DRAFT ENVIRONMENTAL ASSESSMENT

Scenic City Enterprises

Land Application Site

Three Forks, Montana

Solid Waste Section

PO Box 200901

Helena, MT 59620-0901

April 4, 2025

TABLE OF CONTENTS

TABLES

FIGURES

ACRONYMS

SCE – Scenic City Enterprises

AOI – Area of Interest

ARM – Administrative Rules of Montana

AAR– Annual Application Rate

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

Final EA – Final version of an environmental assessment after 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 – Site #1 approximately 145 acres located at Section 5, Township 3N, Range 1E. Site #2, and #3 combined acreage approximately 395 acres located at Section 15/22, Township 3N, Range 1E, Three Forks, Broadwater County, Montana

SWL – Static Water Level

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 Scenic City Enterprises (SCE), in accordance with the Montana Environmental Policy Act (MEPA). The Department of Environmental Quality (DEQ) received an application from SCE for the licensing of a new septage land application site (Proposed Action). SCE proposes the land application of septage on approximately 540 acres owned by Darrel Flikkema / LeFebre Ranches. One property is located North of 101 Road, Section 5, Township 3N, Range 1E, Three Forks, Broadwater County, Montana. The other two abutting properties are located at Mile Marker 102, Hwy 287 North, Section 15/22, Township 3N, Range 1E, Three Forks, Broadwater County, Montana (Site, **Figure 1**).

1.2 BACKGROUND

SCE holds a license from DEQ to pump and land apply septage in Montana. SCE is currently approved to land apply septage on one land application site in Broadwater County. SCE is proposing to add this Site to their license.

This application was signature-certified by Broadwater 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 receives only domestic waste and wastewater collected from household or commercial operations. Naturally occurring bacteria within wastewater reside in the typical septic tank, digesting organic matter over time. Pre-treated liquid (effluent) typically exits the septic tank through a perforated pipe and enters its leach field, leaving floating materials and solids in the tank for further digestion. Septic tanks are commonly pumped every two to five years depending on tank capacity and number of users.

Septage is either delivered to a wastewater treatment plant for secondary treatment, land applied as proposed in this document, or dewatered and landfilled at a licensed Class II municipal solid waste landfill facility. 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. Septage does not include prohibited material (e.g., garbage or tampons) removed from a septic tank or similar treatment works by pumping.

SCE'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. A licensed land application program recognizes and employs practices that maximize benefits.

1.3 PURPOSE AND NEED

DEQ's purpose and need in conducting the environmental review is to act upon SCE's application by evaluating potential impacts of the Proposed Action. If DEQ approves the application, DEQ would 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.

SCE proposes to comply with all the rules noted above.

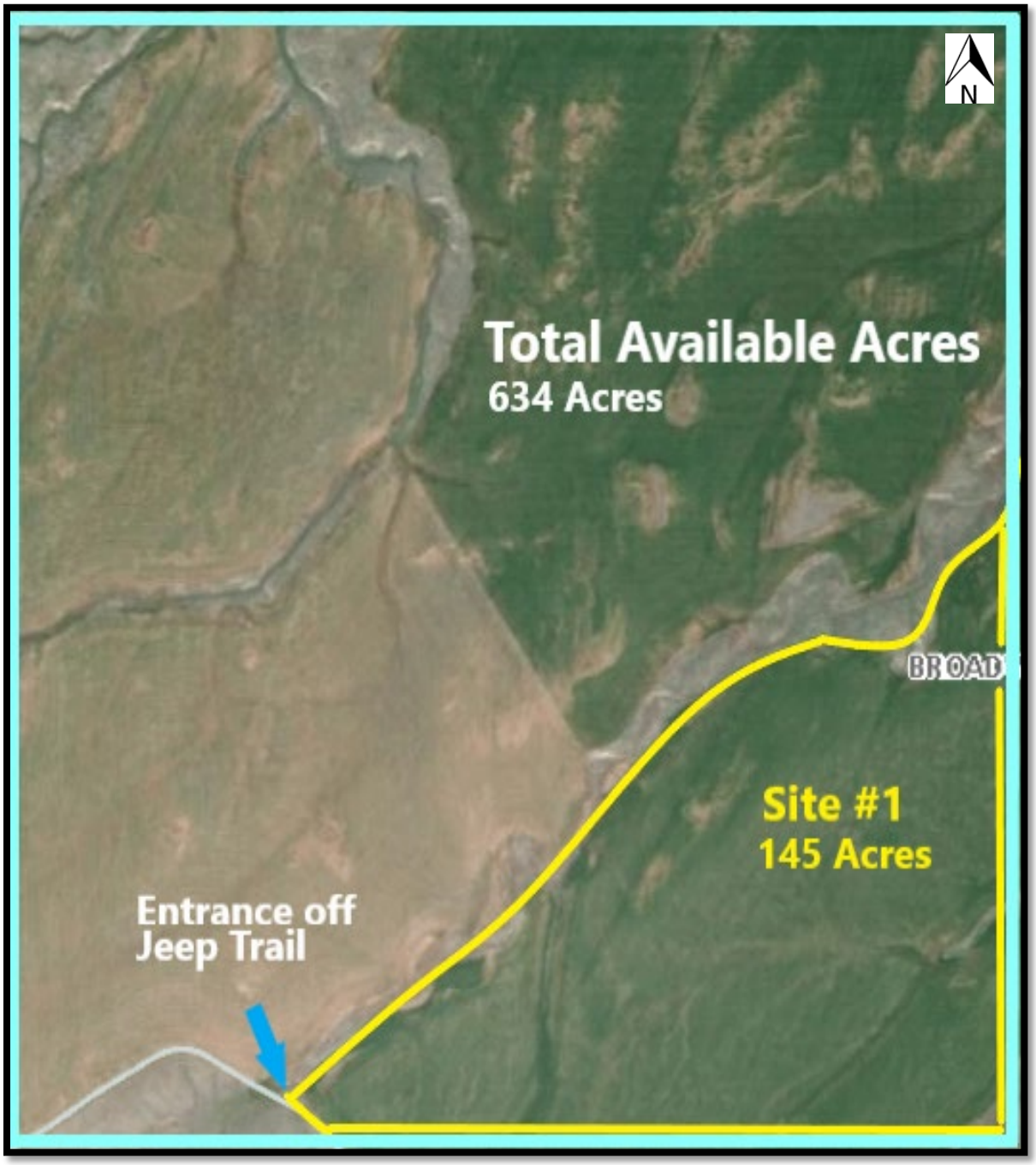
1.4 LOCATION DESCRIPTION AND ANALYSIS AREA

The proposed Sites are located on property owned by Darrel Flikkema / LeFebre Ranches. Site #1 is located at Section 5, Township 3N, Range 1E and Section 15/22, Township 3N, Range 1E, Three Forks, Broadwater County, Montana. At Site 1, 145 acres would be used for land application and would be rotated to produce wheat and barley. Of the combined 413.5 acres available for Site's #2 and #3, only 395 acres would be used for land application due to some areas that may exceed a 6% slope and would be rotated to produce wheat / barley. The parcels would be rotated annually.

Site #1 would be accessed from the private drive from the south side of the field or east side of the field from Jeep Trail (**Figure 1**). Site's #2, #3 would be accessed from private drives off US Hwy 287 (**Figure 2**). The area being analyzed as part of this environmental review includes the immediate project area (**Figure 3 & 4**) and neighboring lands surrounding the Site as reasonably appropriate for the impacts being considered. The analysis area depends on the resource under evaluation, as noted in the subparts of *Section 3*.

Figure 1: Proposed Site #1

(Darrel Flikkema / LeFebre Ranches - property outlined in aqua blue, proposed Site #1 outlined in yellow, entrance outlined with blue arrows and labeled in white)



Source: https://svc.mt.gov/msl/mtcadastral ***(NOT TO SCALE)***

Figure 2: Proposed Sites #2, #3
(Darrel Flikkema / LeFebre Ranches – proposed Site #2 outlined in orange, proposed Site #3 outlined in green, entrances outlined with blue arrows)

*Source: https://svc.mt.gov/msl/mtcadastral (**NOT TO SCALE**)*

1.5 COMPLIANCE WITH MEPA

Under MEPA, DEQ is required to prepare an environmental review for state actions that may have an impact on the human environment. This Draft EA analyzes the Proposed Action and reasonable alternatives to the Proposed Action and discloses potential impacts that may result from such actions. As explained below, DEQ has determined an EA is the appropriate level of review based on consideration of the criteria set forth in ARM 17.4.608.

1.6 PUBLIC INVOLVEMENT

DEQ released this Draft EA to present its initial findings described in *Section 4.* ***A 30-day public comment period*** commenced on the release of the document and ***will end on May 5, 2025.*** A notice of availability for the Draft EA was sent to adjacent landowners and other interested parties. A press release was sent to area media outlets and posted to the State Newsroom the day this Draft EA was published. This Draft EA may be viewed at: https://deq.mt.gov/public/solidwaste-public.

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. According to Section 75-1-220(1), MCA, 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 alternatives whenever reasonable and prudent. DEQ has not considered any other alternatives to the Proposed Action, beyond the no action alternative, because SCE's application and proposed 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 SCE, and disposal of septage would have to occur at other licensed treatment works or land application sites.

2.2 PROPOSED ACTION

SCE is proposing the land application of septage 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. The Site would not be used until boundaries have been marked and approved by DEQ or the local county sanitarian.

SCE would be required to log the type and amount of pumpings 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 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 (EPA, 1993); and
2. The crop nitrogen yields for the crop or other vegetation at the Site.

The AAR for portable toilet and vault type waste is calculated as follows:

$$\textbf{AAR} = \frac{\text{minimum crop nitrogen requirement (lbs./acre/year)}}{0.0052 \text{ (lbs./gallon)}}$$

Of the 634 available acres for land application, only 145 acres of Site #1 would be used to grow wheat / barley. Of the combined 413.5 acres available for Site's #2 and #3, only 395 acres would be used for land application, and would be rotated to produce wheat / barley. The AAR is calculated for wheat as wheat has higher nitrogen requirements. The nitrogen requirement for wheat is 99 pounds per acre per year based on a conservative yield expectation at the Site (Fertilizer Guidelines for Montana Crops, 2005; EPA, 1993). For the wheat field crop, the resulting AAR for septage is 19,038 gallons per acre per year, which is less than 3/4 inches of liquid applied annually per acre. For comparison, the average annual precipitation in the Three Forks area is 13 inches per year.

Land application of septage at the AAR would be 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, SCE would rotate between all three parcels. The residual soil nutrient levels at each parcel would vary over time. DEQ may periodically monitor the soil for nutrient content to determine compliance with the AAR.

Based on these calculations, the Darrel Flikkema / LeFebre Ranches properties could treat the proposed volume of waste without exceeding the Site AAR.

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES BY RESOURCE

3.1 LOCATION DESCRIPTION AND ANALYSIS AREA

The location of the Site is described in *Section 1.1* of this Draft EA. The analysis area includes land and resources in and around the Site. The analysis area 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.

Direct impacts are those that occur at the same time and place as the action that triggers the effect.

Secondary impacts are those that occur at a different location or later time than the action that triggers the effect.

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.

Under the No Action Alternative, there would be no impacts for any resource.

3.2.1 WILDLIFE AND HABITATS

Impacts to wildlife and habitats from the Proposed Action would be minor. Once land application of septage begins, impacts would begin and would continue indefinitely or until SCE discontinues the Proposed Action.

Wildlife tends to avoid areas where human scents and activities are present including, but not limited to, septage land application sites. Montana Fish, Wildlife & Parks (FWP) manages the overall wildlife populations of the region. Species of fish, amphibians, and aquatic invertebrates and 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 areas would be impacted because human activities would be constrained to the Site's boundaries. Odors are expected to be limited to the area immediately surrounding the point of land application (see *Section 3.2.5*). The Site is in a rural portion of Broadwater County on land used for agricultural production. Adjacent land use in the vicinity of the Site includes a mix of row crop agricultural production, grazing, and grasslands.

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 the associated analysis area (USFWS, 2023). The USFWS species and status listings for Broadwater County, Montana, are shown in **Table 4**:

Table 3: Federally Established Species List

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

Danaus plexippus	Monarch butterfly	Candidate
Myotis lucifugus	Little brown bat	Under review
Charadrius montanus	Mountain plover	Resolved Taxon
Canis lupus	Gray Wolf	Under Review

The Site does not provide the habitat necessary to independently sustain the species listed above. Nearby grasslands, riparian areas, and protected lands provide adequate habitat for any species forced to relocate due to the Proposed Action. Habitat for the whitebark pine exists outside of the immediate vicinity of the Site at points of higher elevation throughout Broadwater County. The greater sage grouse is addressed separately in *Section 3.2.1.2*. The Proposed Action may deter transient wildlife from passing through the active land application area but impacts to these species are anticipated to be minor.

3.2.1.2 SPECIES OF CONCERN

No impacts to species of concern are anticipated to result from 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, 2022). The MNHP species and status listing for Township 3 North, Range 1 East is shown in **Table 5**.

Table 4: Montana Recognized Animal Species List

Scientific Name	Common Name	Status	GRank/SRank
Ursus arctos	Grizzly bear	Species of concern	G4/S2
Centrocercus urophasianus	Greater sage grouse	Species of concern	G3/S2
Gulo gulo	Wolverine	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**.

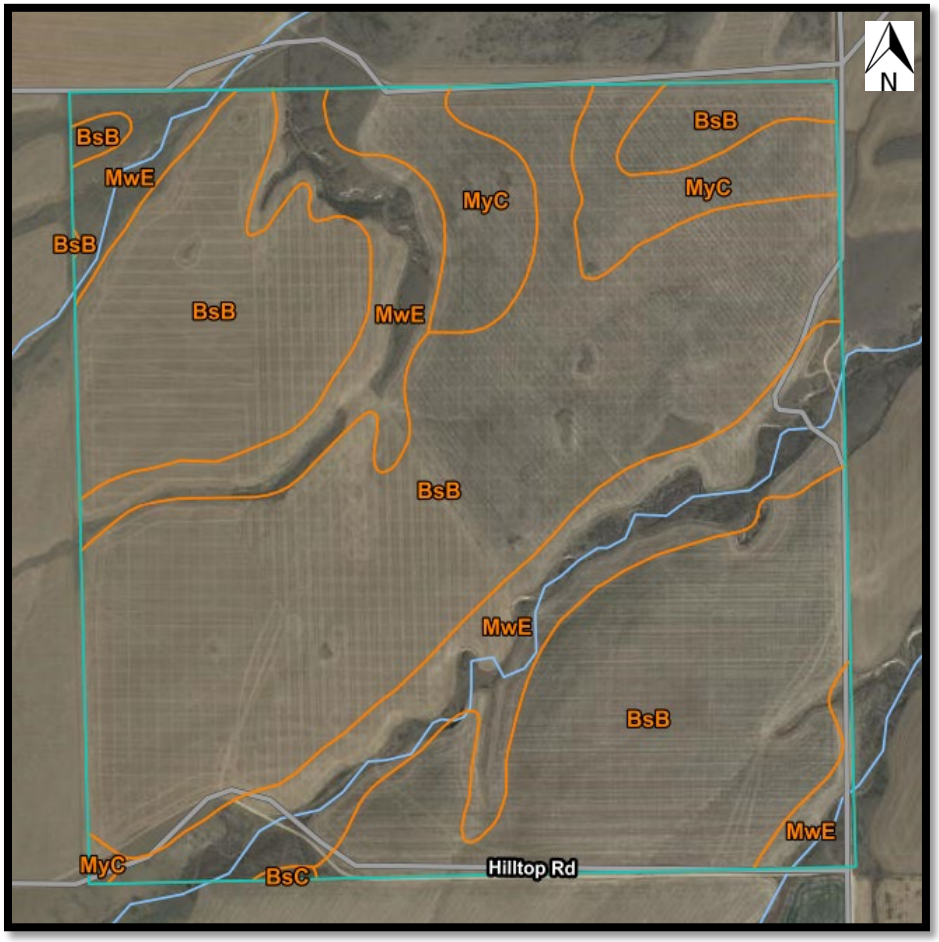
The Site is not located within any recognized level of sage grouse habitat as designated by the Department of Natural Resources and Conservation (DNRC).

3.2.2 SOILS AND VEGETATION

The impact of the Proposed Action on soil and vegetation would be minor. Once land application begins, this would continue indefinitely or until SCE discontinues the Proposed Action.

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 areas (**Figure 3** and **Table 6**).

Figure 3: Soil Resource Map – Site #1
(*Soil unit with delineation in orange, approximate Site without setbacks outline of Section 5 in blue,*)

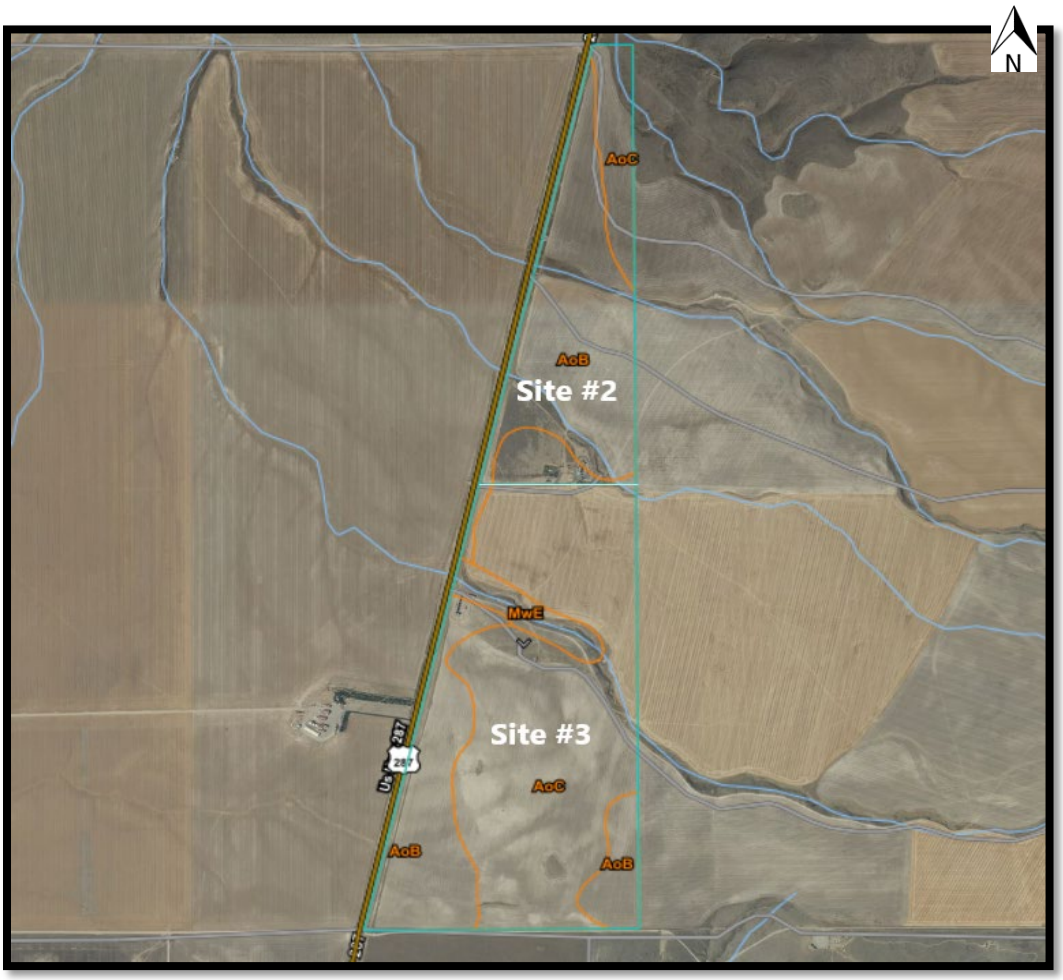


*Source: USDA, Natural Resources Conservation Service (NRCS), 2023 (**NOT TO SCALE**)*

Table 5: Soils Survey Site #1

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BsB	Brocko silt loam, 2 to 5 percent slopes	446.2	69.0%
BsC	Brocko silt loam, 5 to 9 percent slopes	0.7	0.1%
MwE	Musselshell-Crago channery loams, 15 to 35 percent slopes	145.9	22.6%
MyC	Musselshell-Thess cobbly loams, 3 to 8 percent slopes	53.9	8.3%
Totals for Area of Interest		**646.7**	**100.0%**

Figure 4: Soil Resource Map – Site #2, #3
(Soil unit with delineation in orange, approximate Site without setbacks outline of Section 15 and 22 blue)



*Source: USDA, Natural Resources Conservation Service (NRCS), 2023 (**NOT TO SCALE***

Table 6: Soils Survey Site #2, #3

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AoB	Amesha loam, 1 to 4 percent slopes	177.6	41.3%
AoC	Amesha loam, 4 to 9 percent slopes	236.7	55.0%
MwE	Musselshell-Crago channery loams, 15 to 35 percent slopes	16.1	3.7%
Totals for Area of Interest		**430.4**	**100.0%**

Site #1 soil types where land application would occur primarily consist of Brocko silt loam at 2 to 9 percent slopes, Musselshell-Crago channery loams at 15 to 35 percent slopes, and Musselshell-Thess cobbly loams at 3 to 8 percent slopes.
Sites #2, and #3 soil types where land application would occur primarily consist of Amesha loams at 1 to 9 percent slopes, and Musseshell-Crago channery loams on 15 to 35 percent slopes. The ratings shown in **Table 6** and **Table 7** 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.

The "Acres in AOI" shown in Table 6 represents the amount of acreage with each specific soil characteristic within the area of interest, whereas the "Percentage of AOI" represents the percentage of each specific soil characteristic within the area of interest.

Weed control is managed by Broadwater County. DEQ has not experienced any active or closed land application sites where weeds were abundant beyond what would be considered "typical" for sites where row crop agriculture or grazing is present.

Septage contains nutrients that can reduce the reliance of the farmer or land manager on chemical fertilizers to improve soils. The Proposed Action would add moisture, organic matter, and nutrients to the topsoil, improving the Site's soil tilth and grass vigor. The quantity and quality of soils and vegetation at the Site would be enhanced by the Proposed Action. ARM requires septic tank pumpers to spread septage evenly over the plot of land. This requirement prevents oversaturation of soil with moisture. Further, routine inspections and DEQ's soil testing further mitigates the possibility of oversaturation.

DEQ analyzed how the land application of septage would impact the Site's environment given the weather of the region. The weather in the area is typical of Southwestern Montana, classified as warm summer continental climate. The average pan evaporation rate is listed as 39.30 inches per year at the nearest monitoring

station. 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 GREENHOUSE GAS ASSESSMENT

Issuance of this permit would authorize use of various equipment and vehicles to assist in proper disposal of septage at the Sites. This would require the use of two 2016 Freightliner vacuum-trucks. The anticipated annual amount of fuel consumption for the vacuum trucks would be approximately 18,000 gallons per year.

The assessment area for this resource is limited to the activities regulated by the Septic Tank Pumper Program via the Proposed Action. The amount of diesel fuel utilized at this site may be impacted by a number of factors including seasonal weather impediments and equipment malfunctions. To account for these factors, DEQ has calculated the range of emissions using a factor of +/- 10% of SCE's estimate.

For the purpose of this assessment, DEQ has defined greenhouse gas emissions as the following gas species: carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), and many species of fluorinated compounds. The range of fluorinated compounds includes numerous chemicals which are used in many household and industrial products. Other pollutants can have some properties that also are similar to those mentioned above, but the EPA has clearly identified the species above as the primary GHGs. Water vapor is also technically a greenhouse gas, but its properties are controlled by the temperature and pressure within the atmosphere, and it is not considered an anthropogenic species.

The combustion of diesel fuel at the site would release GHGs primarily being carbon dioxide (CO2), nitrous oxide (N2O) and much smaller concentrations of uncombusted fuel components including methane (CH4) and other volatile organic compounds (VOCs).

DEQ has calculated GHG emissions using the EPA Simplified GHG Calculator version June 2024, for the purpose of totaling GHG emissions. This tool totals carbon dioxide (CO2), nitrous oxide (N2O), and methane (CH4) and reports the total as CO2 equivalent (CO2e) in metric tons CO2e. The calculations in this tool are widely accepted to represent reliable calculation approaches for developing a GHG inventory. The direct impact of operation of diesel/gasoline-fueled vehicles throughout the life of the proposed project would produce exhaust fumes containing GHGs.

SCE and DEQ estimates that approximately 18,000 gallons of fuel would be utilized annually. To account for variability due to the factors described above, DEQ has calculated the range of emissions using a factor of +/- 10% of SCE's estimate. Using the EPA's simplified GHG Emissions Calculator for mobile sources, three kilograms of CO2e would be produced annually.

Secondary impacts of GHG emissions would be the contribution to changes in atmospheric radiative forcing, resulting in climate change impacts. GHGs act to contain solar energy loss by trapping longer wave radiation emitted from the Earth's surface and act as a positive radiative forcing component (BLM 2021). The impacts of climate change throughout Gallatin County may include increased temperatures by five to ten degrees Fahrenheit by 2100, drier summers, reduced soil moisture, and increased chance of wildfires (USGS 2021).

Montana recently used the EPA State Inventory Tool (SIT) to develop a greenhouse gas inventory in conjunction with preparation of a possible grant application for the Climate Pollution Reduction Grant (CPRG) program. This tool was developed by EPA to help states develop their own greenhouse gas inventories, and this relies upon data already collected by the federal government through various agencies. The inventory specifically deals with carbon dioxide, methane, and nitrous oxide and reports the total as CO2e. The SIT consists of eleven Excel based modules with pre-populated data that can be used as default settings or in some cases, allows states to input their own data when the state believes their own data provides a higher level of quality and accuracy. Once each of the eleven modules is filled out, the data from each module is exported into a final "synthesis" module which summarizes all of the data into a single file. Within the synthesis file, several worksheets display the output data in a number of formats such as emissions by sector and emissions by type of greenhouse gas.

DEQ has determined the use of the default data provides a reasonable representation of the greenhouse gas inventory for the various sectors of the state, and an estimated annual greenhouse gas inventory by year. The SIT data is currently only updated through the year 2021, as it takes several years to validate and make new data available within revised modules.

Future GHG emissions from operations such as this Site would be represented within the module Carbon Dioxide Emissions from Fossil Fuel Combustion, and emissions from the Wastewater Sector within the Waste sector. At present, the Wastewater Sector accounts for 0.11 million metric tons of CO2e (MMTCO2e) annually. SCE is estimated to produce 172 metric tons of CO2e annually. This would account for 0.15% of emissions in the Wastewater Sector and would account for 0.00000000003% of Montana's total emissions annually.

The adjacent area the proposed project is primarily used for agriculture, grazing and open pasture. Due to the limited emissions from the Proposed Action, and similar agricultural activity already occurring in the area, and type of vegetation in the area, DEQ does not expect any loss of vegetation, and therefore there would be no impact GHG emissions.

GHG emissions that would be emitted as a result of the proposed activities would add to GHG emissions from other sources. The current agricultural utilization or No Action Alternative of the site also produces GHGs through agricultural activities.

3.2.4 GEOLOGY

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

Periodic tilling of the surface topsoil to incorporate septage may incur minor and short-term impacts on the thickness or character of deeper glacial till found on the Site. Septage land application operations would not involve excavation. However, excavation or tilling of the ground surface does not affect or alter the geology of the area.

3.2.5 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 the Montana Bureau of Mines and Geology (MBMG), and online maps (Esri/ArcGIS, 2023).

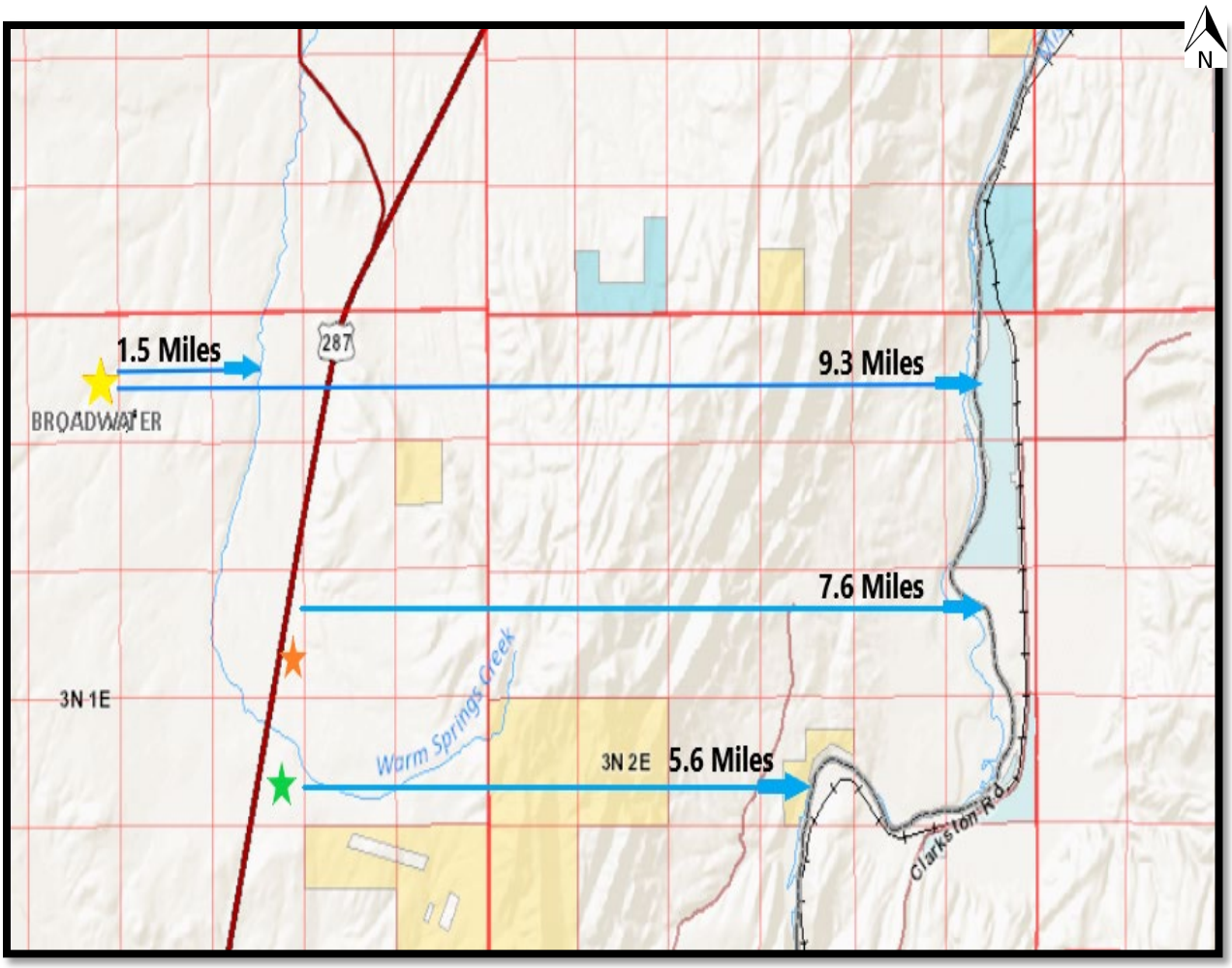
3.2.5.1 SURFACE WATER

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

Proposed Site #1 is located 1.5 miles away from Warm Springs Creek, Site #2 is less than 1 mile away, and Site #3 has a portion of Warm Springs Creek that runs directly through the northern section of the field. Distances from proposed Sites #1, #2 and #3 to the Missouri river are outlined below (**Figure 5**). ARM outlines site specific criteria, including setbacks to groundwater, surface water, and groundwater wells (see **Table 2**). Further, restrictions on slope are outlined in ARM.

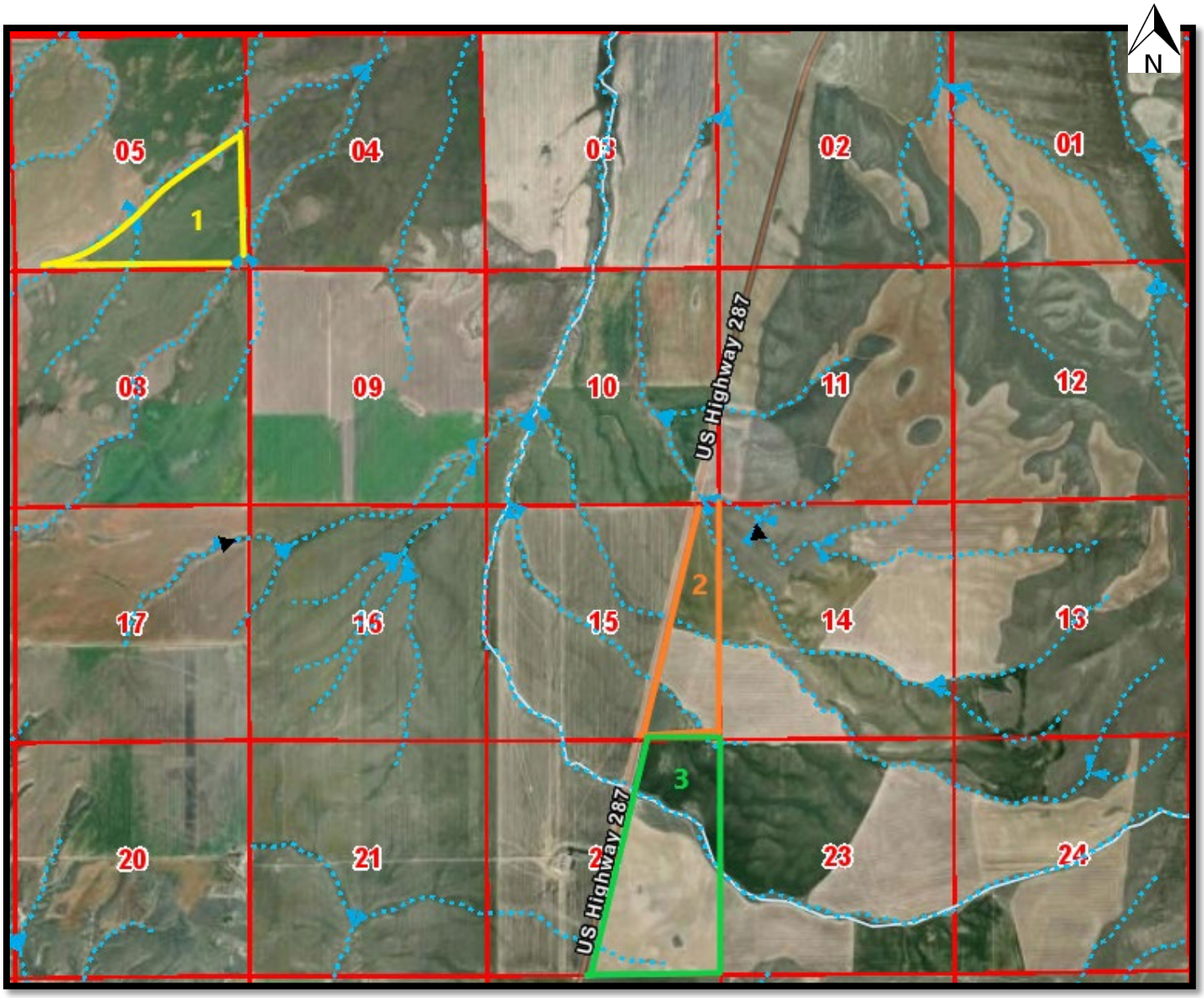
There are approximately 50 acres of riverine habitat classified as “R4SBC” within the proximity of the proposed Site #1, and approximately 85 acres of riverine habitat classified has “R4SBC” within the proximity of the proposed Sites #2, and #3 (**Figure 6**). These subsystems include channels that contain flowing water only part of the year. Surface water is present for extended periods, especially early in the growing season, but is absent by the end of the growing season in most years. When the water is not flowing, it may remain in isolated pools or surface water may be absent.

Figure 5: Surface Water
(Site #1 Labeled with yellow star, Site #2 labeled with orange star, Site #3 labeled with green star, distances to Warm Springs Creek and Missouri River highlighted in blue)



*Source: https://svc.mt.gov/msl/mtcadastral (**NOT TO SCALE***

Figure 6: Surface Water & R4SBC – Riverine Habitat
(Approximate Site #1 outlined and labeled in yellow, Site #2 outlined and labeled in orange, Site #3 outlined and labeled in green, surface water outlined with blue dots and blue flow direction arrows)



*Source: ArcGIS Enterprise, 2023 (**NOT TO SCALE**)*

Periodic inspections by DEQ for compliance with setbacks near the Site borders, slope restrictions not to exceed **6%**, and runoff patterns would ensure no septage enters nearby ephemeral or intermittent drainages, Warm Springs Creek, the Missouri River, or any nearby ponds. **Table 2** outlines all site-specific requirements regarding land application of septage in ARM 17.50, subchapter 8. Intermittent drainages near the proposed sites require 150 ft setbacks.

3.2.5.2 GROUNDWATER

No impacts to groundwater or groundwater wells are expected due to the Proposed Action. Table 2 outlines all site-specific requirements regarding setbacks to groundwater, which is at least six feet (ARM 17.50, subchapter 8).

The Montana Bureau of Mines and Geology'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 EA was written were considered. Any well not documented in GWIC is not included in this EA, but if the project is approved and wells are later proven to be within setbacks, the Site's boundaries would be adjusted to maintain the setbacks.

The sites lie within the western third of Broadwater County, in southwestern Montana.

There are no production wells located within a one-mile radius of Site #1. There is one production well within the boundaries of Site #2 that would require 150 ft setback, (GWIC ID #14531). The static depth to groundwater in GWIC ID #14531 is 400 feet below the surface of the ground, which is greater than the six-foot minimum required by ARM 17.50.809(8) (**Figure 6**). There are two additional production wells located within a 1-mile radius of Sites #2, and #3. GWIC ID #14533 and GWIC ID #191922 are located on the other side of US Hwy 287 on an adjacent property more than 800 ft from the proposed sites and have static water levels of 100 ft – 125 feet (**Figure 7)**.

Inspections and 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.

Figure 7: Location of Nearby Groundwater Production Wells Site #1
(GWIC wells circled in red, approximate Site in yellow, distance from Site #1 to GWIC wells within 1-mile radius outlined in blue)

*Source: ArcGIS Enterprise, GWIC/MBMG, 2023 (**NOT TO SCALE**)*

Figure 8: Location of Nearby Groundwater Production Wells Sites #2, #3
(Abandoned GWIC wells in blue, active GWIC wells circled in red, approximate Site #2 in orange, approximate Site #3 in green, distance from Sites #2, #3 to GWIC wells within 1-mile radius)

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

3.2.6 AESTHETICS AND NOISE

Minor impacts to aesthetics and noise are expected because of the Proposed Action. This would occur indefinitely or until SCE discontinues the Proposed Action. The analysis area is the Site and the surrounding area within one mile of the Site.

Site #1 would be accessed from a private drive from the south side of the field or east side of the field from Jeep Trail. Sites #2, #3 would be accessed from private drives off US Hwy 287. The Site is not located on a prominent topographical feature. No other development is anticipated at the Site.

There are no homes that lie within a 1-mile radius of Site #1. There is 1 home that lies within a 1-mile radius of Site's #2, #3. The closest home lies on the other side of the parcel, located on the West side of US Hwy. 287 where the two production water

wells are located on the adjacent property to Site #3 (**Figure 8**). Setbacks would be met accordingly (500 feet from any occupied or inhabitable building).
DEQ and/or the local county sanitarian would respond to complaints about odor to determine if waste was 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 waste, which includes 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 the main road and resemble agricultural activities occurring in the surrounding area. The pumper truck would access the Site to conduct land application activities. 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.

3.2.7 HUMAN HEALTH & SAFETY

The applicant would be required to adhere to all applicable state and federal safety laws. The Occupational Safety and Health Administration (OSHA) has developed rules and guidelines to reduce the risks associated with this type of labor. Few, if any, members of the public would be in immediate proximity to the project during construction or operations.

No impacts on human health and safety are expected due to 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 areas exist on the Site. The Site grows wheat and barley Crops would not be harvested until 14 months after the most recent septage application, as per ARM 17.50.811(3)(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)

Therefore, no impacts to human health and safety are expected due to the Proposed Action.

3.2.8 INDUSTRIAL, COMMERCIAL, AND AGRICULTURAL ACTIVITIES

No impacts on 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.

3.2.9 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 5, Township 3 North, Range 1 East, and Section 15/22, Township 3 North, Range 1 East, which indicated there have been no previously recorded sites within the area. Based upon ground disturbances in this area associated with agricultural activities and residential development in the area, SHPO determined there is a low likelihood that cultural properties would be impacted.

3.2.10 DEMAND FOR GOVERNMENT SERVICES

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

DEQ staff would provide guidance to SCE for septage land application activities at the Site, with assistance from the Broadwater County sanitarian as needed. Disposal logs showing volumes of waste applied by SCE 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 testing of nutrient levels to ensure compliance with the AAR for the Site.

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***. When done in compliance with DEQ rules, land application by septic tank pumpers allows for safe disposal of septage without overloading Montana's wastewater treatment plants.

3.2.11 SOCIOECONOMICS

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

The Proposed Action would occur on privately owned agricultural land. When land application occurs on an annual rotation (*Section 2.2.2*), crop production can occur and agricultural activities on the Site can continue. Land application of septage would improve soil health within the property. Broadwater County has approximately 8,000 people. The project would not require construction, road work, or have any socioeconomic impact due to pursuance of the Proposed Action.

No additional employees would be hired because of the Proposed Action.

Employees currently hired by DC would conduct necessary operations at the Site. It is not anticipated that the Proposed Action would disrupt native or traditional lifestyles or communities.

There would be no anticipated major increase in traffic for Site #1 on Road 101, Jeep Trail, or for Sites #2, #3 off Hilltop Road, Copper City Road, or US Hwy 287, all of which currently support daily traffic to homes and businesses in the area.

3.2.12 PROPERTY VALUES

There is a lack of literature or studies on potential impacts from land application sites on surrounding real property values in Montana. Given the lack of analysis proving a direct and statistically relevant link that land application sites devalue surrounding property, negative property value impacts from the Proposed Action are difficult to quantify. However, because land application activities resemble existing agricultural and commercial activities in the surrounding area, any negative impacts to adjacent and nearby property values are expected to be minor. Visually, the Proposed Action would resemble existing agricultural and commercial land uses in the surrounding area. Similarly, as discussed in *Section 3.2.5*, odors are expected to be of limited duration and limited to the immediate area surrounding the land application activities. As discussed in Section *3.2.4.2*, DEQ does not expect the Proposed Action to impact groundwater resources and thus does not expect impacts to groundwater resources to affect adjacent and nearby property values.

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 the environmental standards required by the SDLA, or to uphold criteria proposed and/or agreed to by SCE during application review. Thus, no further DEQ analysis is required beyond SCE's application review for protection of human health and the environment.

3.4 CUMULATIVE IMPACTS

The Site is currently used to grow wheat and barley and has some areas of grazing pasture grass. The surrounding area consists of rural agricultural activities and residential homes (distanced from the Site). DEQ is not aware of any other proposed projects in the area.

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. No cumulative impacts were identified (**Table 3**). One potential cumulative impact was noted regarding wildlife and habitats. Wildlife avoidance of the Site would occur as a result of the Proposed Action (see *Section 3.2.1*). Due to the nature of the Proposed Action and its beneficial impact on soils, cumulative impacts are expected to be minor.

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 Sites locations are described in *Section 1.4* of this Final EA and includes approximately 145 acres of property for Site #1, located 10.4 miles North-West of Three Forks, in Broadwater County, Montana. Site #2 includes approximately 130.5 acres of property, and Site #3 includes approximately 283 acres, located 6.9 miles North-West of Three Forks, in Broadwater County, Montana.

If SCE renews their license and operations comply with the SDLA and its implementing rules, land application activities and DEQ site inspections would continue indefinitely, subject to the maximum annual application rate for the Site. The Site is not within 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 soil 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 Final EA.

The Proposed Action is not expected to impact groundwater. Setback requirements for groundwater supply wells would be maintained, as described in *Section 3.2.4.2*. 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)). Farming for barley and wheat would continue at the Site under these restrictions. Approval of the land application site application would not be a decision regarding, in principle, any future actions that DEQ may perform. Furthermore, approval would not set any precedent or commit DEQ to any future actions.

Based on consideration of all the criteria set forth in ARM 17.4.608, DEQ has determined that the Proposed Action would not significantly affect the human environment. Therefore, an environmental assessment is the appropriate level of environmental review and preparation of an environmental impact statement is not required.

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

Broadwater City - County Environmental 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

Draft EA prepared by:
Kris Karns, Fred Collins, Emma Gronda, Nick Whitaker
Septic Tank Pumper Program

Date: April 4, 2025

7. REFERENCES:

Montana Tech of the University of Montana, Montana Bureau of Mines and Geology (MBMG), Ground Water Information Center http://mbmggwic.mtech.edu/

Sperling's Best Places
https://www.bestplaces.net/climate/city/montana/three_forks

United States Fish & Wildlife Service, Environmental Conservation Online System, 2023
https://ecos.fws.gov/ecp/report/species-listings-by-current-range-county?fips=30095

Montana Natural Heritage Program, 2022
http://mtnhp.org/default.asp

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

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

Fertilizer Guidelines for Montana Crops, Montana State University, 2005
https://store.msuextension.org/publications/AgandNaturalResources/EB0161.pdf

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

NRCS National Cooperative Soil Survey for Section 21, Township 29 N, Range 22 W, Broadwater County, Montana, 2022
https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx

EPA Domestic Septage Regulatory Guidance, 1993
https://www.epa.gov/biosolids/domestic-septage-regulatory-guidance-guide-epa-503-rule

Google Earth, 2023
https://earth.google.com/web/search/48.26730%C2%B0,+-114.40213%C2%B0

ArcGIS Enterprise – My Map, 2023
https://gis.mtdeq.us/portal/apps/mapviewer/index.html