department got the grant that was applied for. She also talked about other grants she is working on. She also let the board know that Sweet Grass County is very happy with our sanitarians

Code Enforcers Report: Mary Beebe gave a little report for Judy Roy. Nothing big going on in the county right now.

Public Comments: None

Adjourn: 6:00 PM



# PARK COUNTY ENVIRONMENTAL HEALTH

414 East Callender Street, Livingston, MT 59047  
406-222-4145 parkcounty.org

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June 28<sup>th</sup>, 2019

To: Park County Board of Health

**RE: Variance Application for a drainfield replacement for David Busby**

Introduction:

The applicant, David Busby, is requesting a variance from the Board of Health that, if granted, would allow the construction of a new elevated sand mound (ESM) at his residence at 4968 US Hwy 89S in Livingston, Montana. The lot in question is entirely located within Zone AE of the Yellowstone River according to the FEMA flood insurance rate map. Additionally, the proposed new ESM partially encroaches the 100ft isolation zone for the well on his property due to limited space.

Background

The septic system serving this residence was installed in 1973 and is currently on its last legs. His septic tank has already collapsed, and status of the current drainfield is uncertain. In 1976, the State of Montana issued a certificate of survey review and exemption for this parcel due to the fact that the construction of the water supply and sewage disposal system pre-dated the delineation of the 100-year floodplain or flood prone areas (COS 153, 1.024 Acres, see attached). Mr. Busby wishes to obtain a variance to construct a new elevated sand mound to replace the existing 1973 drainfield to serve his residence. Due to the location of the lot, he is requesting a variance from (1) the 100 ft required setback from the mapped flood plain, and the (2) 100 ft well isolation zone from the well located on his lot.

Elevated Sand Mound

Due to high groundwater in the area, the required sewage treatment and disposal method would be to an Elevated Sand Mound (ESM) with the absorption bed approximately 12" above natural grade. A test pit was dug on 5/30/19 and ground water was observed at 84" below grade and there was evidence that water may rise up to 60" below grade during times of seasonally high ground water. The new ESM absorption bed will be constructed 12" above natural grade to achieve the required vertical setback of 48" from the bottom of the bed to high ground water. The proposed location is within the floodplain (Zone AE) of the Yellowstone River, and approximately 75 ft from the well on his property. All other required setbacks are able to be met.

The proposed system will be an upgrade and a benefit for the environment compared to the system currently in use. A Park County permit was found for the current system which shows the drainfield is undersized according to today's standards. The permit states there is 100 lineal feet of laterals serving a 3-bedroom home, whereas, today's standards would require approximately 300 lineal feet of a traditional pipe & gravel drainfield system for the soil type in that area. Additionally, the current drainfield is located approximately 2 ft below the surface, which would not meet the required 4 ft vertical separation between the bottom of the drainfield and the high water table.



# PARK COUNTY ENVIRONMENTAL HEALTH

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Approval of a variance by the Board of Health may only be granted if the criteria of ARM 17.36.922 are met.

## Discussion of ARM 17.36.922 Criteria

The Board of Health may grant a variance from a requirement only if it finds that all the criteria of ARM 17.36.922 are met.

The Department offers comments (bold) on the following criteria:

(a) Granting the variance will not:

- a. contaminate any actual or potential drinking water supply;
  - i. **Department Comment: The proposed elevated sand mound is designed in accordance with DEQ-4 standards with the bottom of the absorption bed 6 ft above the highest expected water level, which is 2 ft higher than the minimum required 4 ft. The ESM is located more than 100 ft away from any neighbor's well. The proposed ESM is located approximately 75 ft from the well on the homeowner's lot. The expected direction of groundwater flow is away from the well head and toward the Yellowstone River. The potential for contamination of the water supply is minimal. The department recommends bi-annual bacterial testing of the water supply to monitor the quality and safety of the drinking water.**
- b. cause a public health hazard as a result of access to insects, rodents, or other possible carriers of disease to humans;
  - i. **Department Comment: The septic tank will be constructed of concrete which does not allow access to insects, rodents, or other possible carriers of disease to humans. The ESM will be covered with topsoil and seeded with local grasses so there will be no attractants to pests.**
- c. cause a public health hazard by being accessible to persons or animals;
  - i. **Department Comment: The septic tank will be sealed with lids that are used to pumping access and will not cause a public health hazard by being accessible to persons or animals. All components of the ESM will be buried or properly sealed and will only be accessed when maintenance or repair is needed.**
- d. violate any law or regulation governing water pollution or wastewater treatment and disposal, including the rules contained in this subchapter except for the rule that the variance is requested from;
  - i. **Department Comment: The proposed system will be designed and constructed in accordance to all applicable regulations except for the rules that the variance is being requested.**
- e. pollute or contaminate state waters, in violation of 75-5-605, MCA;





# PARK COUNTY ENVIRONMENTAL HEALTH

414 East Callender Street, Livingston, MT 59047  
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## Department Position

It is the Department's recommendation to approve the variance request. The risk to public health, safety, and the environment at this location are such that an elevated sand mound is the most protective and practical to replace the 46-year old failing system. I would approve the system with these following conditions: (1) the owner performs or hires someone to perform routine maintenance on the system (clean filter, blow out lines, reset pressure, etc.), (2) the owner keeps records of pumping and will provide upon request to the Department, (3) the owner has the well tested for coliform and E. coli bi-annually and nitrates every three years, (4) the owner will not use the system for commercial purposes, (5) and the permit application meet the requirements of ARM 17.36.918(4) and DEQ-4.

Sincerely,

A handwritten signature in blue ink that reads "Kaleb Pearson". The signature is fluid and cursive, with a large loop at the end.

Kaleb Pearson, MS, REHS/RS  
Lead Sanitarian, Park County Environmental Health

# Property Record Card

## Summary

### Primary Information

**Property Category:** RP **Subcategory:** Residential Property  
**Geocode:** 49-0703-11-1-01-24-0000 **Assessment Code:** 0002984000  
**Primary Owner:** BUSBY DAVID E **PropertyAddress:** 4968 US HIGHWAY 89 S  
 4968 US HIGHWAY 89 S LIVINGSTON, MT 59047  
 LIVINGSTON, MT 59047-9172 **COS Parcel:**  
*NOTE: See the Owner tab for all owner information*

**Certificate of Survey:** 153

**Subdivision:**

**Legal Description:**

S11, T03 S, R09 E, C.O.S. 153, IN NE4NE4

**Last Modified:** 6/10/2019 9:51:08 AM

### General Property Information

**Neighborhood:** 249.150 **Property Type:** IMP\_R - Improved Property - Rural  
**Living Units:** 1 **Levy District:** 49-7612-4/2 M RF  
**Zoning:** 2 **Ownership %:** 100

**Linked Property:**

No linked properties exist for this property

**Exemptions:**

No exemptions exist for this property

**Condo Ownership:**

**General:** 0 **Limited:** 0

### Property Factors

**Topography:** **Fronting:**  
**Utilities:** **Parking Type:**  
**Access:** 3 **Parking Quantity:**  
**Location:** **Parking Proximity:**

### Land Summary

| <u>Land Type</u>  | <u>Acres</u> | <u>Value</u> |
|-------------------|--------------|--------------|
| Grazing           | 0.000        | 00.00        |
| Fallow            | 0.000        | 00.00        |
| Irrigated         | 0.000        | 00.00        |
| Continuous Crop   | 0.000        | 00.00        |
| Wild Hay          | 0.000        | 00.00        |
| Farmsite          | 0.000        | 00.00        |
| ROW               | 0.000        | 00.00        |
| NonQual Land      | 0.000        | 00.00        |
| Total Ag Land     | 0.000        | 00.00        |
| Total Forest Land | 0.000        | 00.00        |
| Total Market Land | 1.020        | 56,961.00    |

### Deed Information:

| Deed Date | Book | Page | Recorded Date | Document Number | Document Type |
|-----------|------|------|---------------|-----------------|---------------|
| 1/18/2002 | 168  | 999  |               |                 |               |
| 7/20/1999 | R140 | 1651 |               |                 |               |
| 1/3/1992  | R-85 | 87   |               |                 |               |

**Bedrooms: 3**  
**Family Rooms: 0**

**Full Baths: 2**  
**Half Baths: 0**

**Addl Fixtures: 3**

Additional Information

**Fireplaces:**

**Stacks: 0**  
**Openings: 0**  
**Cost & Design: 0**  
**Description:**

**Stories:**  
**Prefab/Stove: 1**  
**Flat Add: 0**  
**Description:**

**Garage Capacity: 0**  
**% Complete: 0**

Dwelling Amenities

**View:**

**Access:**

Area Used In Cost

**Basement: 0**  
**First Floor: 1380**  
**Second Floor: 0**

**Additional Floors: 0**  
**Half Story: 0**

**Attic: 0**  
**Unfinished Area: 0**  
**SFLA: 1380**

Depreciation Information

**CDU:** **Physical Condition: Average (7)**  
**Desirability:** **Property: Average (7)**  
**Location: Average (7)**

**Utility: Average (7)**

Depreciation Calculation

**Age: 38** **Pct Good: 0.67** **RCNLD: 118590**

Additions / Other Features

Additions

| Lower | First                       | Second | Third | Area | Year | Cost |
|-------|-----------------------------|--------|-------|------|------|------|
|       | 14 - Porch, Frame, Enclosed |        |       | 69   | 0    | 3231 |
|       | 33 - Deck, Wood             |        |       | 613  | 0    | 7791 |

There are no other features for this dwelling

### Other Buildings/Improvements

Outbuilding/Yard Improvement #1

**Type: Residential** **Description: RRG1 - Garage, frame, detached, finished**  
**Quantity: 1** **Year Built: 1974** **Grade: 5**  
**Condition:** **Functional:** **Class Code: 3301**

Dimensions

**Width/Diameter:** **Length:** **Size/Area: 1050**  
**Height:** **Bushels:** **Circumference:**

Outbuilding/Yard Improvement #2

**Type: Residential** **Description: RRS1 - Shed, Frame**  
**Quantity: 1** **Year Built: 1960** **Grade: L**  
**Condition:** **Functional:** **Class Code: 3301**

Dimensions

**Width/Diameter: 8** **Length: 12** **Size/Area: 96**  
**Height:** **Bushels:** **Circumference:**

Outbuilding/Yard Improvement #3

**Type: Residential** **Description: RRS1 - Shed, Frame**  
**Quantity: 1** **Year Built: 1960** **Grade: L**  
**Condition:** **Functional:** **Class Code: 3301**

Dimensions

**Width/Diameter: 10** **Length: 12** **Size/Area: 120**  
**Height:** **Bushels:** **Circumference:**

Proposed replacement system for David Busby at 4968 US Hwy 89 S, Livingston (scale approximate)



Flood plain boundary (red area)

100% replacement area

100ft well isolation zone

W

28' x 52' elevated sand mound & ground water flow direction

1500 gal septic/pump tank

Neighbor's well isolation zone

© 2018 Google

Google Earth

lat 45.596114° lon -110.570364° elev 4565 ft eye alt 5094 ft

1997

# Test Pit Data

| Layer     | Soil Type                            |
|-----------|--------------------------------------|
| 0" – 4"   | Loam, black, topsoil, no cobbles     |
| 4" – 42"  | Loamy sand, with cobbles             |
| 42" – 84" | Medium sand, with cobbles            |
| 84" +     | Medium sand, groundwater encountered |

← Application rate: 0.5gpd/ft<sup>2</sup>

← Signs of mottling ≈ 60"

## Park County Area, Montana

### 1218B—Vendome-Meadowcreek complex, 0 to 4 percent slopes

#### Map Unit Setting

National map unit symbol: rc7c  
 Elevation: 4,300 to 5,100 feet  
 Mean annual precipitation: 12 to 14 inches  
 Mean annual air temperature: 43 to 45 degrees F  
 Frost-free period: 90 to 120 days  
 Farmland classification: Not prime farmland

#### Map Unit Composition

Vendome and similar soils: 55 percent  
 Meadowcreek and similar soils: 30 percent  
 Minor components: 15 percent  
 Estimates are based on observations, descriptions, and transects of the mapunit.

#### Description of Vendome

##### Setting

Landform: Stream terraces  
 Landform position (three-dimensional): Tread  
 Down-slope shape: Convex  
 Across-slope shape: Linear  
 Parent material: Sandy and gravelly alluvium derived from igneous, metamorphic and sedimentary rock

##### Typical profile

A - 0 to 4 inches: cobbly loam  
 Bw - 4 to 9 inches: sandy loam  
 2Bk - 9 to 60 inches: very cobbly loamy sand



## Proposed system design:

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3-bedroom house

Design Flow: 300 gallons per day (gpd) (MT DEQ4 3.1.2)

Land Slope: Flat, <1% slope

Underlying Soil Type: Loam

Soil Application Rate: 0.5 gallons per day per square foot (gpd/sf)

Sand Loading Rate per DEQ-4: 0.8 gpd/sf (Table 3.1-1)

Basal Loading Rate per DEQ-4: 0.5 gpd/sf (Table 3.1-1)

Bed size based upon sand loading rate:

$$300 \text{ gpd} \div 0.8 \frac{\text{gpd}}{\text{sf}} = 375 \text{ sf of required absorption area}$$

Required Minimum Basal Area based upon soil loading rate:

$$300 \text{ gpd} \div 0.5 \frac{\text{gpd}}{\text{sf}} = 600 \text{ sf of Basal Area required}$$

## Proposed system design:

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375 sf of bed required

§6.7.3.6 recommends a minimum 3:1 ratio of length to width

*Let  $x = \text{width}$ , then  $3x = \text{length}$*

Thus:

$$3x^2 = 375$$

$$x = \sqrt{(375/3)}$$

$$x = 11.2 ; 3x = 33.6$$

Round to 12' wide x 36' long for standard 3' wide x 4' long chambers: §6.7.3.6 is met

Check Basal Area Requirements:

Overall Width of Mound:

$$6' + 2' + 12' + 2' + 6' = 28'$$

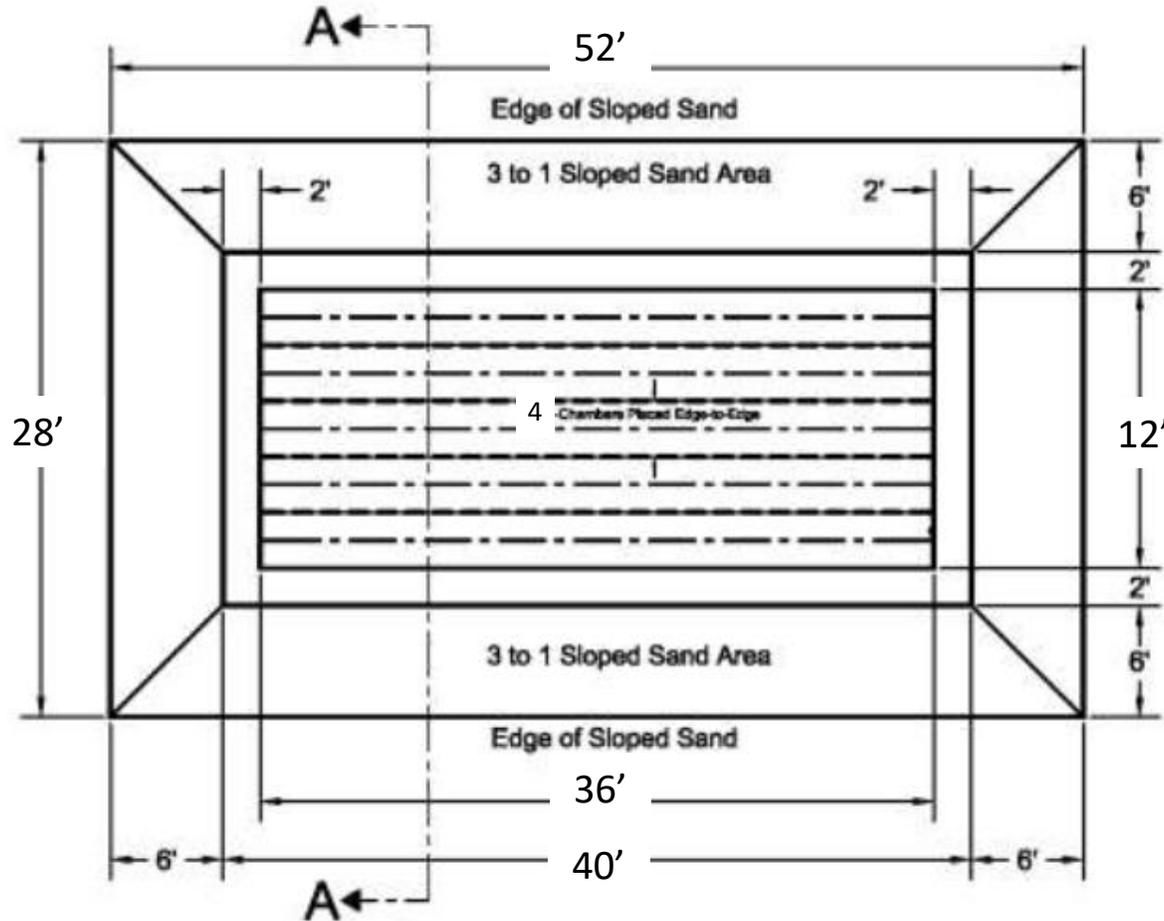
Overall Length of Mound:

$$6' + 2' + 36' + 2' + 6' = 52'$$

$28' \times 52' = 1,456 \text{ sf} > 600 \text{ sf}$  so §6.7.3.2 is met

## Basal Area

52' x 31' = 1,612 square feet



## Sand Mound Material Specifications:

Sand must be washed free of silt and clay.

The In-place SD material must meet one of the following specifications:

A. ASTM C-33 for the aggregate, with a maximum of 2 percent passing the No. 100 sieve, or

B. Fit within the following particle size distribution:

| Sieve   | Particle Size (mm) | Percent Passing |
|---------|--------------------|-----------------|
| 20 No.  | 0.85               | 100             |
| No. 4   | 4.75               | 95 to 100       |
| No. 8   | 2.36               | 80 to 100       |
| No. 16  | 1.18               | 40 to 80        |
| No. 30  | 0.60               | 20 to 60        |
| No. 60  | 0.30               | 10 to 30        |
| No. 100 | 0.15               | 0 to 5          |

C. Have an effective size (D<sub>10</sub>) of 0.15 mm to 0.30 mm with a Uniformity

Coefficient (U) of 4 to 6, with a maximum of 2 percent passing the No. 100 sieve.

Drain rock must be washed and range in size from ¾ to 3-1/2 inches.

### Sand Mound Material Specifications:

Sand must be washed free of silt and clay.

The in-place fill material must meet one of the following specifications:

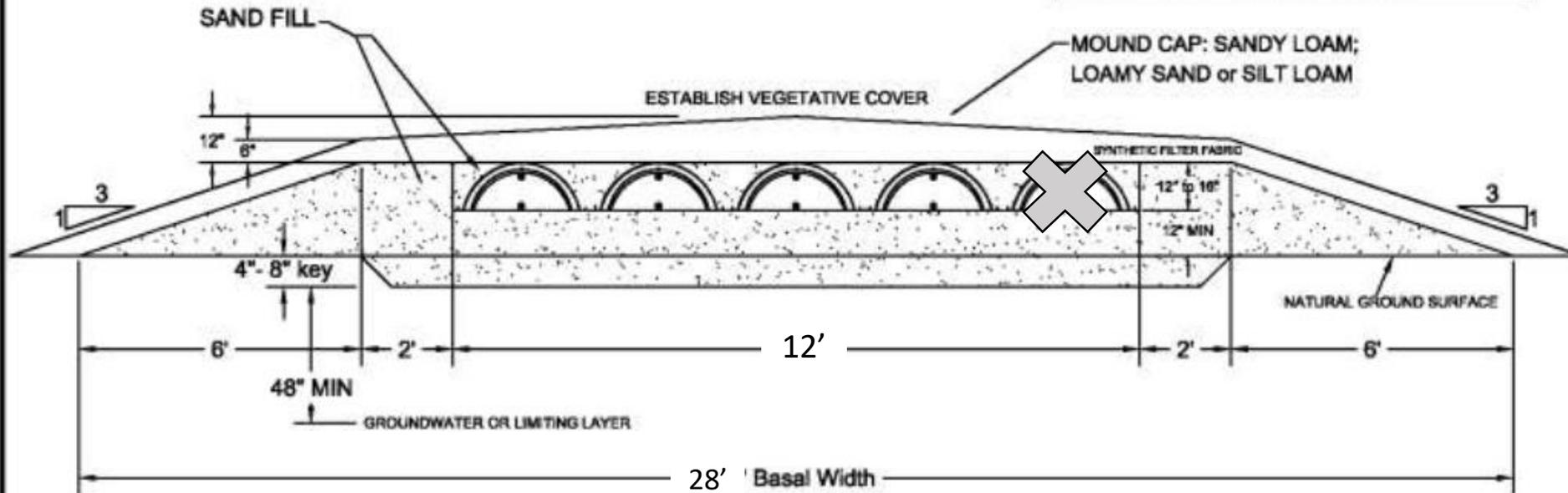
A. ASTM C-33 for the aggregate, with a maximum of 2 percent passing the No. 100 sieve, or

B. FE within the following particle size distribution:

| Sieve   | Particle Size (mm) | Percent Passing |
|---------|--------------------|-----------------|
| 3/8 in  | 9.50               | 100             |
| No. 4   | 4.75               | 90 to 100       |
| No. 8   | 2.36               | 80 to 100       |
| No. 16  | 1.18               | 45 to 85        |
| No. 30  | 0.60               | 20 to 60        |
| No. 60  | 0.30               | 10 to 30        |
| No. 100 | 0.15               | 0 to 2          |

C. Have an effective size (D10) of 0.15 mm to 0.30 mm with a Uniformity Coefficient (D60/D10) of 4 to 6, with a maximum of 5 percent passing the No. 100 sieve.

Drain rock must be washed and range in size from 1/2 to 2-1/2 inches.





# PARK COUNTY ENVIRONMENTAL HEALTH

414 East Callender Street, Livingston, MT 59047  
406-222-4145 parkcounty.org

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June 28<sup>th</sup>, 2019

To: Park County Board of Health

**RE: Variance Application for a drainfield replacement for Clayton Bryington**

Introduction:

The applicant, Clayton Bryington, is requesting a variance from the Board of Health that, if granted, would allow the construction of a new onsite wastewater treatment system on a piece of property that he owns at 412 1<sup>st</sup> St E in Clyde Park, Montana.

Background

Mr. Bryington owns a 1 ¼ -acre parcel of COS 1793 in Clyde Park. There is some space on the back part of the lot where he wishes to build a smaller house to move into and sell his existing bigger house. However, a seasonally-used irrigation ditch runs through the back part of the property where he would like to build. Due to limited space, any new drainfield would not be able to meet the required 100-foot setback to surface water.

The irrigation ditch is turned on for about 3-4 months out of the year and is used to provide water to hayfields downstream during the growing season. The ditch does not flow back into State Waters and endpoints in a field about a mile and a half downstream. He has contacted the users of the ditch to see if lining or placing a culvert in where it runs through his property would be a possibility. This would have eliminated the need for a variance, but it was refused by the users of the ditch.

State rules for onsite wastewater treatment system require a 100-foot setback from the drainfield to surface water but do not require a non-degradation determination. The closest State Water in the path of the direction of groundwater flow is the Shields River and is over 5,000-feet away from the proposed drainfield. This proposed drainfield passes all non-degradation calculations to applicable State Waters.

The irrigation ditch is question was measured to be about 2-feet 7-inches below natural ground surface, on average. We have proposed a drainfield with trenches dug 3-feet deep which should remove the possibility of untreated wastewater flowing into the surface water contained in the irrigation ditch. The proposed drainfield will be located 67-feet from the irrigation ditch at its closest point and will consist of 3 laterals 48-feet long to accommodate a 3-bedroom home. A test pit was observed and the soils in that area were determined to be well drained loamy sand with lots of cobbles with no evidence of seasonally high groundwater.

Mr. Bryington has been granted approval to connect to the Town of Clyde Park's municipal water supply upon completion of a water service permit.



# PARK COUNTY

## ENVIRONMENTAL HEALTH

414 East Callender Street, Livingston, MT 59047  
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### Discussion of ARM 17.36.922 Criteria

The Board of Health may grant a variance from a requirement only if it finds that all the criteria of ARM 17.36.922 are met.

The Department offers comments (bold) on the following criteria:

- (a) Granting the variance will not:
  - a. contaminate any actual or potential drinking water supply;
    - i. **Department Comment: The proposed drainfield is designed in accordance with DEQ-4 standards with the bottom of the absorption bed > 4-ft above the highest expected water level. The new drainfield is located more than 100 ft away from any water well. Most of the residences surrounding the proposed drainfield location are served by Clyde Park municipal water supply. The potential for contamination of a water supply is minimal.**
  - b. cause a public health hazard as a result of access to insects, rodents, or other possible carriers of disease to humans;
    - i. **Department Comment: The septic tank will be constructed of concrete or another approved material which does not allow access to insects, rodents, or other possible carriers of disease to humans. The proposed drainfield will be buried underground so there will be no attractants to pests.**
  - c. cause a public health hazard by being accessible to persons or animals;
    - i. **Department Comment: The septic tank will be sealed with lids that are used for pumping access and will not cause a public health hazard by being accessible to persons or animals. All components of the proposed drainfield will be buried or properly sealed and will only be accessed when maintenance or repair is needed.**
  - d. violate any law or regulation governing water pollution or wastewater treatment and disposal, including the rules contained in this subchapter except for the rule that the variance is requested from;
    - i. **Department Comment: The proposed system will be designed and constructed in accordance to all applicable regulations except for the rule that the variance is being requested.**
  - e. pollute or contaminate state waters, in violation of 75-5-605, MCA;
    - i. **Department Comment: The proposed drainfield is located approximately 5,000-ft away from the nearest state water downstream of direction of groundwater flow, the Shields River. This is farther than the required minimum setback of 100 ft. At this distance, this proposed system will not contaminate state waters.**
  - f. degrade state waters unless authorized pursuant to 75-5-303, MCA; or
    - i. **Department Comment: Non-degradation calculations were performed and the proposed drainfield passes the required Nitrate-Nitrogen and Phosphorous**



# PARK COUNTY ENVIRONMENTAL HEALTH

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**concentration at the end of the 100-ft mixing zone. The calculations are included in this submittal.**

- g. cause a nuisance due to odor, unsightly appearance, or other aesthetic consideration;
  - i. **Department Comment: Septic tanks are sealed and buried below the surface and do not cause a nuisance due to odor, unsightly appearance, or other aesthetic consideration. The proposed drainfield will be backfilled with loamy materials, seeded with local grass, and will not cause a nuisance due to odor, unsightly appearance, or other aesthetic consideration if not abused and proper maintenance is performed.**
- (b) compliance with the requirement from which the variance request would result in undue hardship to the applicant;
  - i. **Department Comment: Due to the limited space, and the location of the irrigation ditch on the property it is physically impossible for any new drainfield on this part of Mr. Bryington's lot to meet the 100-ft setback. The proposed design is the most protective of the environment and most suited for replacing this failed system. The possibility of lining or placing a culvert in the ditch was explored but was refused by ditch users.**
- (c) the variance is necessary to address extraordinary conditions that the applicant could not reasonably have prevented and;
  - i. **Department Comment: Due to the limited space, and the location of the irrigation ditch on the property it is physically impossible for any new drainfield on this part of Mr. Bryington's lot to meet the 100-ft setback. There are no extraordinary conditions that Mr. Bryington could have reasonable prevented.**
- (d) no alternatives that comply with the requirement are reasonably feasible.
  - i. **Department Comment: The only alternative would be to add a liner or place a culvert in the part of the ditch that crosses his property. This was explored but ultimately refused by the users of the ditch.**



# PARK COUNTY ENVIRONMENTAL HEALTH

414 East Callender Street, Livingston, MT 59047  
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## Department Position

It is the Department's recommendation to approve the variance request. The risk to public health, safety, and the environment at this location are such that a drainfield with lateral lines dug 3-ft deep is the most protective and practical to accommodate a new 3-bedroom living unit. The addition of this house would allow Mr. Bryington to fulfill his desire to downsize, and would add value to his property and to the town of Clyde Park. I would approve the system with these following conditions: (1) the owner performs or hires someone to perform routine maintenance on the system when needed (clean filter, check septic tank condition, relevel the d'box if needed, etc.), (2) the owner keeps records of pumping and will provide upon request to the Department, (3) the owner will not use the system for commercial purposes, and will receive only residential-strength wastewater (4) and the permit application meet all the requirements of ARM 17.36.918(4) and DEQ-4 except for the rule that this variance is requested.

Sincerely,

A handwritten signature in blue ink that reads "Kaleb Pearson". The signature is written in a cursive, flowing style.

Kaleb Pearson, MS, REHS/RS  
Lead Sanitarian, Park County Environmental Health

# Property Record Card

## Summary

### Primary Information

**Property Category:** RP **Subcategory:** Residential Property  
**Geocode:** 49-1114-34-2-40-15-0000 **Assessment Code:** 0000029310  
**Primary Owner:** BRYINGTON CLAYTON **PropertyAddress:** 412 1ST ST E  
 PO BOX 148 CLYDE PARK, MT 59018  
 CLYDE PARK, MT 59018-0148 **COS Parcel:**  
*NOTE: See the Owner tab for all owner information*

### Certificate of Survey:

**Subdivision:** UHL ADD (CLYDE PARK)

### Legal Description:

UHL ADD (CLYDE PARK), S34, T02 N, R09 E, BLOCK G, E2, BDRY ADJ AREAS OF COS 1793 E OF BLK G

**Last Modified:** 6/10/2019 9:51:08 AM

### General Property Information

**Neighborhood:** 249.200 **Property Type:** IMP\_U - Improved Property - Urban  
**Living Units:** 1 **Levy District:** 49-0C27-J12CP IN  
**Zoning:** **Ownership %:** 100

### Linked Property:

| Linked Property         | Link Type                               |                                     |
|-------------------------|---|-------------------------------------|
| 49-1114-34-2-40-15-8002 | 1 - Imps Linked to Land Owned by Others | <input type="button" value="View"/> |

### Exemptions:

No exemptions exist for this property

### Condo Ownership:

**General:** 0 **Limited:** 0

### Property Factors

**Topography:** **Fronting:**  
**Utilities:** **Parking Type:**  
**Access:** 2 **Parking Quantity:**  
**Location:** **Parking Proximity:**

### Land Summary

| Land Type         | Acres | Value     |
|-------------------|-------|-----------|
| Grazing           | 0.000 | 00.00     |
| Fallow            | 0.000 | 00.00     |
| Irrigated         | 0.000 | 00.00     |
| Continuous Crop   | 0.000 | 00.00     |
| Wild Hay          | 0.000 | 00.00     |
| Farmsite          | 0.000 | 00.00     |
| ROW               | 0.000 | 00.00     |
| NonQual Land      | 0.000 | 00.00     |
| Total Ag Land     | 0.000 | 00.00     |
| Total Forest Land | 0.000 | 00.00     |
| Total Market Land | 1.241 | 38,935.00 |

### Deed Information:

| Deed Date | Book | Page | Recorded Date | Document Number | Document Type |
|-----------|------|------|---------------|-----------------|---------------|
|-----------|------|------|---------------|-----------------|---------------|

**Manufacturer:**  
**Model:**

**Serial #:**

**Width: 0**  
**Length: 0**

Basement Information

**Foundation: 2 - Concrete**  
**Basement Type: 0 - None**

**Finished Area: 0**  
**Quality:**

**Daylight:**

Heating/Cooling Information

**Type: Central**  
**Fuel Type: 3 - Gas**

**System Type: 5 - Forced Air**  
**Heated Area: 0**

Living Accommodations

**Bedrooms: 3**  
**Family Rooms: 0**

**Full Baths: 2**  
**Half Baths: 0**

**Addl Fixtures: 3**

Additional Information

**Fireplaces:**  
**Garage Capacity: 0**  
**% Complete: 0**

**Stacks: 0**  
**Openings: 0**  
**Cost & Design: 0**  
**Description:**

**Stories:**  
**Prefab/Stove: 0**  
**Flat Add: 0**  
**Description:**

Dwelling Amenities

**View:**

**Access:**

Area Used In Cost

**Basement: 0**  
**First Floor: 1128**  
**Second Floor: 0**

**Additional Floors: 0**  
**Half Story: 540**

**Attic: 0**  
**Unfinished Area: 0**  
**SFLA: 1668**

Depreciation Information

**CDU:**  
**Desirability:**

**Physical Condition: Fair (6)**  
**Property: Fair (6)**  
**Location: Average (7)**

**Utility: Fair (6)**

Depreciation Calculation

**Age: 43**      **Pct Good: 0.55**

**RCNLD: 127140**

Additions / Other Features

Additions

| Lower | First                   | Second          | Third | Area      | Year   | Cost        |
|-------|-------------------------|-----------------|-------|-----------|--------|-------------|
|       | 11 - Porch, Frame, Open | 33 - Deck, Wood |       | 32<br>312 | 0<br>0 | 407<br>6702 |

There are no other features for this dwelling

### Other Buildings/Improvements

Outbuilding/Yard Improvement #1

**Type: Residential**  
**Quantity: 1**  
**Condition:**

**Description: RRS1 - Shed, Frame**  
**Year Built: 1964**      **Grade: A**  
**Functional:**      **Class Code: 3501**

Dimensions

**Width/Diameter:**  
**Height:**

**Length:**      **Size/Area: 872**  
**Bushels:**      **Circumference:**

Outbuilding/Yard Improvement #2

**Type: Residential**  
**Quantity: 1**  
**Condition:**

**Description: RRS1 - Shed, Frame**  
**Year Built: 1964**      **Grade: A**  
**Functional:**      **Class Code: 3501**

Dimensions

**Width/Diameter: 14**  
**Height:**

**Length: 20**      **Size/Area: 280**  
**Bushels:**      **Circumference:**







**HYDRAULIC TRANSMISSIVITY AND CONDUCTIVITY**

**SITE NAME:** 412 1st St E, Clyde Park  
**E.Q. #** N/A  
**COUNTY:** Park  
**LOT #:** E1/2 of Lots 1 & 2 of COS 1793  
**NOTES:** Clayton Bry/Inglton  
**By:** K. Pearson

(re: applied hydrogeology, 3rd Edition by Fetter (T=133.6((C)(192.5)/S)<sup>0.67</sup> & K=17b & S=PWL-SWL)

|   | WELL 1       | WELL 2      | WELL 3      |
|---|--------------|-------------|-------------|
| (Q) Gallons Per Minute                    | 19575        | 201602      | 121845      |
| Static Water Level                        | 18.00        | 50.00       | 50.00       |
| Pumping Water Level                       | 15.00        | 19.00       | 23.00       |
| (b) Aquifer Thickness                     | 85.00        | 35.00       | 65.00       |
|   | 30           | 18          | 17          |
| (T) TRANSMISSIVITY (ft <sup>2</sup> /day) | 667.6675256  | 2446.005243 | 1281.270265 |
| (K) CONDUCTIVITY (ft/day)                 | 22.292558419 | 135.8891802 | 77.65274333 |
| AVERAGE CONDUCTIVITY (ft/day)             | 78.59916923  |             |             |



# BRIDGER ANALYTICAL LAB

7539 Pioneer Way Suite B, Bozeman, MT 59718 Phone: (406) 582-0822  
US EPA ID# MT00953 MT Certification Number CERT0094

Clayton Bryington  
PO Box 148  
Clyde Park, MT 59018

**Reported:**  
05/14/2019 11:39

**Project Name: 412 First East: Neighbor's Well**

**Client Sample ID: 412 First East: Neighbor's Well**  
**Lab Sample ID: 1905144-01**

**Collection Date: 05/08/2019 8:00**  
**Collected By: Clayton Bryington**

Date Received: 05/08/2019

| Analyte | Result | Units | RL | Qual | MCL | Method | Analysis Date/By |
|---------|--------|-------|----|------|-----|--------|------------------|
|---------|--------|-------|----|------|-----|--------|------------------|

## **Inorganic**

|                        |       |      |      |  |    |           |                    |
|------------------------|-------|------|------|--|----|-----------|--------------------|
| Nitrate + Nitrite as N | 0.452 | mg/L | 0.05 |  | 10 | EPA 300.1 | 05/10/19 12:00/FAF |
|------------------------|-------|------|------|--|----|-----------|--------------------|

## Appendix E

# MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

## NITRATE SENSITIVITY ANALYSIS

**SITE NAME:** 412 1st St E, Clyde Park  
**COUNTY:** Park  
**LOT #:** E1/2 of Lots 1 & 2 of COS 1793  
**NOTES:** Clayton Bryington

| <u>VARIABLES</u> | <u>DESCRIPTION</u>  | <u>VALUE</u> | <u>UNITS</u>         |
|------------------|---|--------------|----------------------|
| I                | Hydraulic Conductivity  | 78.60        | ft/day               |
| D                | Hydraulic Gradient  | 0.0090       | ft/ft                |
| D                | Mixing Zone Thickness (usually constant)                                | 15.0         | ft                   |
| L                | Mixing Zone Length (see ARM 17.30.517(1)(d)(viii))                      | 100          | ft                   |
| Y                | Width of Drainfield Perpendicular to Ground Water Flow                  | 48           | ft                   |
| Ng               | Background Nitrate (as Nitrogen) Concentration                          | 0.45         | mg/L                 |
| Nr               | Nitrate (as Nitrogen) Concentration in Precipitation (usually constant) | 1.0          | mg/L                 |
| Ne               | Nitrate (as Nitrogen) Concentration in Effluent                         | 50.00        | mg/L                 |
| #I               | Number of Single Family Homes on the Drainfield                         | 1.0          |                      |
| QI               | Quantity of Effluent per Single Family Home                             | 26.70        | ft <sup>3</sup> /day |
| P                | Precipitation   | 20.0         | in/year              |
| V                | Percent of Precipitation Recharging Ground Water (usually constant)     | 0.20         |                      |

### EQUATIONS

|    |   |         |                      |
|----|---|---------|----------------------|
| W  | Width of Mixing Zone Perpendicular to Ground Water Flow<br>= (0.175)(L)+(Y) | 65.50   | ft                   |
| Am | Cross Sectional Area of Aquifer Mixing Zone = (D)(W)                        | 982.50  | ft <sup>2</sup>      |
| As | Surface Area of Mixing Zone = (L)(W)  | 6550.00 | ft <sup>2</sup>      |
| Qg | Ground Water Flow Rate = (K)(I)(Am)   | 695.02  | ft <sup>3</sup> /day |
| Qr | Recharge Flow Rate = (As)(P/12/365)(V)                                      | 5.98    | ft <sup>3</sup> /day |
| Qe | Effluent Flow Rate = (#I)(QI)   | 26.70   | ft <sup>3</sup> /day |

### SOLUTION

|    |  |      |      |
|----|--|------|------|
| Nt | Nitrate (as Nitrogen) Concentration at End of Mixing Zone<br>= ((Ng)(Qg)+(Nr)(Qr)+(Ne)(Qe)) / ((Qg)+(Qr)+(Qe)) | 2.27 | mg/L |
|----|--|------|------|

BY: KP  
DATE: June 28, 2019

REV. 03/2005

# MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

## PHOSPHOROUS BREAKTHROUGH ANALYSIS

**SITE NAME:** 412 1st St E, Clyde Park  
**COUNTY:** PARK  
**LOT #:** E1/2 of Lots 1 & 2 of COS 1793  
**NOTES:** Clayton Bryington

| <u>VARIABLES</u> | <u>DESCRIPTION</u>  | <u>VALUE</u> | <u>UNITS</u>       |
|------------------|---|--------------|--------------------|
| Lg               | Length of Primary Drainfield as Measured Perpendicular to Ground Water Flow                 | 48.0         | ft                 |
| L                | Length of Primary Drainfield's Long Axis  | 48.0         | ft                 |
| W                | Width of Primary Drainfield's Short Axis  | 16.0         | ft                 |
| B                | Depth to Limiting Layer from Bottom of Drainfield Laterals*                                 | 6.0          | ft                 |
| D                | Distance from Drainfield to Surface Water   | 1200.0       | ft                 |
| T                | Phosphorous Mixing Depth in Ground Water (0.5 ft for coarse soils, 1.0 ft for fine soils)** | 1.0          | ft                 |
| Ne               |   |              |                    |
| Sw               | Soil Weight (usually constant)  | 100.0        | lb/ft <sup>3</sup> |
| Pa               | Phosphorous Adsorption Capacity of Soil (usually constant)                                  | 200.0        | ppm                |
| #I               | Number of Single Family Homes on the Drainfield   | 1.0          |                    |

**CONSTANTS**

|    |  |         |        |
|----|--|---------|--------|
| PI | Phosphorous Load per Single Family Home (constant) | 6.44    | lbs/yr |
| X  | Conversion Factor for ppm to percentage (constant) | 1.0E+06 |        |

**EQUATIONS**

|    |  |            |        |
|----|--|------------|--------|
| Pt | Total Phosphorous Load = (PI)(#I)  | 6.44       | lbs/yr |
| W1 | Soil Weight under Drainfield = (L)(W)(B)(Sw)   | 460800.0   | lbs    |
| W2 | Soil Weight from Drainfield to Surface Water<br>= [(Lg)(D) + (0.0875)(D)(D)] (T)(Sw) | 18360000.0 | lbs    |
| P  | Total Phosphorous Adsorption by Soils = (W1 + W2)[(Pa)/(X)]                          | 3764.2     | lbs    |

**SOLUTION**

|           |  |              |              |
|-----------|--|--------------|--------------|
| <b>BT</b> | <b>Breakthrough Time to Surface Water = P / Pt</b> | <b>584.5</b> | <b>years</b> |
|-----------|--|--------------|--------------|

BY: Kaleb Pearson  
 DATE: June 28, 2019

**NOTES:** \* Depth to limiting layer is typically based on depth to water in a test pit or bottom of a dry test pit minus two feet to account for burial depth of standard drainfield laterals.  
 \*\* Material type is usually based on test pit. A soil that contains more than 35% silt and clay sized particles is considered fine grained.

**Town of Clyde Park**  
**P.O. BOX 177**  
**CLYDE PARK, MT 59018**  
**TELEPHONE/FAX 406-686-4719**  
Town of Clyde Park is an equal opportunity employer

Clayton Bryington  
412 East 1<sup>st</sup> St.  
P.O. Box 148  
Clyde Park, MT 59018

RE: Water Connection

Mr. Bryington:

Your request to make a connection to the Town of Clyde Park waterworks system has been reviewed. Pursuant to Title 4 of the Clyde Park Municipal Code, you are welcome to make a connection to the waterworks system upon completion of a water service permit by the Community Service Officer. The permit requires the following information from you in order to be issued:

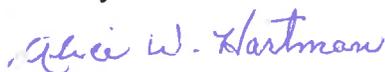
- Location, nature and purpose of the proposed work (detailed map);
- Inspections planned/scheduled as required by the code;
- Identification of all easements and cleared right-of-ways from the point of connection to the subject property (proof of easements and valid right-of-ways must be submitted to the Community Service Officer or Mayor for verification);
- Description of all materials intended for use to connect (§4.02.005A.2.a.);
- Identification of any obstructions or impediments and plans for circumventing or accommodating the same (ie: how the service line will cross the ditch without obstructing the ditch);
- If the route involves crossing or opening a section of street, when and how the excavation will be done and payment of fees for the permit required;
- General Plumbing permit and proof of a licensed contractor to perform the work;
- Payment of the tapping fee pursuant to the fee schedule;
- Execution of a service contract for water service.

In accordance with the Town Code, the Town will arrange for the tap of the main and will inform the customer of the location for the tap and any excavation to the main. Please complete the water service application form required by §4.03.004. All expenses for laying the line from the main to the customer premises is at the expense of the customer, including materials (curb block, stop and waste cock, meter) as specified by the Town. All service pipe must be laid below street grade at a standard depth to prevent freezing. The customer assumes all liability from the location of the tap of the main to the premises. The Town will maintain the curb block, but the customer is liable for any owner-caused damage. Costs incurred to shut off service at the curb block and repair/replace service lines shall be borne by the customer/owner. The customer or the customer's licensed contractor or plumber shall coordinate with the Town as to the curb block and the stop and waste cock to insure compliance with the requirements of the Code. Any meter installed shall be in conformance with the Town's requirements in accordance with the Code.

You may obtain a copy of the relevant portions of the Town Code from the Town Clerk/Treasurer or another member of staff. Please allow sufficient time for staff to meet your request in the normal course of business.

We look forward to your business.

**Town of Clyde Park**



**Alice Hartman**  
Mayor

## Park County Area, Montana

### 248B—Tamaneen cobbly clay loam, 0 to 4 percent slopes

#### Map Unit Setting

*National map unit symbol:* 586x  
*Elevation:* 4,300 to 5,500 feet  
*Mean annual precipitation:* 15 to 19 inches  
*Mean annual air temperature:* 39 to 45 degrees F  
*Frost-free period:* 70 to 90 days  
*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Tamaneen, cobbly clay loam, and similar soils:* 80 percent  
*Minor components:* 20 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Tamaneen, Cobbly Clay Loam

##### Setting

*Landform:* Stream terraces  
*Landform position (two-dimensional):* Summit  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear, convex  
*Across-slope shape:* Linear  
*Parent material:* Clayey alluvium derived from igneous and sedimentary rock

##### Typical profile

*Ap - 0 to 3 inches:* cobbly clay loam  
*Bt - 3 to 12 inches:* clay loam  
*Btk - 12 to 15 inches:* clay loam  
*Bk1 - 15 to 28 inches:* very gravelly sandy loam  
*2Bk2 - 28 to 60 inches:* very cobbly sandy loam

##### Properties and qualities

*Slope:* 0 to 4 percent  
*Depth to restrictive feature:* More than 80 inches  
*Natural drainage class:* Well drained  
*Runoff class:* High  
*Capacity of the most limiting layer to transmit water (Ksat):*  
Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum in profile:* 35 percent  
*Salinity, maximum in profile:* Nonsaline (0.0 to 1.0 mmhos/cm)  
*Available water storage in profile:* Low (about 5.9 inches)

##### Interpretive groups

*Land capability classification (irrigated):* 3e

*Hydric soil rating:* No

## **Data Source Information**

Soil Survey Area: Park County Area, Montana  
Survey Area Data: Version 10, Sep 11, 2018



### Onsite Wastewater Treatment System Permit Application

Park County Environmental Health  
Phone: (406) 222-4145 Fax: (406) 222-4763  
414 E. Callender Street  
Livingston, MT 59047

|                      |       |
|----------------------|-------|
| For office use only: |       |
| Permit Number        | _____ |
| Application Fee \$   | _____ |
| Receipt #            | _____ |
| Check #              | _____ |
| Paid by              | _____ |
| Tax ID #             | _____ |

#### Owner information

Property owner Clayton Bryington Phone 406-220-0080  
 Mailing address P.O. Box 148 City, State Clyde Park Zip 59018

#### Statement of Accuracy and Permission to Inspect:

As the owner of the parcel of land described within the permit application, my signature below declares the information provided here is to the best of my knowledge. I acknowledge that the County Sanitarian and/or members of the Park County Board of Health are hereby empowered and authorized to enter upon my private property for the purpose of inspection and investigation concerning the onsite wastewater treatment system that treats, discharges, or disposes of wastewater to determine compliance with Park County and the State of Montana regulations.

Property owner signature (required) Clayton Bryington Date May 28, 2019

#### Property information

Site Address/Location 412 1st. St. E Town/City Clyde Park  
 Section 34 Township 2N Range 9E  COSA  COS # 1793 E 1/2 Lot 2 & 2  
 Name of Subdivision (if applicable) UHL Add. Clyde Park Tract/Lot # E 1/2 of Lot 182 Acres 1.241  
 Directions to site 89 North to Clyde Park, East on 1st St,  
Prop. on South side of Street

#### Permit information (Check all that apply)

System to be installed by \_\_\_\_\_  
Park County licensed installer

New  Repair/Replacement System  Upgrade/Expansion  Connect to Existing Permit # \_\_\_\_\_

Residential system  Seasonal residence  Full-time residence

Number of living units 1 \*Living unit means the area under one roof that can be used for one residential unit and which has facilities for sleeping, cooking, and sanitation. A duplex is considered two living units.

Number of bedrooms in each living unit (including unfinished basements) ~~2~~ 3

Commercial system  Private (serving ≤24 or more people <60 days per year daily)  Public (serving 25 or more people ≥60 days per year daily)  
\*Public systems require Montana DEQ approval

Number of commercial units \_\_\_\_\_

Daily design flow (gpd) \_\_\_\_\_ Rationale for design flow (include calculations) \_\_\_\_\_

**System design and specifications\***

Septic tank size 1000 gallons Pump chamber size N/A  Concrete  Fiberglass  Other \_\_\_\_\_

Drainfield components 3 Laterals 48 ft long 2 ft wide 3 ft deep of gravelless chambers

\*On-site Wastewater treatment systems shall be designed and constructed in accordance with the requirements described in ARM Title 17, Chapter 36, Subchapters 1-8, Subdivision Rules, and ARM Title 17, Chapter 36, Subchapter 9, On-site Subsurface Wastewater Treatment, and Montana Department of Environmental Quality Circular DEQ 4, 2013 edition, Park County Onsite Wastewater Treatment Regulations, and "How to Perform a Non-degradation Analysis for Subsurface Wastewater Treatment Systems Under the Subdivision Review Process", Revised October 2015, or most recent editions.

**Site evaluation report** (if applicable, submit additional documents as necessary)

Date of soils test 5/14/19 Weather conditions warm & sunny

| Horizon/Depth    | Soil Description (include type, texture, structure, mottles, limiting layers, etc.) |
|------------------|---|
| <u>0" - 24"</u>  | <u>sandy clay loam, light gray w/ cobbles</u>                                       |
| <u>24" - 96"</u> | <u>loamy sandy w/ lots of cobbles</u>   |
|                  |   |
|                  |   |

Application rate according to Table 2.1-1 Montana DEQ Circular 4 0.8 ft<sup>2</sup>/gpd

Comments/Unusual site features will need variance due to approval due to location of irrigation ditch

Non-degradation analysis included:  Yes  No, this property meets the requirements of categorical exemption # \_\_\_\_\_

If no, provide further details \_\_\_\_\_

**Please submit all applicable documentation with this application-** including but not limited to: flood plain maps, proposed lot layout, septic layout, pump requirements, well and water line locations, surface water locations, ground water monitoring results, etc.  
**A permit will not be issued until all necessary documentation has been received and approved by this office**

As a Park County licensed site evaluator, my signature verifies that I have addressed the above parameters for this site. I have completed the site evaluation according to all applicable rules and regulations and the documentation provided above accurately reflects the conditions at this site. All information herein provided is true, complete, and correct to the best of my ability and knowledge.

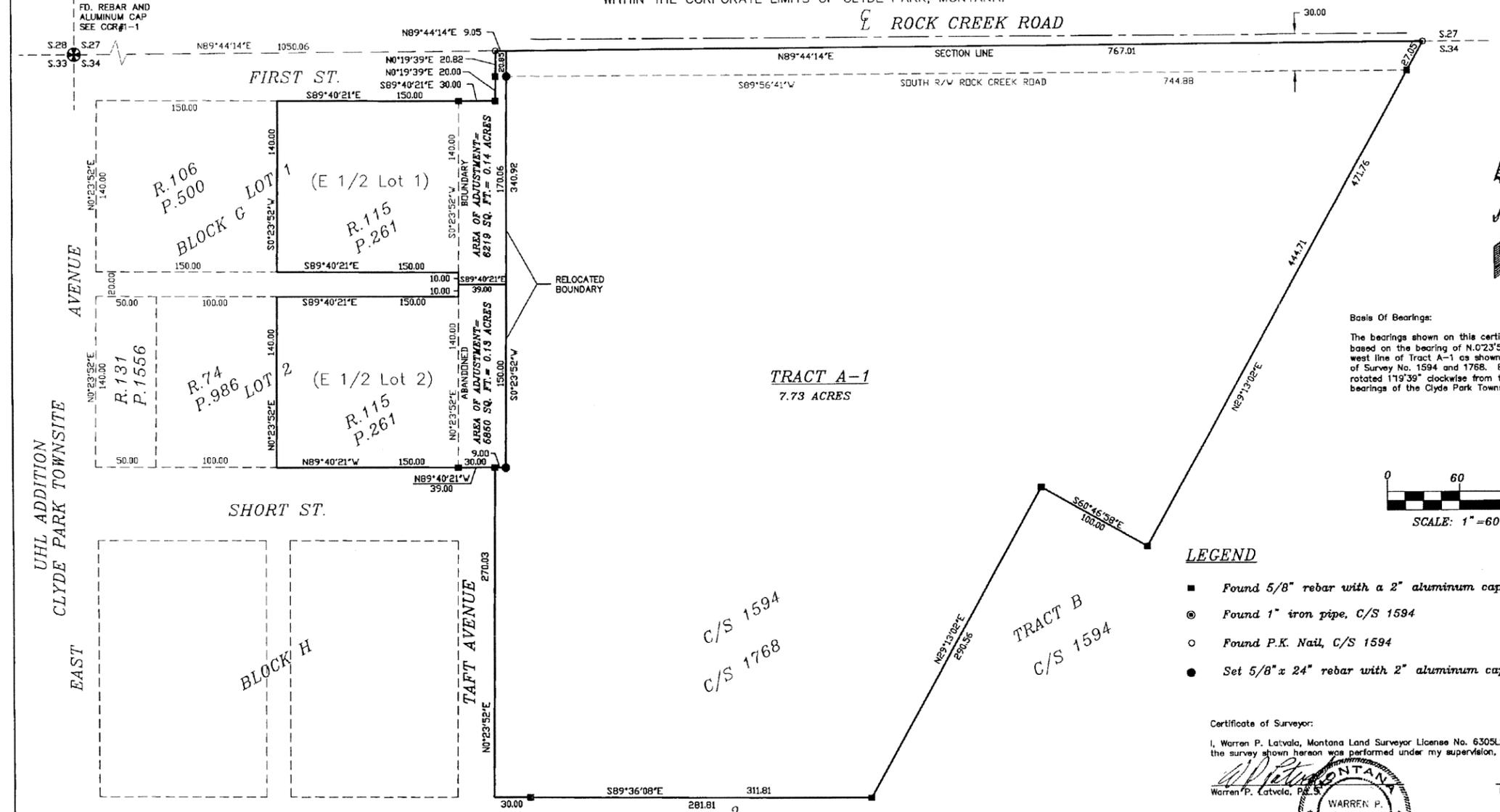
Kaleb Pearson  
Signature of site evaluator  
county sanitarian

Kaleb Pearson  
Printed name

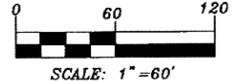
5/14/19  
Date

# CERTIFICATE OF SURVEY NO. 1793

RELOCATION OF THE COMMON BOUNDARY BETWEEN THE EAST HALF OF BLOCK G, UHL ADDITION TO THE TOWN OF CLYDE PARK AND TRACT A-1 OF CERTIFICATE OF SURVEY NO. 1768, ALL SITUATED IN THE NORTH HALF OF THE NORTHWEST ONE-QUARTER OF SECTION 34, TOWNSHIP 2 NORTH, RANGE 9 EAST, P.M., PARK COUNTY, WITHIN THE CORPORATE LIMITS OF CLYDE PARK, MONTANA.



**Basis of Bearings:**  
 The bearings shown on this certificate are based on the bearing of N.02°35'2"E. along the west line of Tract A-1 as shown on Certificate of Survey No. 1594 and 1768. Bearings are rotated 119°39' clockwise from the record bearings of the Clyde Park Townsite.

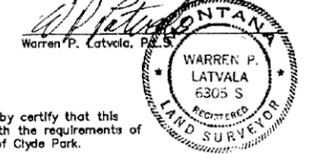


### LEGEND

- Found 5/8" rebar with a 2" aluminum cap, 6305LS
- ⊙ Found 1" iron pipe, C/S 1594
- Found P.K. Nail, C/S 1594
- Set 5/8" x 24" rebar with 2" aluminum cap, 6305LS

### Certificate of Surveyor:

I, Warren P. Latvala, Montana Land Surveyor License No. 6305LS, hereby certify that the survey shown hereon was performed under my supervision, in October 2002.



1-15-2003  
Date

### Certificate of the Town Council of the Town of Clyde Park:

I, Alice W. Hartman, Mayor of the Town of Clyde Park, hereby certify that this certificate has been duly examined and found to comply with the requirements of Section 76, M.C.A. and applicable regulations of the Town of Clyde Park.

Alice W. Hartman 1-29-03  
Alice W. Hartman, Mayor Date

### Certificate of County Treasurer:

I, Bert R. Holland, Treasurer of Park County, hereby certify that this certificate has been duly examined and that no real property taxes assessed and levied on the lands shown are delinquent.

Bert R. Holland by E. Earlene Bowers  
Bert R. Holland, Treasurer Deputy Date



Filed this 29th day of January, A.D., 2003 at 3:15 o'clock P.M.  
Janice Nelson by Chela Berenson 304510  
 Park County Clerk & Recorder Deputy 2700 per Document No.

### Certificate of Landowners:

We, Shaun and Bobbi Jo Jones hereby certify that we are the owners of Tract A-1 of Certificate of Survey No. 1768 and have caused the boundary relocation shown hereon to be performed. This survey is exempt from subdivision review pursuant to Section 76-3-207(1)(e) M.C.A.

Shaun Jones 1-8-03  
Shaun Jones Date  
Bobbi Jo Jones 1-8-03  
Bobbi Jo Jones Date

Subscribed and sworn before me this 8 day of Jan, 2003  
De mbr, Notary Public for the State of Montana,  
 residing at Highway. My commission expires 11-15-05.

### Certificate of Landowners:

We, Clayton and Rhonda M. Bryington hereby certify that we are the owners of the E 1/2 of Block G of the Uhl Addition to the Town of Clyde Park, Park County, Montana, and have caused the boundary relocation shown hereon to be performed. This survey is exempt from subdivision review pursuant to Section 76-3-207(1)(e) M.C.A.

Clayton Bryington 1-8-03  
Clayton Bryington Date  
Rhonda M. Bryington 1-8-03  
Rhonda M. Bryington Date

Subscribed and sworn before me this 8 day of Jan, 2003  
De mbr, Notary Public for the State of Montana,  
 residing at Highway. My commission expires 11-15-05.

|   |                                |
|---|--------------------------------|
| SECTION 34<br>T. 2 N. R. 9 E<br>P.M.  | CERTIFICATE OF SURVEY No. 1793 |
| LATVALA AND ASSOCIATES<br>LAND SURVEYING AND CONSULTING<br>WARREN P. LATVALA, P.L.S.<br>1324 HWY. 89 NORTH<br>LIMESTON, MT. 59047 |                                |
| DATE: NOVEMBER 1, 2002  | 1                              |
| JOB NO.: J85  | CHECKED BY: W.P.L. & J.A.T.    |
| DRAWN BY: D.J.B.  |                                |



Note: ditch only flows water 3-4 month/year during growing season & does not flow back into State Waters



2' 7" measured from  
bottom of ditch to  
natural grade

Bottom of ditch

Excavate the trenches down to 3' below surface (as allowed by DEQ Circular 4). Even though the wastewater being distributed by the drainfield is assumed to flow toward the ditch, it should have minimal effect on the water flowing through the irrigation ditch and will flow underneath the surface water.

