DRAFT ENVIRONMENTAL ASSESSMENT
for the proposed
R. L. Frank Septic Service Inc.
Land Application Site
Park City, Montana

Solid Waste Section
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ACRONYMS

RLF – R. L. Frank Septic Service Inc.

ARM – Administrative Rules of Montana

ArcGIS – Web-based online group used to access Geographic Information System by ESRI

AAR– Annual Application Rate

Draft EA – Draft version of an environmental assessment before public comment

DEQ – Montana Department of Environmental Quality

DNRC – Montana Department of Natural Resources and Conservation

EA – Environmental Assessment

EIS – Environmental Impact Statement

GWIC – Ground Water Information Center

MBMG – Montana Bureau of Mines and Geology

MCA – Montana Code Annotated

MEPA – Montana Environmental Policy Act

MNHP – Montana Natural Heritage Program

O&M – Operation and Maintenance

Proposed Action – Approving a new septage land application site

Septic Rules– ARM Title 17, chapter 50, subchapter 8, "Cesspool, Septic Tank, and Privy Cleaners"

SDLA – "Septic Disposal Licensure Act", Title 75, chapter 10, part 12, MCA

Site – Approximately 124 acres of Benner property located at 4200 Valley Creek Road in Stillwater County in Park City, Montana.

SWL – Static Water Levels

USFWS – United States Fish and Wildlife Service

USGS – United States Geological Survey

1. NEED FOR PROPOSED ACTION

1.1 SUMMARY

This draft environmental assessment (Draft EA) was prepared for the septage land application site proposed by R. L. Frank Septic Service Inc. (RLF), in accordance with the Montana Environmental Policy Act (MEPA). On May 29, 2020, the Department of Environmental Quality (DEQ) received an application from RLF for licensing a new septage land application site (Proposed Action). RLF proposes the land application of septage, sump pumpings, and grease trap waste on approximately 124 acres of Benner property located at 4200 Valley Creek Road in Stillwater County in Park City, Montana. (Site, **Figure 1**).

1.2 BACKGROUND

In June 2020, RLF obtained a license from DEQ to pump and land apply septage in Montana. RLF is proposing to add the Site to their license. The Site is on private property.

This application was signature certified by Stillwater County prior to DEQ's environmental review. According to the Administrative Rules of Montana (ARM), DEQ cannot review a new site disposal application unless it has been previously certified by the local county health officer or designated representative.

Septage is the liquid and solid material removed from a septic tank, cesspool, portable toilet, or similar treatment works that only receive domestic waste and wastewater collected from household or commercial operations. Septage is different than sewage, which is wastewater and excrement that has not been treated and is conveyed in sewer systems. Septage is what Montana's septic tank pumpers land apply.

As Montana's population and seasonal visitation grow, the demand for disposal of septage increases. Wastewater treatment plants can accept only limited amounts of septage from pumpers. Land application by pumpers allows for safe disposal of septage without overloading Montana's wastewater treatment plants. Land application also reduces Montana farmers' reliance on chemical fertilizers to improve soil. RLF's application was submitted to DEQ under the laws and rules for licensing septic pumpers, demonstrating their intent to meet the minimum requirements for the pumping and land application of septage.

When properly managed, land application of septage is a beneficial resource, providing economic and environmental benefits with no adverse public health effects. A licensed land application program recognizes and employs practices that maximize those benefits. Septage does not include prohibited material (e.g., garbage or tampons) removed from a septic tank or similar treatment works by pumping.

1.3 PURPOSE AND NEED

DEQ must conduct environmental review on RLF'S application by evaluating potential impacts of the Proposed Action. If DEQ approves the application, DEQ will add the Site to their existing license. DEQ's decision to approve or deny the application depends upon the consistency of the application with the following:

1. Septage Disposal Licensure Act (SDLA);

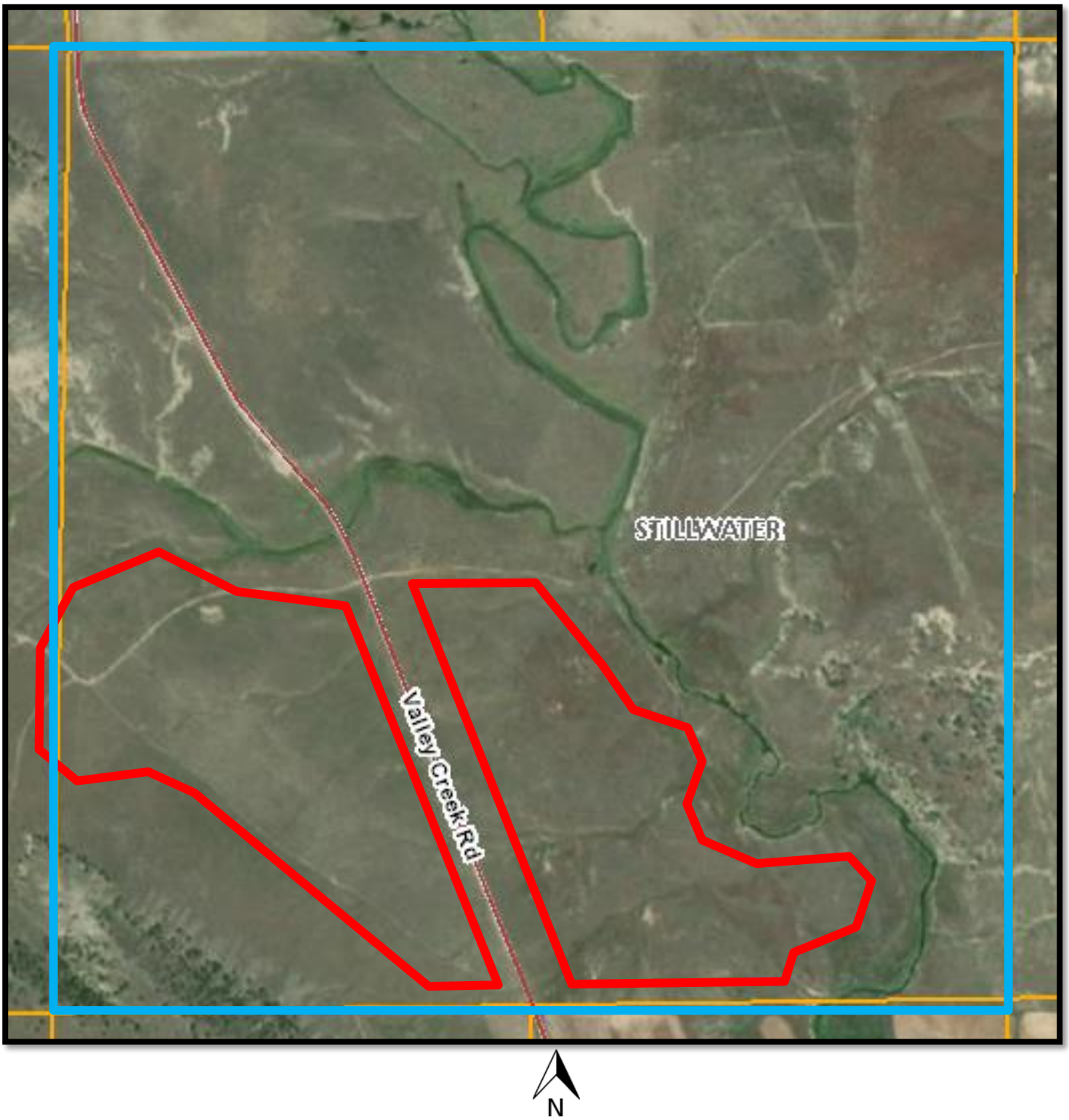
2. Administrative Rules of Montana (ARM) Title 17, chapter 50, subchapter 8, "Cesspool, Septic Tank, and Privy Cleaners" (Septic Rules);
3. the Clean Air Act of Montana; and
4. Montana Water Quality Act.

1.4 LOCATION DESCRIPTION AND STUDY AREA

The Site is in the SW ¼ of Section 11, Township 2 South, Range 22 East in Stillwater County, Montana. The Site is currently pasture grass.

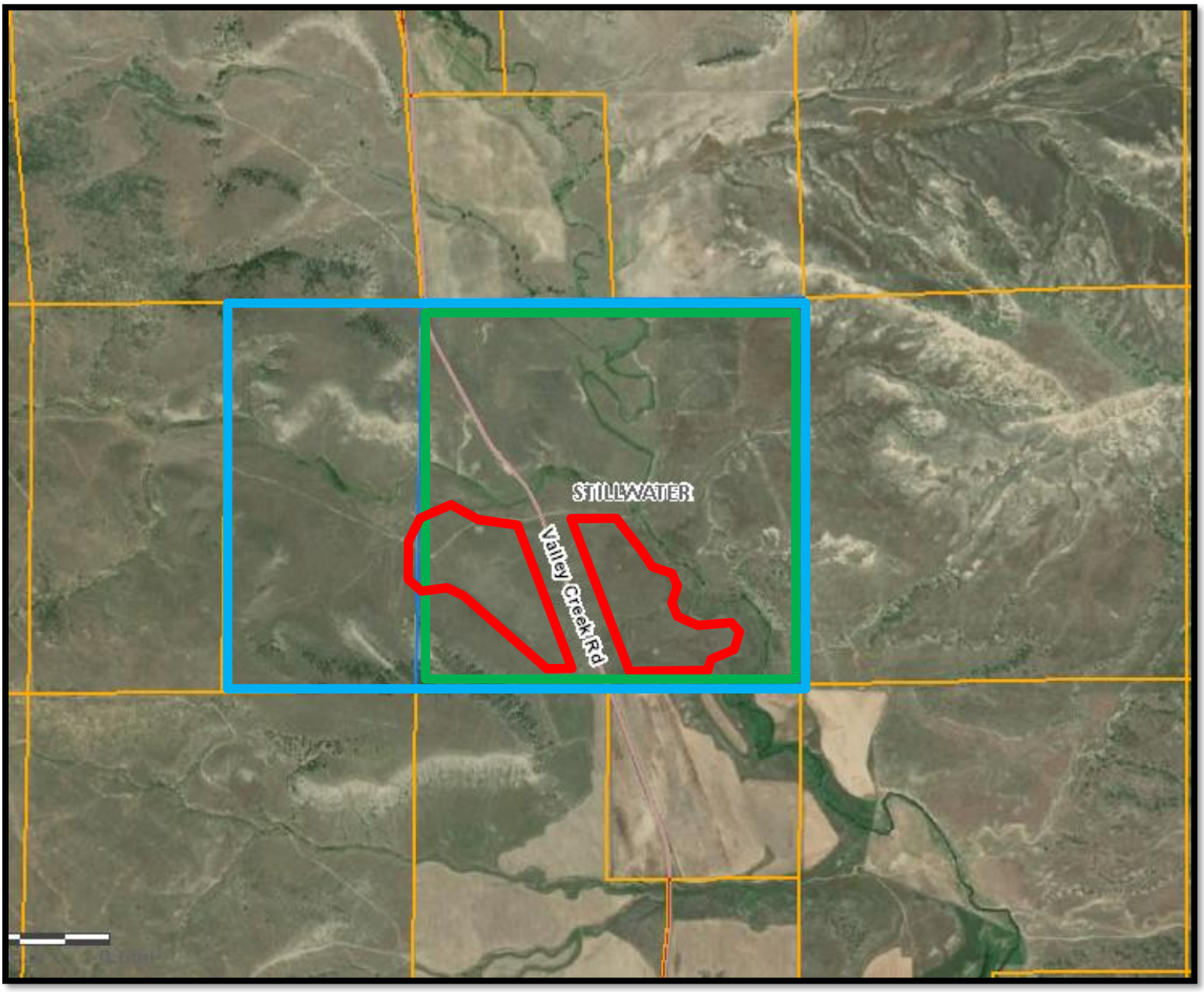
Gates from Valley Creek Road would be used to access the Site (**Figure 1**). The study area encompasses property that surrounds the Site. The study area depends on the resource under evaluation, as noted in the subparts of *Section 3*.

Figure 1: Proposed Land Application Site
(*approximate Site in red; Benner property in blue; surrounding property boundaries in orange*)



*Source: Montana Cadastral (**NOT TO SCALE**)*

Figure 2: Study Area
(approximate Site in red; Section 11 in green; Benner property in blue)



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*Source: Montana Cadastral (**NOT TO SCALE**)*

1.5 COMPLIANCE WITH MEPA

Under MEPA, Montana agencies are required to prepare an environmental review for state actions that may have an impact on the human environment. The Proposed Action is considered a state action that may have an impact on human health and the environment Therefore, DEQ must prepare an environmental assessment. This Draft EA analyzes the Proposed Action and reasonable alternatives to the Proposed Action and discloses potential impacts that may result from such actions. DEQ will determine the need for additional environmental reviews based on consideration of the criteria set forth in ARM 17.4.608.

1.6 PUBLIC INVOLVEMENT

DEQ is releasing this Draft EA to present its initial findings described in *Section 4*. A 30-day public comment period begins upon release of the document. The public comment period ends on March 22, 2021. A notice of availability for the Draft EA was sent to adjacent landowners and other interested parties. A public notice was published in the Stillwater County News and a hard copy was sent to the Stillwater County Library in Columbus, Montana. The public notice and Draft EA may be viewed at: https://deq.mt.gov/public/ea/SepticPumpers.

2. DESCRIPTION OF ALTERNATIVES

This Section describes the Proposed Action and No Action alternatives. MEPA requires the evaluation of reasonable alternatives to the Proposed Action. Reasonable alternatives are achievable under current technology and are economically feasible, as determined by the economic viability of similar projects with similar goals, conditions, and physical locations. Reasonable alternatives are determined without regard to the economic strength of the applicant, but may not include an alternative facility or an alternative to the proposed project itself.

According to ARM 17.4.609(3)(f), an environmental assessment (EA) must include reasonable alternatives whenever reasonable and prudent. DEQ has not considered any other alternatives to the Proposed Action because RLF's application and operation and maintenance comply with the applicable laws and rules pertaining to land application of septage in Montana.

2.1 NO ACTION ALTERNATIVE

Under the No Action Alternative, the Site would not be approved by DEQ. Therefore, the Site could not be used by RLF, and disposal of septage would have to occur at another approved location or treatment works.

2.2 PROPOSED ACTION

RLF is proposing the land application of septage, graywater, portable toilet waste, sump pumpings, and grease trap waste on the Site, described in *Section 1.1*.

2.2.1 LAND APPLICATION SITE OPERATIONS

The operational and setback requirements for land application of septage at this Site are provided in **Tables 1** and **2**:

Table 1: Land Application Operational Requirements

ARM Reference	Specific Restrictions
17.50.809(10)	All non-putrescible litter must be removed from the land application site within 6 hours of application.
17.50.809(12)	Pumpings may not be applied at a rate greater than the crop's annual application rate (AAR) for nitrogen.
17.50.810(1)	Pumpings may not be applied to flooded, frozen, or snow-covered ground if the pumpings may enter state waters.
17.50.811(3)	Pumpings may be applied only if the person first performs one of the following vector attraction and pathogen reduction methods: • injection below the land surface so no significant amount remains on the land surface within one-hour of injection; • incorporation into the soil surface's plow layer within 6 hours of application; • addition of alkali material so that the pH is raised to and remains at 12 or higher for a period of at least 30 minutes; or, • management as required by 17.50.810 when the ground is frozen

Table 2: Land Application Site Setback Requirements

ARM Reference	Specific Restrictions
17.50.809(1)	Pumpings may not be applied to land within 500 feet of any occupied or inhabitable building.
17.50.809(2)	Pumpings may not be applied to land within 150 feet of any state surface water, including ephemeral or intermittent drainages and wetlands.
17.50.809(3)	Pumpings may not be applied to land within 100 feet of any state, federal, county, or city-maintained highway or road.
17.50.809(4)	Pumpings may not be applied to land within 100 feet of a drinking water supply source.
17.50.809(6)	Pumpings may not be applied to land with slopes greater than 6%.
17.50.809(8)	Pumpings may not be applied to land where seasonally high groundwater is 6 feet or less below ground surface.

Land application would be limited to areas approved by DEQ. Areas within the Site would not be used until their boundaries have been marked and approved by DEQ or the local county sanitarian.

RLF would be required to log the type and amount of septage land applied annually as well as the dates applied. Disposal logs would be submitted to DEQ semiannually. DEQ would verify the Site's annual application rate (AAR) and may periodically monitor the soils for adherence to the proposed maximum AAR.

2.2.2 EQUIPMENT AVAILABLE AND PUMPER TRUCK REQUIREMENTS

RLF has the following equipment available for land application activities:

1. 2001 Freightliner Century with a 3,600-gallon tank
2. 2007 Freightliner Columbia with a 3,400-gallon tank

The Septic Tank, Cesspool, and Privy Cleaner Vehicle Inspection Form was created by DEQ to guide the vehicle inspection. The county health officer's (or designated representative's) signature on the vehicle inspection form certifies that the vehicle is equipped with the necessary equipment to adequately screen and spread septage while land applying. The following questions are on the form to verify compliance with the Septic Rules:

1. Does the vehicle show signs of leakage?
2. Is the vehicle equipped with the proper spreading equipment?
3. Is the spreading equipment mounted on the vehicle or separate?
4. If required to screen septage before land applying, is the vehicle, or site, equipped with the proper screening equipment?
5. Is the spreading equipment approved for use?
6. Is the screening equipment approved for use?
7. Make/Model of Vehicle
8. Tank Size

This form was certified by the Stillwater County health officer for each vehicle and submitted by RLF with their application.

2.2.3 AMOUNT AND EXTENT OF SEPTAGE APPLICATION

Land application must not exceed the AAR (gallons per acre per year) based on:

1. The nitrogen content of the waste applied at the Site; and
2. The crop nitrogen yield for the crop or other vegetation at the Site.

The AAR for septage and grease trap waste is calculated as follows:

$$\textbf{AAR} = \frac{\text{minimum crop nitrogen requirement (lbs./acre/year)}}{0.0026\ \text{(lbs./gallon)}}$$

The Site grows native grasses. The nitrogen requirement for native grasses at the Site is 35 pounds per acre per year based on the conservative yield expectation and experience of the landowner with the Site. The resulting AAR for septage is 13,462 gallons per acre per year, which is equal to approximately 0.5 inches of liquid applied annually per acre. For comparison, the average annual precipitation in the Park City area is 13.3 inches per year.

Land application of septage at the AAR is alternated annually between separate parcels to allow for agronomic crop uptake of the applied nitrogen. Plants can utilize nitrogen available from the septage if the volume of septage applied each year does not exceed the AAR. When land application is rotated, one

parcel is used every year. For example, if 100 acres are proposed for land application, 50 acres would be used one year and the other 50 acres would be used similarly the next year. In this case, RLF would designate two equal areas and rotate parcels each year. The residual soil nutrient levels at each parcel will vary over time. DEQ may periodically monitor the soil for nutrient content to determine compliance with the AAR.

The Benner property could annually treat the proposed 560,000 gallons of waste without exceeding the AAR on approximately 62 acres each year.

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES BY RESOURCE

3.1 LOCATION DESCRIPTION AND STUDY AREA

The location description and study area are described in *Section 1.1* of this Draft EA. The study area includes land and resources in and around the Site. The affected environment is described in each subsequent section depending on the resource.

3.2 IMPACTS

Table 3 shows a summary of the impacts of the No Action Alternative and the Proposed Action.

Table 3: Impacts

Resource	Alternative 1 – No Action	Alternative 2 – Proposed Action
Wildlife and Habitats	Minor impact.	Minor impact. Wildlife tend to avoid land application sites due to human scent and activities and would relocate (See Section 3.2.1)
Soils and Vegetation	Minor impact.	Minor beneficial impact. The quality of soils and vegetation would be enhanced by the Proposed Action (See Section 3.2.2)
Geology	No impact	No impacts. (See Section 3.2.3)
Hydrology and Hydrogeology	No impact.	No impacts. (See Section 3.2.4)
Aesthetics and Noise	Minor impact.	Minor impact. Land application activities resemble agricultural activities occurring in the

		surrounding area. Odor would largely be controlled by daily tilling. (See Section 3.2.5)
Human Health & Safety	No impact.	No impacts. (See Section 3.2.6)
Industrial, Commercial, and Industrial Activities	No impact.	No impacts. (See Section 3.2.7)
Cultural Uniqueness and Diversity	No impact.	No impacts. (See Section 3.2.8)
Demand for Government Services	Minor impact.	Minor impact. Stillwater County sanitarian and DEQ would conduct periodic inspections of the Site. (See Section 3.2.9)
Socioeconomics	No impact.	No impacts. (See Section 3.2.10)
Traffic	Minor impact.	Minor impact. RLF would access the Site via Valley Creek Road, which currently supports traffic to homes and businesses in the area. (See Section 3.2.11)

3.2.1 WILDLIFE AND HABITATS

Impacts to wildlife and habitats from the Proposed Action would be minor.

Transient wildlife tends to avoid land application sites due to human scent and activities. Montana Fish, Wildlife & Parks (FWP) manages the overall wildlife populations of the region. Species of fish, amphibians, and aquatic plants are not included on the following lists because land application activities would not impact nearby perennial waters based on STP requirements for minimum setbacks, maximum slopes, and elimination of runoff (see *Sections 2.2.1* and *3.2.4.1*).

The applicant does not plan to expand the Site beyond the boundaries described in the application. Therefore, no habitats outside the land application area would be impacted. Parcels of land adjacent to the Site primarily consist of pasture land and grain crop production. Beyond the immediate vicinity of the Site, a similar mix of grazing and agricultural lands exist, except for the Interstate-90 corridor approximately 3.25 miles south of the Site. Adequate similar habitat exists in the region to accommodate any species forced to relocate due to the Proposed Action.

3.2.1.1 THREATENED AND ENDANGERED SPECIES

The U.S. Fish & Wildlife Service's (USFWS) online databases were used to identify plant and animal species at the Site and study area (USFWS, 2021). The USFWS species and status listings for Stillwater County, Montana, are shown in **Table 4**:

Table 4: Federally Established Species List

Scientific Name	Common Name	Status
Canis lupus	Gray wolf	Recovery
Haliaeetus leucocephalus	Bald eagle	Recovery
Centrocercus urophasianus	Greater sage grouse	Resolved taxon
Pinus albicaulis	Whitebark pine	Proposed threatened
Aquila chrysaetos	Golden eagle	Species of concern
Ursus arctos horribilis	Grizzly bear	Threatened
Lynx canadensis	Canada lynx	Threatened
Gulo luscus	North American wolverine	Resolved taxon
Anthus spragueii	Sprague's pipit	Resolved taxon
Charadrius montanus	Mountain plover	Resolved taxon

The Site does not provide the habitat necessary to independently sustain the species listed above given its current use for grazing of cattle. Few trees and limited topographical features on the Site's landscape limit nesting and den sites for the listed species. Valley and Swamp Creeks provide wildlife corridors adjacent to the Site which would not be impacted by the Proposed Action (see *Sections 2.2.1* and *3.2.4.1*). The greater sage grouse is addressed in *Section 3.2.1.2*. Privately owned pasture and native grasslands near the Site provide similar habitat for any species forced to relocate. The Proposed Action may deter transient wildlife from passing through the active land application area, but is not anticipated to significantly impact these species.

3.2.1.2 SPECIES OF CONCERN

No impacts to species of concern are anticipated because of the Proposed Action.

Designation as a species of concern is not a statutory or regulatory classification. Instead, these designations provide a basis for resource managers and regulators to make proactive decisions regarding species conservation.

The Montana Natural Heritage Program's (MNHP) online databases were accessed for listed species (MNHP, 2021). The MNHP species and status listing for Township 2 South, Range 22 East is shown in **Table 5**.

Table 5: Montana Recognized Species List

Scientific Name	Common Name	Status	GRank/SRank
Centrocercus urophasianus	Greater sage grouse	Species of concern	G3/S2
Ursus arctos horribilis	Grizzly bear	Species of concern	G4/S2
Falco peregrinus	Peregrine falcon	Species of concern	G4/S3

The MNHP uses a standardized ranking system developed by The Nature Conservancy and maintained by NatureServe. Each species is assigned two ranks; one represents its global status (GRank), and one represents its status in the state (SRank). The scale is 1-5; 5 means common, widespread, and abundant; 1 means at high risk. Species with a GRank 5 are not included in **Table 5**.

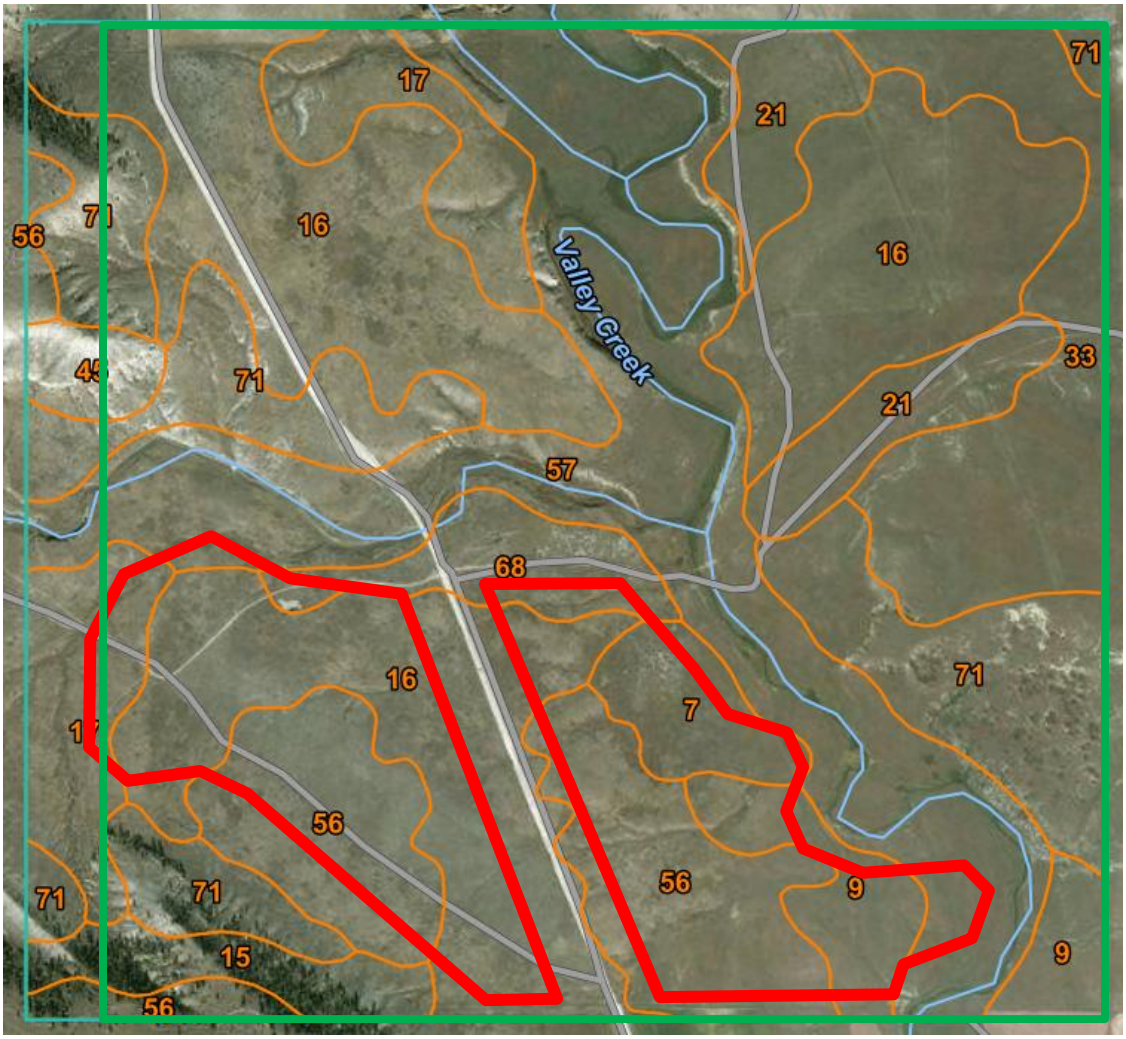
The Site is not located within a Core Area or any other recognized habitat level for the greater sage grouse, as designated by the Department of Natural Resources and Conservation (DNRC). Because the Site is located adjacent to a township with recognized sage grouse habitat, the Site would be monitored for presence of this species during inspections and updated DNRC listings would be reviewed for changes pertaining to the Site by DEQ.

3.2.2 SOILS AND VEGETATION

The impact of the Proposed Action to soils and vegetation would be minor.

The US Department of Agriculture (USDA) Natural Resources Conservation Service's (NRCS) National Cooperative Soil Survey databases were accessed for information about the shallow subsurface soils at the Site and surrounding area (**Figure 3** and **Table 6**).

Figure 3: Soil Resource Map
(*Soil unit with delineation in orange, approximate Site in red, Section 11 in green, soil study area in cyan*)



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*Source: USDA, Natural Resources Conservation Service (NRCS), 2021 (**NOT TO SCALE**)*

Map Unit Symbol	Map Unit Name	Soil Rating
7	Absher clay loam, 0 to 6 percent slopes	Very limited
9	Assinniboine fine sandy loam, 2 to 15 percent slopes	Somewhat limited
16	Bonfri-Lambeth complex, 2 to 8 percent slopes	Very limited
17	Bonfri-Lambeth complex, 8 to 18 percent slopes	Very limited
56	Tanna-Rentsac complex, 4 to 15 percent slopes	Very limited
57	Torrifluvents-Camborthids association, gently sloping	Not rated
68	Yamac loam, 2 to 4 percent	Not limited

Table 6: USDA-NRCS, Custom Soil Resource Report, 2021

Soil types where land application would occur are loams, clay loams, sandy loams, and complexes which contain similar mixtures. The ratings shown in **Table 6** are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the septage is applied, and the method by which the septage is applied. "Not limited" indicates that a soil type has characteristics which are favorable for the specified use. Good performance and low maintenance can be expected. "Somewhat limited" indicates that a soil type has characteristics which are moderately favorable for the specified use. "Very limited" indicates that a soil type has one or more characteristics which are unfavorable for the specified use (NRCS, 2021).

The Site currently supports pasture grasses which are commonly found in the surrounding area. The MNHP online databases were also accessed for listed plant species in the Township 2 South, Range 22 East study area (MNHP, 2021). No species were listed and therefore are not included in this assessment. No impact on plant species of concern is anticipated to result from the Proposed Action.

Septage contains nutrients that can reduce the reliance of the farmer or land manager on chemical fertilizers to improve soil. The Proposed Action would add valuable moisture, organic matter, and nutrients to the topsoil, improving the Site's soil tilth and crop. The quantity and quality of soils and vegetation at the Site would be enhanced by the Proposed Action.

DEQ analyzed how the land application of septage would impact the Site's environment given the weather of the region. The weather is typical of southcentral Montana, classified as warm summer continental climate. The average pan evaporation rate is listed as 41.27 inches per year. The hot months of June, July, and August coincide with the average Montana septic tank pumper's busy season. Dry soils, vegetation, and crops in this semi-arid zone would benefit from the added moisture.

3.2.3 GEOLOGY

No geological impacts are anticipated to result from the Proposed Action.

Periodic tilling of the surface topsoil to incorporate septage would not significantly affect the thickness or character of colluvium found on the Site. Septage land application operations would not involve excavation.

The analysis area for geology is the Site and the surrounding area (beyond a mile from site boundary in **Figure 4**). Some discussion of regional geology is provided. The analysis methods include

1. Field work;
2. Reviewing geology field guidebooks including *Geologic Time Scale v. 5.0: Geological Society of America* (Geissman and Bowring) and *Roadside Geology of Montana* (Hyndman and Alt);
3. Current United States Geological Survey (USGS) and Montana Bureau of Mines and Geology (MBMG) publications; and
4. Associated online maps accessed via the MBMG and DEQ ArcGIS portals.

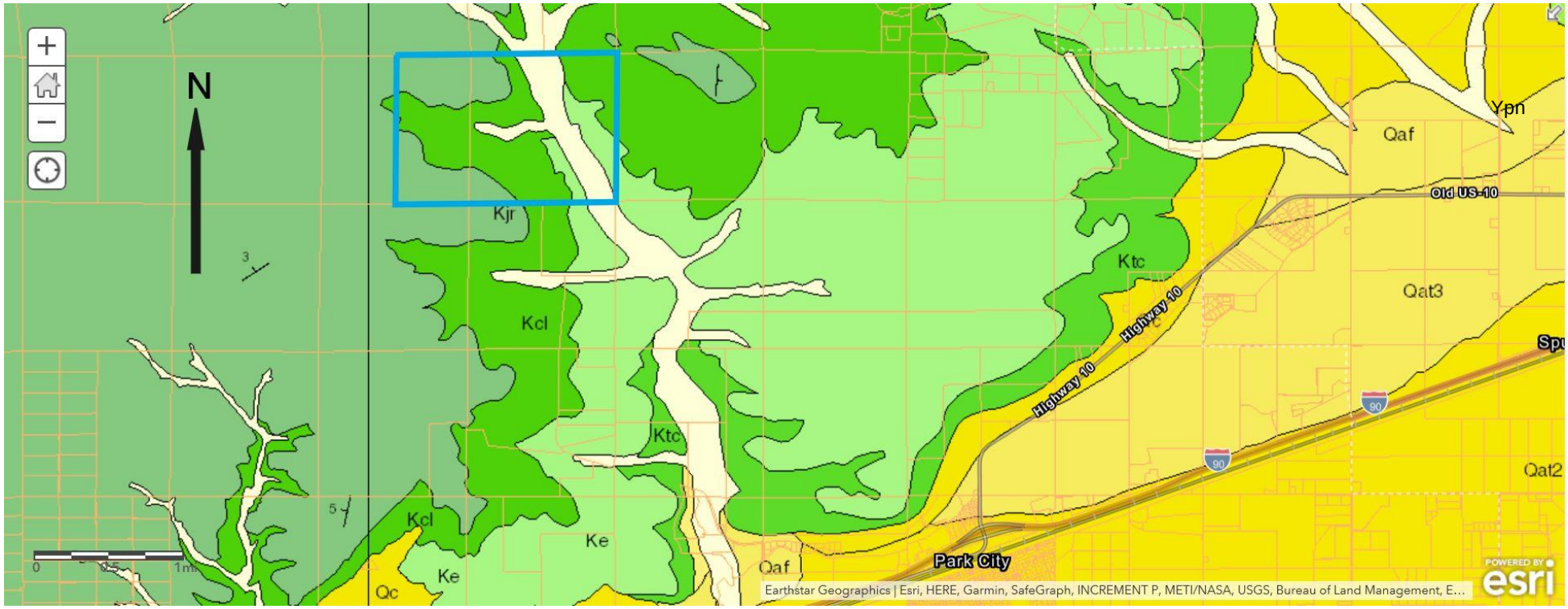
The Site is situated west of Billings near the southeast corner of Stillwater County, northwest of the Bighorn-Pryor Mountains, and east of the Rocky Mountain Front. The Front extends northward in this region from the Absaroka-Beartooth Range to the Little Belt Mountains. The Northwest Great Plains ecosystem of the region consists of non-glaciated, semi-arid, rolling grassy high plains where surface water is limited, erosion by seasonally active drainages is persistent, and low precipitation with high summer evapo-transpiration restricts groundwater recharge. The Site area is situated just west of the Clarks Fork Yellowstone River confluence with the Yellowstone River. Elevation at the Site ranges from about 3600 to 3700 feet above mean sea level and the topography is subdued but dissected.

Sedimentary rocks, deposited more than 63 million years ago on a passive continental margin (miogeocline) during the Paleozoic to Mesozoic eras, characterize the geology of the basement located beneath the Site. The quiet continental shelf was disturbed after the Pangaea supercontinent broke up in the Triassic Period. Extensive and extended contraction developed during the Jurassic Period as subduction was initiated beneath the Laurentide continental margin, then located along the current western Alberta-Montana-Wyoming flank where dinosaurs found in the Morrison formation once roamed. During the Late Cretaceous to Early Cenozoic development of the ancient Rockies, volcanism spread ash (bentonite) across the shallow inland sea that occupied the foreland east of the front, including contiguous parts of Montana, Wyoming, and North Dakota. Upper Cretaceous bentonitic marine shales (green shades on **Figure 4**) of the Powder River and Bighorn continental basins (**Table 7**) then lapped over older Kootenai terrestrial floodplain sands and muds along a shifting lagoonal coastal plain. Nomenclature associated with the stratigraphic units located beneath the Site differs throughout relevant geologic publications and depends on the regional basin of emphasis.

The dominant local landforms are predominantly dissected, moderately sloping to locally steep and rough, bedrock uplands of buttes, hills, and ridges. The bedrock uplands and foothills of the High Plains are now separated by moderately wide river and lesser stream valleys flanked by rolling terraces and alluvial fans that surround gently sloping central floodplains. Episodic broad uplift and down-cutting have formed and exposed several levels of river terraces surrounding the Yellowstone and Pryor River floodplains indicating a distinct change from the previous domination of fluvial gravel deposition by the ancestral Shoshone River during erosion of the ancient Rockies. Consequently, sandstones and coals of the Paleocene Fort Union formation, typical of the surrounding region, were locally eroded to expose the underlying and older Upper Cretaceous clay shales. The shaly beds beneath the area of the Site are gently tilted north to northwest by more recent Beartooth-Pryor uplift south of the site, which caused these various changes in processes (see **Figure 4**). Broad uplift of the foothills and erosion continues today, with dissection of several levels of river terraces surrounding the Yellowstone and Pryor Rivers and development of scattered badlands in the High Plains as evidence of this ongoing erosion.

Pleistocene age alpine glaciation in the mountain ranges near the Site, from 2.6 million to 12,000 years ago, was the last major erosional agent responsible for several episodes of transport and deposition of thick ancient river gravels. These deposits are now exposed as several ancient terrace remnants found today in the Yellowstone and Pryor River drainages (solid yellows on the south edge **Figure 4**). Up to three cycles of Pleistocene gravel deposition can be found in elevated benches surrounding these rivers, which may themselves be flanked in places by up to two or three cycles of older Pliocene pre-glacial gravel terrace deposits. This process of repeated dissecting of uplifted older bedrock in the ancient mountains to the west and south of the Site provides surface and near-surface variations in unconsolidated fluvial sediments of differing ages and sources. Older alluvial deposits covering the foothills were later eroded, during cyclic uplift, or rebound as glaciers melt, to leave scattered remnants of unconsolidated gravels locally visible at the surface in the foothills of the High Plains today.

Figure 4: Regional Geologic Map*
(Property boundary in blue, thin lt. orange lines cadastral)
Symbols listed younger to older (see **Table 7**):
Qal—*Alluvial deposits (Holocene), Qc—Colluvium deposits (Holocene & Pleistocene), Qaf—Alluvial fan deposits (Holocene & Pleistocene), Qat2—Alluvial gravel, terrace level 2 (Pleistocene), Qat3—Alluvial gravel, terrace level 3 (Pleistocene), Kjr—Judith River Fm (L. Cret.), Kcl—Clagget Shale (L. Cret.), Ke—Eagle Sandstone (L. Cret.), Ktc—Telegraph Creek (L. Cret.).*



** Fm means one stratigraphic Formation. All bedrock at the site are Late Cretaceous (L. Cret.) age and correlate with the Montana Group (**Table 7**).*
Short bars with tick mark and numbers show strike and dip of beds. Vertical black line that cuts across the left half of map is the Montana Meridian survey reference.
Sources: Billings 30'x60' Quadrangle, Lopez, 2000; MBMG web mapping application and Montana Geologic Map 62 (2007); Montana Cadastral Map, NRIS

3.2.4 HYDROLOGY AND HYDROGEOLOGY

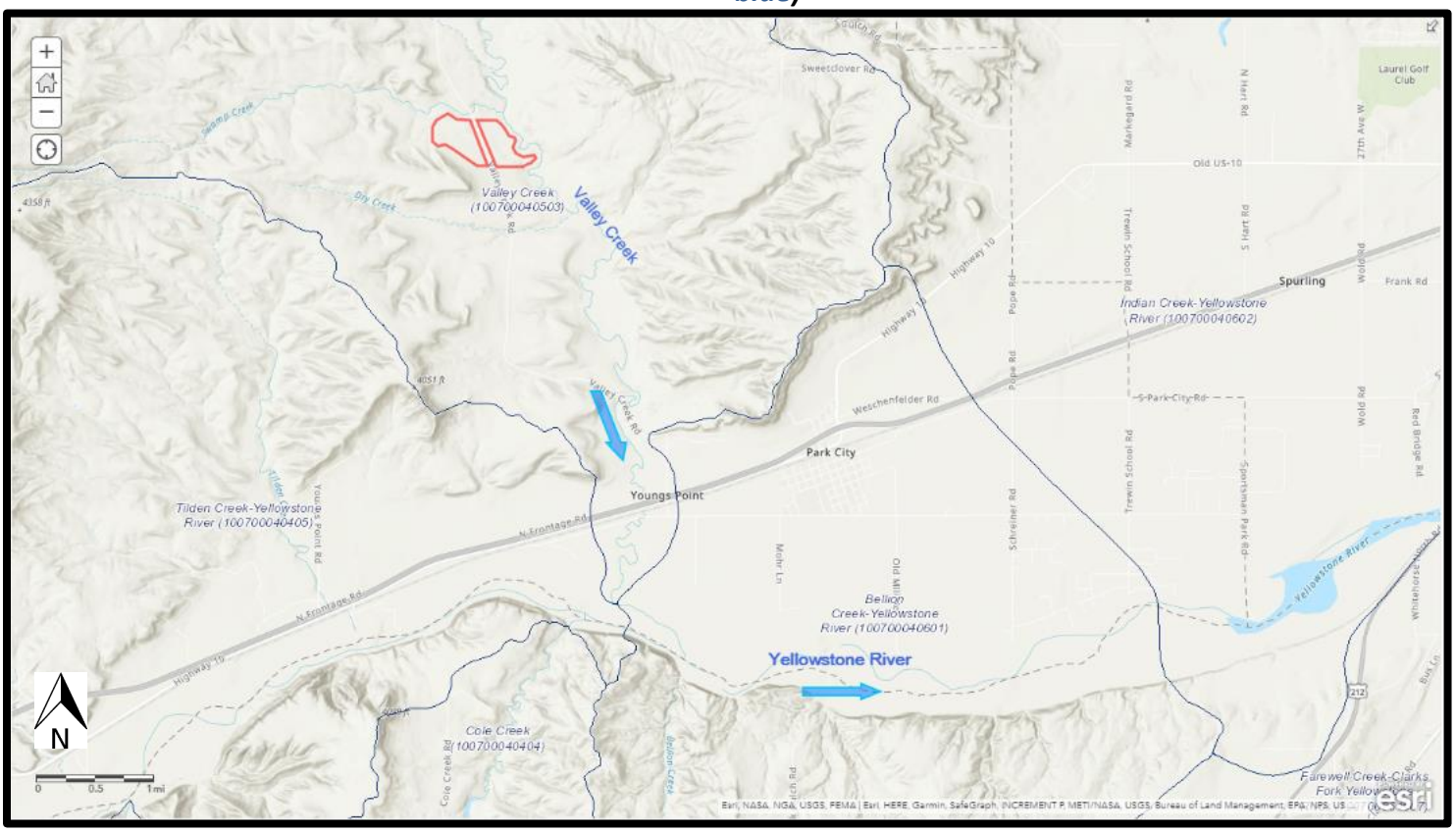
The analysis area for hydrology and hydrogeology is the Site and surrounding area (beyond a mile). Some discussion of regional geology, based upon published reports, is also provided. The analysis methods include reviewing wetland and jurisdictional waters information, onsite drilling reports, publications of MBMG and online maps (Esri/ArcGIS, 2021).

3.2.4.1 SURFACE WATER

No impacts to surface waters are expected due to the Proposed Action.

The Site is located within the Valley Creek watershed, hydrologic unit code (HUC) 100700040503. Valley Creek bounds the Site on its east side while Swamp Creek lies to the north (**Figure 5**). Overland flow from the Site would drain to Swamp Creek (which confluences with Valley Creek to the northeast of the Site) or directly to Valley Creek. Valley Creek follows a southeasterly path toward its confluence with the Yellowstone River, approximately 4.35 miles south of the Site (**Figure 5**).

Figure 5: Surface Water
(*approximate Site in red, flow direction arrow in blue, HUC-12 watershed boundaries in dark blue*)



*Source: Esri/ArcGIS, Montana State Library, USGS, and NRCS (**NOT TO SCALE**)*

Periodic inspections by DEQ for compliance with setbacks near the Site borders, slope restrictions, and runoff patterns will ensure no septage enters Swamp or Valley Creeks.

3.2.4.2 GROUNDWATER

MBMG's Ground Water Information Center (GWIC) is DEQ's reference for well data in Montana. All wells located within one mile of the Site and documented by GWIC when this Draft EA was written were considered. Any well not documented in GWIC is not included in this Draft EA, but if wells are proven to be within setbacks, the Site's boundaries would be adjusted to maintain the setbacks. See *Section 3.2.3* of this report for descriptions of the depositional environment beneath the Site.

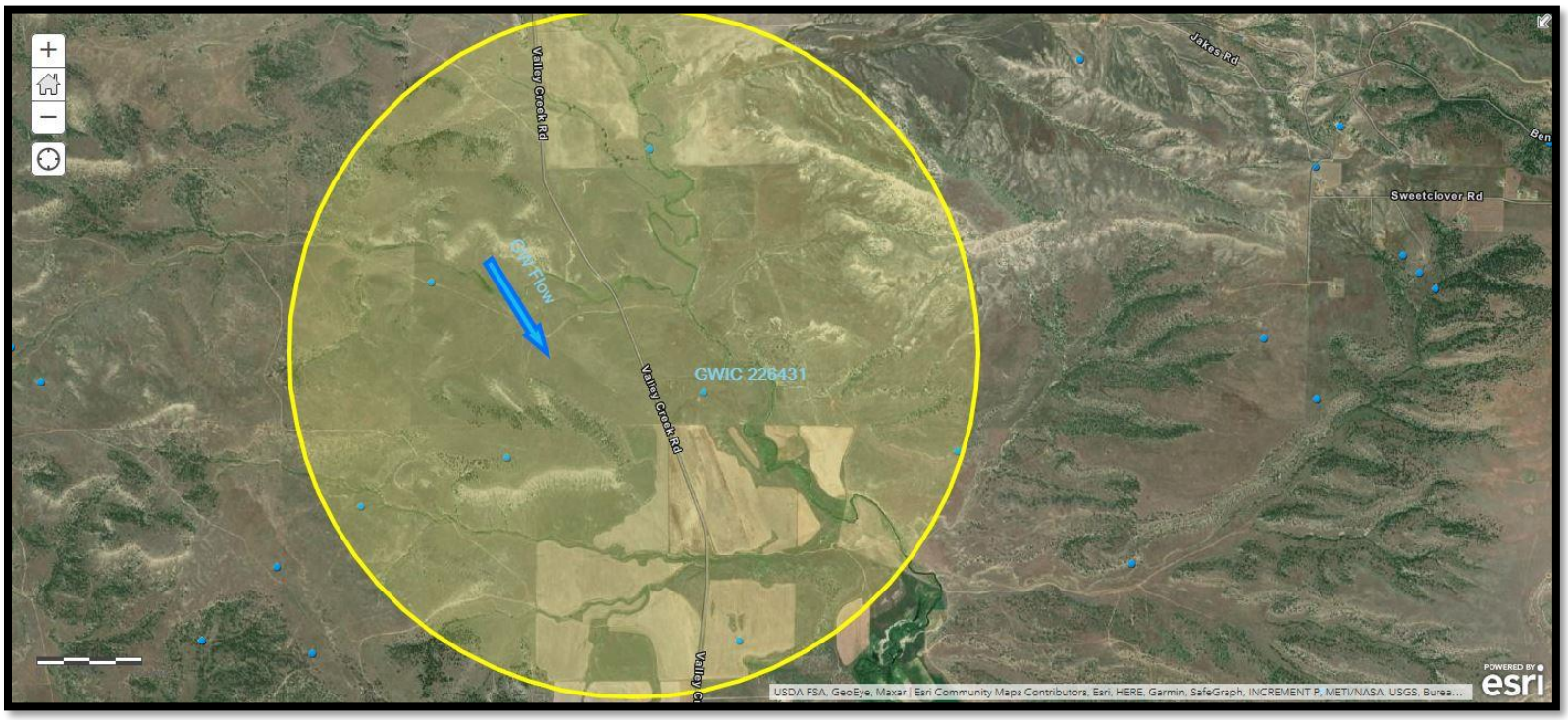
There are 7 documented groundwater production wells within a 1-mile radius of the Site. GWIC #226431 appears to be in the southeast section of the Site (**Figure 6**). The driller's log indicates this well is completed to a depth of 30 feet below ground surface (BGS), and depth to water is 10 feet BGS. GWIC production well information is often misreported and an inspection of the Site is recommended prior to initiating land application activities. The inspection would ensure setbacks of 100 feet are established in accordance with ARM 17.50.809(4) for any identified drinking water sources.

The groundwater flow direction is assumed to be from north-northwest toward the Yellowstone River, mimicking the surface water drainage patterns (**Figure 6**). Logs from nearby wells indicate that permeable Pleistocene age sandy to clayey gravels are present from the surface to approximately 30 feet BGS. Interbedded sandstone and shale, with occasional coal seams, typical of the Paleocene Fort Union formation are the predominant deposits present in the subsurface below the more permeable Pleistocene gravels. The approximate depth to water from nearby production wells report static water levels ranging from 100 feet to 122 feet BGS. It can be assumed that the depth to groundwater at the Site is greater than the six feet minimum required by ARM 17.50.809(8).

Inspections and possible monitoring by DEQ would validate compliance with requirements for land application of septage at the AAR for the crops planted on the Site. This practice would be followed at the Site to ensure the absence of vertical percolation of septage below the soil treatment zone.

The Proposed Action is not anticipated to impact groundwater or groundwater wells near the Site.

Figure 6: Location of Nearby Groundwater Production Wells
(GWIC wells in blue circles, 1-mile radius yellow shaded circle)



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*Source: Esri/ArcGIS and GWIC/MBMG (**NOT TO SCALE**)*

3.2.5 AESTHETICS AND NOISE

The impact to aesthetics and noise from the Proposed Action would be minor.

Gates would be used to access the Site via Valley Creek Road. The Site is not located on a prominent topographical feature. No other development is anticipated at the Site. The Site is in a rural area. The closest home is approximately one mile north of the Site.

DEQ and/or the local county sanitarian would respond to complaints about odor to determine if wastes were not properly managed. With proper management, odors would be minimal. The naturally occurring bacteria in the soil uses carbon in the waste as a fuel source. This activity results in the breakdown of wastes, which include odors. Usually, odors are only detected at the time and immediate vicinity (within feet) of the land application activity and are controlled by tilling within six hours. Land application could occur daily. Dust caused by tillage activities during the dry season would be reduced by the moisture content of septage.

The Proposed Action would be visible from Valley Creek Road and resemble agricultural activities occurring in the surrounding area. Pumper trucks would access the Site to conduct land application activities. However, only one truck would access the Site at a time. Noise from the truck at the Site would resemble noises from agricultural activities currently occurring in the area. Therefore, impacts to aesthetics and noise would be minor.

3.2.6 HUMAN HEALTH & SAFETY

No impacts on human health and safety are expected because of the Proposed Action.

Septage would be land applied at the Site. Septage would be incorporated into the soil surface within six hours of application and dust would be controlled. No livestock grazing would occur while land application activities occur or within 30 days of the most recent application, as per ARM 17.50.811 (5)(a).

Regarding COVID-19, the Environmental Protection Agency (EPA) expects a properly managed septic system to treat COVID-19 the same way it safely manages other viruses often found in wastewater. The World Health Organization (WHO) has indicated that "there is no evidence to date that COVID-19 virus has been transmitted via sewerage systems, with or without wastewater treatment." (EPA, 2020)

Access into the Site, via a private road, is controlled by a fence and gate.

3.2.7 INDUSTRIAL, COMMERCIAL, AND AGRICULTURAL ACTIVITIES

No impacts to industrial and commercial activities are expected due to the Proposed Action. Minor positive impacts to agricultural activities are expected due to the Proposed Action.

The Site is zoned as agricultural land and would not accommodate industrial or commercial activities. When land application occurs on an annual rotation (*Section 2.2.3*), crop production can occur and agricultural activities on the Site can continue. Land application of septage would improve soil health.

3.2.8 CULTURAL UNIQUENESS AND DIVERSITY

No impacts to cultural uniqueness and diversity are expected due to the Proposed Action.

The State Historic Preservation Office (SHPO) conducted a resource file search for Section 11, Township 2 South, Range 22 East, which indicated there have been no previously recorded sites within the area. Based upon ground disturbances in Section 11, Township 2 South, Range 22 East, associated with agricultural activities and residential development in the area, SHPO determined there is a low likelihood that cultural properties would be impacted.

3.2.9 DEMAND FOR GOVERNMENT SERVICES

The impact to demand for government services from the Proposed Action would be minor.

DEQ staff would provide guidance to RLF for septage land application activities at the Site, with assistance from the Stillwater County sanitarian as needed. Disposal logs showing volumes of waste applied by RLF at the Site are submitted to DEQ twice a year. Disposal logs would be reviewed by DEQ to ensure the AAR is not exceeded. Periodic inspections are performed by DEQ at all septic tank pumper land application sites. DEQ may obtain periodic soil samples for the testing of nutrient levels to ensure compliance with the AAR for the Site.

3.2.10 SOCIOECONOMICS

No impacts to socioeconomics are expected due to the Proposed Action.

No additional employees would be hired because of the Proposed Action. Employees currently employed by RLF would conduct necessary operations at the Site.

3.2.11 TRAFFIC

The impact to traffic from the Proposed Action would be minor.

There would be no significant increase in traffic on Valley Creek Road. One pumper truck would access the Site at a time. The Site would be accessed from Valley Creek Road via gates. Valley Creek Road currently supports daily traffic to homes and businesses in the area.

3.3 REGULATORY RESTRICTIONS

MEPA requires state agencies to evaluate regulatory restrictions proposed for imposition on private property rights because of actions by state agencies, including alternatives that reduce, minimize, or eliminate the regulation of private property (Section 75-1-201(1)(b)(iii), MCA). Alternatives and mitigation measures required by federal or state laws and regulations to meet minimum environmental standards, as well as actions proposed by or consented to by the applicant, are not subject to a regulatory restrictions analysis.

No aspect of the alternatives under consideration would restrict the use of private lands or regulate their use beyond the permitting process prescribed by the SDLA. The conditions that would be imposed by DEQ in issuing the license would be designed to ensure conformance of the Proposed Action to minimum environmental standards or to uphold criteria proposed and/or agreed to by RLF during application review. Thus, no further DEQ analysis is required beyond the RLF application review for protection of human health and the environment.

3.4 CUMULATIVE IMPACTS

Cumulative impacts are the collective impacts on the human environment when a specific action is considered in conjunction with other past, present, and future actions by location

and type. Cumulative impact analysis under MEPA requires an agency to consider all past and present state and non-state actions. Related future actions must also be considered when these actions are under concurrent consideration by any state agency through pre-impact statement studies, separate impact statement evaluation, or permit processing procedures. Cumulative impact analyses help to determine whether an action, combined with other activities, would result in significant impacts.

The Site is currently pasture grass. The surrounding area consists of agricultural activities and residential homes. The cumulative impacts of the Proposed Action would include limitations on the utilization of the Site for agricultural, recreational, and other activities, upheld until the Proposed Action ceases (ARM 17.50.811(4) and (5)).

4. FINDINGS

The depth and breadth of the project are typical of a septage land application site. DEQ's analysis of potential impacts from the Proposed Action are sufficient and appropriate for the complexity, environmental sensitivity, degree of uncertainty, and mitigating factors provided by the Septic Rules for each resource considered.

To determine whether preparation of an EIS is necessary, DEQ is required to assess the significance of impacts associated with the Proposed Action. The criteria that DEQ is required to consider in making this determination are set forth in ARM 17.4.608(1)(a) through (g):

(a) The severity, duration, geographic extent, and frequency of occurrence of the impact;

(b) The probability that the impact will occur if the Proposed Action occurs; or conversely, reasonable assurance in keeping with the potential severity of an impact that the impact will not occur;

(c) Growth-inducing or growth-inhibiting aspects of the impact, including the relationship or contribution of the impact to cumulative impacts;

(d) The quantity and quality of each environmental resource or value that would be affected, including the uniqueness and fragility of those resources or values;

(e) The importance to the state and to society of each environmental resource or value that would be affected;

(f) Any precedent that would be set because of an impact of the Proposed Action that would commit DEQ to future actions with significant impacts or a decision in principle about such future actions; and

(g) Potential conflict with local, state, or federal laws, requirements, or formal plans.

The Site's location is described in *Section 1.4* of this Draft EA, and includes approximately 124 acres of Benner property located at 4200 Valley Creek Road in Park City, Montana. If RLF renews their

license and operations comply with the SDLA and its implementing rules, land application activities and DEQ site inspections would continue indefinitely. The Site is not within a sage grouse core habitat, general habitat, or connectivity area. It has no special agricultural designation. Operations would not adversely affect any threatened or endangered species.

The Proposed Action is expected to improve soils and vegetation at the Site, as described in *Section 3.2.2*.

The Proposed Action is not expected to impact surface water resources. Operational standards ensure that all the setback requirements from surface water are met and that no slopes exceed 6%, as described in *Section 3.2.4.1* of this Draft EA.

The Proposed Action is not expected to impact groundwater or nearby wells. The depth to groundwater is greater than six feet as required. Land application at agronomic rates would ensure that no septage could percolate below the surface treatment zone.

DEQ has not identified any growth-inducing or growth-inhibiting aspects of the Proposed Action. However, access to the parcels on the Site for utilization by human recreation, crops, and livestock would be limited to meet the regulatory restrictions necessary to protect human health (ARM 17.50.811(4) and (5)). DEQ's approval is not a decision regarding, in principle, any future actions that DEQ may perform. Furthermore, approval does not set any precedent or commit DEQ to any future action. Finally, the Proposed Action does not conflict with any local, state, or federal laws, requirements, or formal plans.

The Proposed Action would meet the requirements of the SDLA, the Clean Air Act of Montana, the Montana Water Quality Act, ARM, and county ordinances. Based on a consideration of the criteria set forth in ARM 17.4.608, DEQ has determined that RLF's proposal to add the Site to its septic pumper license is not predicted to significantly impact the quality of the human environment. Therefore, preparation of an EA is the appropriate level of review under MEPA.

5. OTHER GROUPS OR AGENCIES CONTACTED OR CONTRIBUTING TO THE EA

Stillwater County Health Department
United States Environmental Protection Agency
World Health Organization
United States Department of Agriculture
Montana Natural Heritage Program
Montana Historical Society State Historic Preservation Office
United States Geological Survey
Montana Bureau of Mines and Geology
US Fish & Wildlife Service
Montana Sage Grouse Habitat Conservation Program

6. AUTHORS

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Septic Tank Pumper Program

Date: February 18, 2021

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http://svc.mt.gov/msl/mtcadastral

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http://www.weatherbase.com/weather/weather.php3?s=63457&cityname=Columbus-Montana-United-States-of-America

Average Pan Evaporation Data by State
https://wrcc.dri.edu/Climate/comp_table_show.php?stype=pan_evap_avg

Fertilizer Guidelines for Montana Crops
http://landresources.montana.edu/soilfertility/documents/PDF/pub/FertGuidelMTCropsEB161.pdf

Administrative Rules of Montana
http://deq.mt.gov/Portals/112/deqadmin/dir/documents/Legal/Chapters/CH50-08.pdf

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https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx