FINDING OF NO SIGNIFICANT IMPACT (FONSI)

ROW WYW-152435 Amdt. #1

DOI-BLM-WY-R010-2011-0120-EA

BLM

Worland Field Office, Wind River/Bighorn Basin District, Wyoming

August 2011

FINDING OF NO SIGNIFICANT IMPACT
Environmental Assessment
DOI-BLM-WY-R010-2011-0120-EA

Red Butte Pipe Line LLC
Existing Cathodic Protection Facility – Installation of a Leachfield System
WYW-152435 Amdt. #1

Based on the analysis of potential environmental impacts contained in the attached environmental assessment, and considering the significance criteria in 40 CFR § 1508.27, I have determined that the selected action will not have a significant effect on the human environment. An environmental impact statement is therefore not required.

Authorized Officer
Acting FM

9/2/2011
Date

DECISION RECORD MEMORANDUM

ROW WYW-152435 Amdt. #1

DOI-BLM-WY-R010-2011-0120-EA

BLM

Worland Field Office, Wind River/Bighorn Basin District, Wyoming

August 2011

DECISION RECORD
Environmental Assessment
DOI-BLM-WY-R010-2011-0120-EA
Red Butte Pipe Line LLC
Right-of-way Application
WYW-152435 Amdt. #1

It is my decision to approve the right-of-way as described as Alternative 2 of Environmental Assessment No. DOI-BLM-WY-R010-2011-0120-EA, and to include those measures proposed by Red Butte Pipe Line LLC's application for ROW. This authorization will be granted subject to the Terms and Conditions as attached.

Authorities: Title V of The Federal Land and Policy Management Act of 1976, as Amended; 43 CFR § 2800.

Compliance and Monitoring: Designated Bureau of Land Management personnel will monitor and review project operations as needed to ensure that mitigation measures are in compliance with the terms and conditions of the grant.

Terms / Conditions / Stipulations: Attached.

PLAN CONFORMANCE AND CONSISTENCY:

The proposed action and alternatives have been reviewed and found to be in conformance with one or more of the following BLM Land Use Plans and the associated decision:

Name of Plan: Grass Creek Management Plan **Date Approved:** September 1998

The proposed action is in conformance with the applicable LUP because it is specifically provided for in the following LUP decision(s): GCRMP ROD pg 12; "The planning area will be open for rights-of-way development. Proposals will be addressed on an individual basis with emphasis on avoiding certain conflict or sensitive areas."

This proposal would be within an area available for linear right-of-way generally open to rights-of-way, and thus it would be in conformance with the land use plan.

Alternatives Considered:

The Environmental Assessment (EA) for the Project considered three alternatives. Alternative (1), the "Proposed Action" alternative, assessed and disclosed the projected effects of the applicant's proposal as detailed in the "Proposed Action" portion of the environmental assessment.

The "Proposed Action with Conditions of Approval" (2) alternative assessed the proposed action, BLM staff specialists input, and the observations made at the field inspection. It was felt that certain Terms and Conditions were necessary and proper to provide adequate protection of surface and subsurface. For the purpose of analysis, the Terms and Conditions are part of this alternative.

The "No Action" (3) alternative assessed the effects of not implementing any portion of the proposal. Under the No Action alternative, the WFO analyzed the effects of a denial of any further development associated with this project. This alternative provides a benchmark, enabling the decision-maker to compare the magnitude of the environmental effects of the alternatives.

An alternative including the use of alternate surface locations was considered, but not analyzed further.

Rational for Decision:

Alternative 2 was chosen as being the most environmentally sound alternative.

This decision is in conformance with the Grass Creek Resource Management Plan.

Terms and Conditions necessary for this action are attached and are considered a part of this approval.

Appeals:

This decision may be appealed to the Interior Board of Land Appeals, Office of the Secretary, in accordance with the regulations contained in 43 CFR, Part 4 and the enclosed Form 1842-1. If an appeal is taken, your notice of appeal must be filed in this office (BLM Worland Field Office, 101 S. 23rd St., Worland, WY 82401) within 30 days from receipt of this decision. The appellant has the burden of showing that the decision appealed from is in error.

If you wish to file a petition (request) pursuant to regulation 43 CFR §2801.10 or 43 CFR § 2881.10 for a stay (suspension) of the effectiveness of this decision during the time that your appeal is being reviewed by the Board, the petition for a stay must accompany your notice of appeal. A petition for a stay is required to show sufficient justification based on the standards listed below. Copies of the notice of appeal and petition for a stay must also be submitted to each party named in this decision and to the Interior Board of Land Appeals and to the appropriate Office of the Solicitor (see 43 CFR § 4.413) at the same time the original documents are filed with this office. If you request a stay, you have the burden of proof to demonstrate that a stay should be granted.

Standards for Obtaining a Stay

Except as otherwise provided by law or other pertinent regulation, a petition for a stay of a decision pending appeal shall show sufficient justification based on the following standards:

(1) the relative harm to the parties if the stay is granted or denied;

(2) the likelihood of the appellant's success on the merits;

(3) the likelihood of immediate and irreparable harm if the stay is not granted; and

(4) whether the public interest favors granting the stay.

Authorized Officer
acting for

9/2/2011
Date

Attachments—
DOI-BLM-WY-R010-2011-0120-EA
Terms and Conditions
Plan of Development
Map

ENVIRONMENTAL ASSESSMENT

ROW WYW-152435 Amdt. #1

DOI-BLM-WY-R010-2011-0120-EA

BLM

Worland Field Office, Wind River/Bighorn Basin District, Wyoming

August 2011

Project Title
DOI-BLM-WY-R010-2011-0120-EA

CHAPTER I
INTRODUCTION AND NEED FOR THE PROPOSED ACTION

INTRODUCTION

Red Butte Pipe Line LLC has requested an amendment to right-of-way WYW-152435, a sacrificial anode deep well ground bed, across public land located in 6th PM, T. 49 N., R. 98 W., sec. 7, NE¼NE¼, Park County, Wyoming. The proposed action will allow installation of an underground leach bed.

PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose of the proposed action is to install an underground leach bed to mitigate the flowing of water onto the surface and to discontinue piping water to a steel tank. Water testing indicated the sulfate levels were slightly too high according to the State standards for livestock. The leachfield system will protect the environment and the health and safety of the public and livestock. The need for the action is established by the Bureau of Land Management's (BLM) responsibility under the Federal Land and Policy Management Act of 1976, as Amended (FLPMA).

Decision to be made: The BLM will decide whether or not to grant the right-of-way amendment, and if so, under what terms and conditions.

CONFORMANCE WITH BLM LAND USE PLAN

Name of Plan: Grass Creek Resource Management Plan **Date Approved:** September 1998

The proposed action is in conformance with the applicable LUP because it is specifically provided for in the following LUP decision(s): GCRMP ROD pg 12; "The planning area will be open for rights-of-way development. Proposals will be addressed on an individual basis with emphasis on avoiding certain conflict or sensitive areas."

This proposal would be within an area available for linear right-of-way generally open to rights-of-way, and thus it would be in conformance with the land use plan.

RELATIONSHIPS TO STATUTES, REGULATIONS AND OTHER PLANS

Title V of FLPMA

43 Code of Federal Regulations § 2800.

Other relevant guidance includes BLM Manual 2800.

CHAPTER 2
DESCRIPTION OF ALTERNATIVES

INTRODUCTION

Alternative 1, Proposed Action: This alternative would permit the action as proposed and described in the Project Description and right-of-way amendment application received with Plan of Development.

Alternative 2, Proposed Action with attached Terms & Conditions: Based on staff specialists input, it was felt that certain Terms & Conditions were necessary and proper to provide adequate protection of the surface.

Alternative 3, No Action: Under a no action alternative, the right-of-way would not be approved.

PROPOSED ACTION

Red Butte Pipe Line LLC, Inc. proposes to construct an underground leach bed in conjunction with their Badger Creek anode well facilities, authorized under right-of-way WYW-152435. The anode well facility provides cathodic protection for Red Butte's pipeline issued under right-of-way WYW-020826. The anode well facilities are currently venting groundwater to the surface thru a 1 inch PVC pipe. The groundwater was previously being piped to a simple at grade open-air steel tank; however the bottom of the tank is rusted out. The effluent from the well was then spilling onto the ground surface. The groundwater has been sampled and tested; the result being the sulfate levels are slightly too high according to the State's standards for livestock. BLM requested that corrective action be taken to mitigate the flowing of water onto the surface and to stop piping the water to the rusted out steel tank. To mitigate the surface water an underground leach bed is proposed to be installed to accept the flow of water thus preventing the water to flow on the surface. The system was designed by GDA Engineer's; BLM Hydrologist, Jared Dalebout reviewed the design and recommended we authorize the installation.

PROPOSED ACTION WITH TERMS AND CONDITIONS

Based on BLM Staff specialist input, it was felt that certain Terms and Conditions were necessary and proper to provide adequate protection of the surface.

NO ACTION

The No Action Alternative would be to deny the proposed right-of-way amendment application. Red Butte would then not take corrective action to prevent water from spilling on to the surface.

CHAPTER 3
AFFECTED ENVIRONMENT

The affected environment was considered and analyzed by an interdisciplinary team.

Cultural:

A Class III cultural resource inventory was conducted of the project location. No cultural resources were identified.

Soils:

The proposed leach field would be constructed on an alluvial terrace adjacent to Badger Creek. The soils at this location are deep and well drained. Slopes are 0 to 2 percent. Surface textures are clay loams. The subsurface consists of stratified layers of clay loams, loams, and sandy loams. Soil percolation rates extrapolated from the soil textural data rates these soils as having moderately slow permeability rates (0.2 – 0.6 inches per hour). Leach field design data provided by GDA Engineers indicates that these soils are much more permeable, estimating a percolation rate of 16 minutes per inch.

Recreation/Visual Resource Management:

Recreation:
The proposed project is located within the Badlands Special Recreation Management Area (SRMA), where recreation management is a primary focus. The Badlands SRMA has identified desired settings, recreational opportunities, experiences, and beneficial outcomes. Recreational opportunities and activities observed in this area include hiking, hunting, driving for pleasure, sight-seeing, photography, rock hounding, and dispersed camping. All activities are dispersed recreational activities where the visitors enjoy the natural recreational resources, primarily the scenic vistas, wide open spaces, and the wildlife resources. Recreational opportunities within the immediate project area are somewhat limited due to difficult motorized access through private property. Access into the area is still possible by means other than motorized use, such as hiking or by horseback. Permission to travel through private property into the project area is required. The area's settings are assessed as semi-primitive motorized or middle country. These settings provide for abundant semi-primitive experiences for those either on foot, horseback, or motorized vehicles. Travel and transportation management limits motorized use to existing roads and trails.

Wilderness Characteristics:
As mandated by FLPMA, Section 201, the BLM is required to maintain an inventory of BLM-administered public lands to determine whether or not they possess wilderness characteristics. Recent wilderness inventories have concluded that the project is absent of wilderness characteristics.

VRM:
The project area is managed as VRM Class IV. VRM Class IV objectives are to provide for management activities which require major modifications of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.

Weeds:

No noxious weeds have been documented for the project site.

Paleontology:

Proposed project is located within Willwood Formation with a PFYC (Potential Fossil Yield Classification) rating of 5 or very high. This means the project area has a very high sensitivity for paleontological resources. No fossil localities have been identified within the project area. A paleontological inventory was not necessary for the project location. Project is within an area of soil development and vegetation growth with little chance for significant fossils.

Wildlife:

The Badger Creek Basin area provides habitat for several big game species, as well as many other non-game wildlife species, during all seasons of the year. Throughout the summer and early fall small numbers of resident mule deer and antelope use the area. From late fall through spring this area provides general winter range for larger herds of mule deer and antelope. The sagebrush communities around the proposed project provide winter forage for wintering big game as well as wintering, breeding, and early brood rearing for sage-grouse. The closest active lek is about .5 miles west of the project area, and the sagebrush communities are suitable for sage-grouse nesting. These sagebrush habitats are also likely providing breeding, nesting and foraging habitat for other sagebrush obligates like the sage thrasher, sage and Brewers sparrow. Other species like the bobcat, coyote, and a variety of other passerines, raptors, small mammals and other predator species inhabit this area throughout the year. There are no other known threatened or endangered wildlife species, or their habitats within this proposed project area, but the sage-grouse, sage thrasher, sage and Brewers sparrow are all BLM sensitive species, and this area is also within sage-grouse core area.

Threatened and Endangered Plant Species:

There are no known Threatened, Endangered, or Sensitive species in the project area.

CHAPTER 4
ENVIRONMENTAL IMPACTS

PROPOSED ACTION
Alternative 1

Cultural:

A Class III cultural resource inventory identified no cultural resources within the project area. The proposed project will have no effect on known historic properties.

Soils:

Direct impacts to the soil resource would include mixing of soil horizons, soil compaction, loss of topsoil productivity and increased susceptibility to runoff and erosion during the time that the soil is bare. Following construction, runoff and erosion would be minimal due to nearly level slopes and the limited extent of surface disturbance. Saturated soils would develop beneath the trenches with little impact to the surface anticipated. The areas of wet and saturated soils near corroded tanks would be eliminated.

Recreation/Visual Resource Management:

Recreation:
The proposed project will produce minimal impacts to recreational resources and associated uses, opportunities, experiences, and beneficial outcomes. The project will compromise the semi-primitive settings within the immediate project area, but will not be noticeable from adjacent areas. Impacts from the flowing water onto the surface has created more noticeable direct and indirect impacts to recreational resources, such as compromised soils and public health and safety. The project will mitigate for these issues, which is consistent with recreation management objectives, but may alter the settings within the immediate project area. Impacts to recreation are expected to be minimal.

VRM:
The proposed project will introduce new contrasting elements of form, line, color, and texture against the surrounding natural elements. This contrast will be observed and may dominate the viewshed at the immediate project area. The project may be more subordinate from other observation areas due to the massive and dominant land forms present in the area, as well as the high amount of natural contrasts formed from the erratic and colorful landscape. The project is within VRM Class IV objectives, and is not expected to impact the scenic quality.

Weeds:

Increased risk for noxious weed introduction, seeds can be imported on construction equipment.

Paleontology:

The surface formation is Willwood Formation which has a high sensitivity for paleontological resources. Soil development and vegetation within the project area has reduced the potential for significant localities. Due to the low potential to impact significant paleontological localities, a site specific inventory was not necessary. No additional consequences would be expected under this alternative.

Wildlife:

Some displacement to wintering mule deer and antelope could be anticipated from the associated project construction activities, but because the proposed project area is not within mapped crucial winter range, significant impacts from disturbance or displacement are not anticipated, and the application of the big game crucial winter range seasonal stipulation for wintering big game is not recommended. Depending on when surface disturbing and disruptive activities associated with this proposed project occur, there could be potential impacts to sage-grouse and the other sagebrush obligates mentioned above. Surface disturbing and disruptive activities, and motor vehicle traffic associated with the proposed project site, from winter through early summer, could potentially disrupt sage-grouse winter concentrations, and breeding, nesting and brood rearing activities for all of the sagebrush obligates. No analysis has been conducted on wildlife to determine what, if any, impacts this water is having on the wildlife that choose to use this water source, but because of the water quality issues associated with this well, local wildlife health and populations would likely benefit from the removal of this water source.

PROPOSED ACTION WITH TERMS AND CONDITIONS
Alternative 2

Cultural:

No additional consequences would be expected under this alternative. The project authorization is recommended with standard stipulations included under Terms and Conditions.

Soils:

No additional mitigations measures or conditions of approval are being proposed to protect the soil resource. Impacts under this alternative would be the same as those discussed under the proposed action.

Recreation/Visual Resource Management:

Recreation:
Impacts to recreation from Alternative 2 will be the same as those analyzed in Alternative 1.

VRM:
Impacts to VRM from Alternative 2 will be the same as those addressed in Alternative 1.

Weeds:

Proposed Action with attached Terms & Conditions: Mitigations will reduce risk for noxious weed introduction.

Paleontology:

No additional consequences would be expected under this alternative. The project authorization is recommended with standard stipulations included under the Terms and Conditions.

Wildlife:

Some displacement to wintering mule deer and antelope could be anticipated from the associated project construction activities, but because the proposed project area is not within mapped crucial winter range, significant impacts from disturbance or displacement are not anticipated, and the application of the big game crucial winter range seasonal stipulation for wintering big game is not recommended. Potential impacts to sage-grouse and the other sagebrush obligates mentioned above would not be likely, primarily because of the application of a TLS where all surface disturbing and disruptive activities would not be occurring during the critical wintering, breeding, nesting and brood rearing periods important to sage-grouse and the other sagebrush obligates. No analysis has been conducted on wildlife to determine what, if any, impacts this water is having on the wildlife that choose to use this water source, but because of the water quality issues associated with this well, local wildlife health and populations would likely benefit from the removal of this water source.

NO ACTION
Alternative 3

Cultural:

Under the No Action Alternative, the development of the proposed Action would not occur. No resulting effects on cultural resources would be expected to occur beyond the current situation.

Soils:

Under this alternative the leach field would not be constructed. There would be no surface disturbance with the subsequent mixing of soil horizons, loss of topsoil productivity and soil compaction. Runoff and erosion would remain at background levels. The areas of wet and saturated soils near corroded tanks would remain.

Recreation/Visual Resource Management:

Recreation:
Under the No Action Alternative, the development of the proposed Action would not occur. No resulting effects on recreational resources would be expected to occur beyond the current situation.

VRM
Under the No Action Alternative, the development of the proposed Action would not occur. No resulting effects on visual resources would be expected to occur beyond the current situation.

Weeds:

No change in risk for new weed infestation.

Paleontology:

Under the No Action Alternative, the development of the proposed Action would not occur. No resulting effects on paleontological localities would be expected to occur beyond the current situation.

Wildlife:

Under the No Action Alternative, the proposed project and anticipated disturbances and disruptions will not occur and will not impact wildlife, but the resident wildlife willing to use this water will continue to be at risk from this watering site and the poor water quality.

CUMULATIVE IMPACTS

Increased risk for noxious weed introduction, seeds can be imported on construction equipment.

CHAPTER 5
PERSONS, GROUPS, AND AGENCIES CONSULTED

Other Persons/Agencies Consulted

Terry Thompson, Senior Right-of-way Specialist for Red Butte Pipe Line LLC, Inc.

List of Preparers

BLM Preparers

Name	Title	Responsible for the Following Section(s) of this Document
Marit Bovee	Archaeologist	Cultural/Paleontological
Steve Kiracofe	Soil Scientist	Soils
Paul Rau	Recreation Specialist	Recreation/LWC/VRM
CJ Grimes	NRS	Weeds
Tim Stephens	Wildlife Biologist	Wildlife
Carol Sheaff	Realty Specialist	Lands
Karen Hepp	Range Management Specialist	Threatened & Endangered Plant Species

Reviewer (Environmental Coordinator)

Terms and Conditions

The following terms and conditions of approval are in addition to standard terms and conditions associated with the authorization of right-of-way grant WYW-152435 Amdt. #1.

Right-of-way grant WYW-152435 Amendment 1 is subject to the terms and conditions of the original grant WYW-152435 dated August 29, 2001.

To prevent weed introduction the holder shall ensure that equipment is thoroughly cleaned before beginning project. Monitor site during growing season and perform weed treatment if necessary. Refer to Wyoming BLM Reclamation Policy requirements, item #9 (Manage Invasive Plants) under 2009 Wyoming Reclamation Policy.
http://www.blm.gov/wy/st/en/programs/reclamation.html

The operator is responsible for informing all persons in the area who are associated with this project that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during construction, the operator is to immediately stop work that might further disturb such materials, and contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

-whether the material appears eligible for the National Register of Historic Places;

-the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary); and,

-a timeframe for the AO to complete an expedited review under 36 CFR 800.11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction measures.

The operator is responsible for informing all persons in the area who are associated with this project that they will be subject to prosecution for knowingly disturbing paleontological localities, or for collecting vertebrate fossils. If paleontological materials are uncovered during operations, the operator is to immediately stop work that might further disturb such materials, and contact the authorized officer (AO).

Within five (5) working days the AO will evaluate the discoveries and take necessary actions to protect or remove the resource. Decisions regarding the appropriate measures to mitigate effects to such resources will be made in consultation with the operator.

Sage Grouse Wintering Habitat/Concentration Areas – Surface disturbing and/or disruptive activities in mapped or modeled sage-grouse winter habitats/concentration areas that support Core Area populations are prohibited or restricted from November 15 – March 15.

SYSTEM DESIGN AND CONFIGURATION

PLEASE CHECK ONE		
☐	Permanent Structure (single family residence)	_____ number of bedrooms x 150 gallons per day per bedroom = _____ gallons per day
☐	Mobile Home (check one)	☐ 1 or 2 bedrooms = 350 gallons per day ☐ 3 bedrooms = 500 gallons per day ☐ 4 bedrooms = 650 gallons per day
☑	Non-residential	Refer to Chapter 11, Part D, Table 1 (show calculations – use another sheet if needed)

DESIGN FLOW gpd	Box 1 (from above) 720
PERCOLATION RATE mpi	16 (from percolation test results – Page 8)

PLEASE CHECK ONE

Perc. Rate	Loading Rate	Perc. Rate	Loading Rate	Perc. Rate	Loading Rate
○ 1 - 5	0.80	● 16	0.50	○ 30-31	0.39
○ 6	0.75	○ 17	0.49	○ 32-33	0.38
○ 7	0.71	○ 18	0.48	○ 34- 35	0.37
○ 8	0.68	○ 19	0.47	○ 36- 38	0.36
○ 9	0.65	○ 20	0.46	○ 39 - 41	0.35
○ 10	0.63	○ 21	0.45	○ 42- 44	0.34
○ 11	0.60	○ 22 - 23	0.44	○ 45 - 47	0.33
○ 12	0.57	○ 24	0.43	○ 48 - 52	0.32
○ 13	0.55	○ 25	0.42	○ 53 - 56	0.31
○ 14	0.54	○ 26 - 27	0.41	○ 57 - 60	0.30
○ 15	0.52	○ 28 - 29	0.40		

LOADING RATE gpd/ft²	Box 2 (from above chart) 0.50
LEACHFIELD SIZING sq. ft.	Design flow (green box 1) / Loading rate (red box 2) 720 / 0.50 = Box 3 (from above) 1,440

COMPONENTS

SEPTIC TANK	Is the septic tank on the approved list?		☐ Yes ☐ No
	If yes, provide the following:	Manufacturer:	
		Model:	
		Size:	
	If no, provide the following **AND Complete septic tank design worksheet:**	Size of tank	
		Number of compartments	
		Tank material	
	For a 4-bedroom (or smaller) house, is the tank size 1,000 gallons or more?		☐ Yes ☐ No
	For homes greater than 4 bedrooms, does the tank have additional capacity of 250 gallons per additional bedroom?		☐ Yes ☐ No
	Estimated depth of backfill over tank?		
	Is the tank equipped with a 6-inch cleanout that extends to the ground surface from each compartment of the tank?		☐ Yes ☐ No
PIPING	What is the piping material from the house to the septic tank?		
	What is the pipe size?		
	Is the pipe from the house to the septic tank in a straight line?		☐ Yes ☐ No
	If no, will cleanout ports be installed at any alignment change greater than 22.5 degrees? **This is required.**		☐ Yes ☐ No
	Is the pipe from the house to the septic tank greater than 100 feet?		☐ Yes ☐ No
	If yes, will cleanout ports be installed? **This is required.**		☐ Yes ☐ No
	Is there a cleanout port just outside of the building? (encouraged, not required)		☐ Yes ☐ No
	Does the piping have a minimum slope of ¼ inch per foot (2%) for a 4-inch pipe?		☐ Yes ☐ No
	Is there a distribution box on the effluent piping?		☐ Yes ☐ No
	Are flow dividers installed on the effluent piping?		☐ Yes ☐ No
	Are all leachfield trenches less than 100 feet? **This is required.**		☐ Yes ☐ No
LEACHFIELD DESIGN	Are you using a pipe trench system? **IMPORTANT: Complete Part A**		☐ Yes ☐ No
	Are you using a pipe bed system? **IMPORTANT: Complete Part B**		☐ Yes ☐ No
	Are you using a chamber trench system? **IMPORTANT: Complete Part C**		☑ Yes ☐ No
	Are you using a chamber bed system? **IMPORTANT: Complete Part D**		☐ Yes ☐ No

PART C

Chamber Trench System

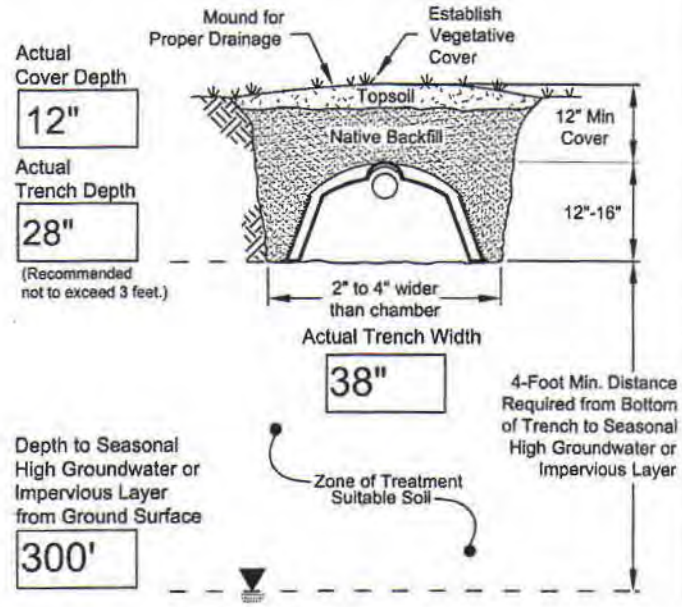
Chamber	Type of chamber (Manufacturer)	Infiltrator
	Model	High Capacity
	Width (inches)	34
	Height (inches)	16
	Length (inches)	6.25
	Equivalent Area Per Unit (see table – Page 30)	45 sf (Box 11)
Design	Minimum infiltrative surface area required (from yellow box 3 on Page 6)	1,440 (Box 12)
	Minimum number of units	Minimum Area (brown box 12) / Equivalent Area (green box 11) 1,440 / 45 sf = Answer (round up): 32 (Box 13)
Layout	Pick one:	☐ Single Trench **Complete Sheet C1**
		☐ Two Trenches **Complete Sheet C2**
		☑ Four Trenches **Complete Sheet C3**
		☐ Multiple Trenches **Complete Sheet C4**

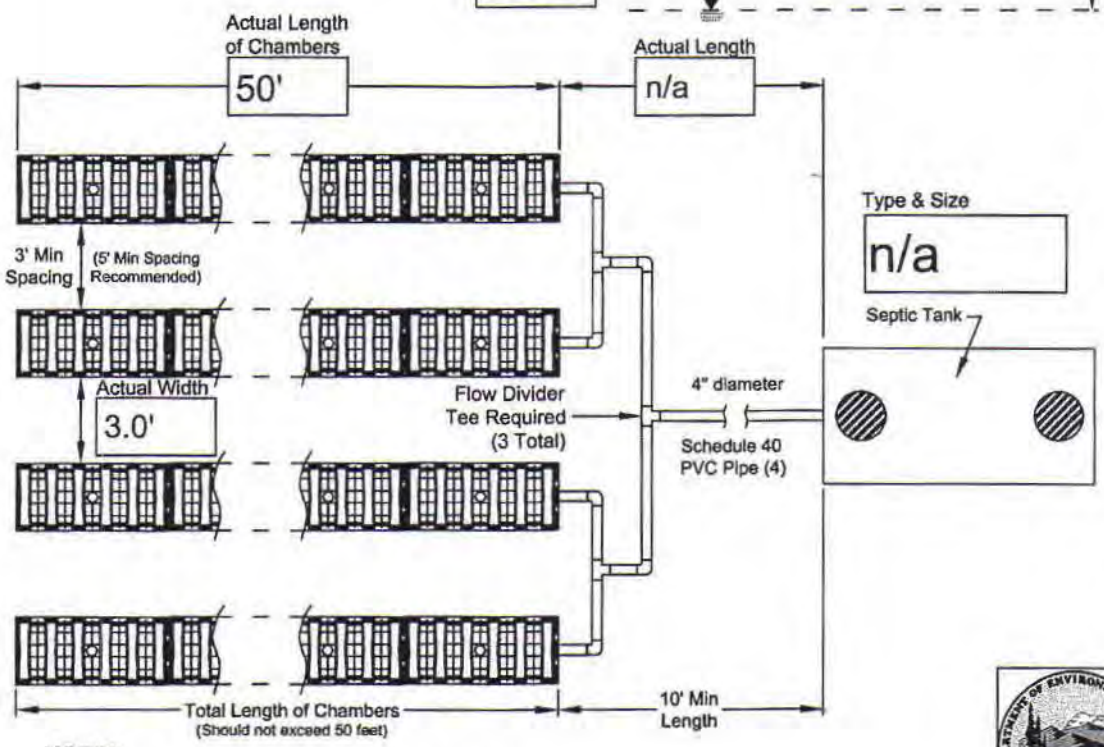
Installer Information:

General Comments:

SHEET C3
Four Trench Chambered Leachfield

This worksheet is for a trench type leachfield using chamber units. **Where boxes appear, please supply the dimensions of your leachfield.**





NOTES
1. A level, flat surface is necessary for the chambers.
2. Scarify (rake) the bottom & sidewall surfaces.
3. "Walk in" fill to compact soil along the sides of the chamber.
4. Schedule 40 PVC pipe is required only for the inlet and outlet to the septic tank.

Drawn by: JSB
April 2006

CHAMBER SYSTEMS

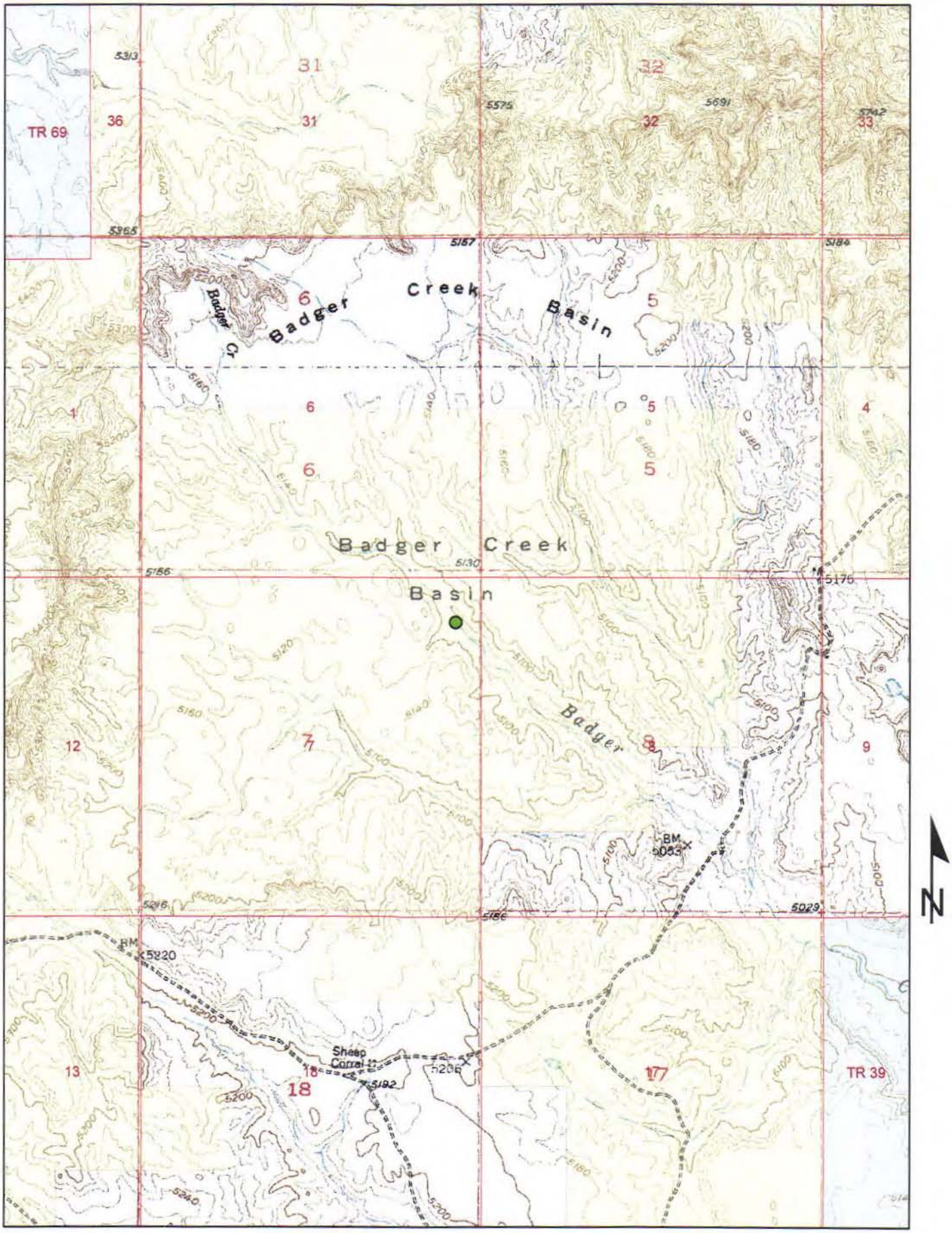
Last Updated: 03-12-2008, by RLE

Equivalent Areas

As allowed by DEQ Water Quality Division Policy # 13.41.2, dated November 21, 1994gravellessleachfield chambers get double infiltrative surface area credit for the bottom area of the chamber. This is allowed because research indicates that chambers provide an optimum infiltrative surface by eliminating the 50% stone masking associated with conventional systems utilizing stone in the leach field. Since these types of chambers are manufactured units with fixed dimensions, an equivalent infiltrative surface area can be prealculated for any make and model of chamber. In a trench configuration, the equivalent area is equal to 2 * (width + effective side wall height) * unit length. Ina bed configuration the side wall is not counted, so the equivalent area is equal to 2 * width * unit length. The following table shows the equivalent areas of several types and models of these units for both bed and trench applications:

Make and Model	Nominal Dimensions (length*width*height)	EQUIVALENT AREA: in a Bed Layout	Trench Layout
INFILTRATOR brand:			
Original/Standard Unit	6.25ft * 34in * 12in	35.4 sf	40.0 sf / unit
High Capacity Chamber	6.25ft * 34in * 16in	35.4 sf	45.0 sf
Equalizer 24 (EQ24)	8.42ft * 15in * 11in	21.0 sf	30.0 sf
Equalizer 36 (EQ36)	8.42ft * 22in * 13.5in	30.0 sf	42.0 sf
Standard Sidewinder	6.25ft * 34in * 12in	35.4 sf	40.0 sf
High Capacity Sidewinder	6.25ft * 34in * 16in	35.4 sf	45.0 sf
Quick4 Standard	4.42ft * 34in * 12in	22.5 sf	26.5 sf / unit
Quick4 High Capacity	4.42ft * 34in * 16in	22.5 sf	30.3 sf
Quick4 Standard End Cap Pairs (inlet & back end):		**7.0 square feet / pair**	
Quick4 "EQ24"	4.42ft * 16in * 11in	10.6 sf	14.6 sf
Quick4 "EQ36"	4.42ft * 22in * 12in	14.6 sf	18.5 sf
HANCOR EnviroChamber brand:			
Standard Unit	6.25ft * 34in * 12in	35.4 sf	42.0 sf / unit
High Capacity Unit	6.25ft * 34in * 17.5in	35.4 sf	48.0 sf
Pro Standard Unit	6.33ft * 34in * 11in	35.8 sf	42.0 sf
Pro High Capacity	6.33ft * 34in * 14in	35.8 sf	45.0 sf
Pro 15" Narrow Chamber	7.25ft * 15in * 12in	18.0 sf	26.0 sf
Pro 22" Narrow Chamber	7.25ft * 22in * 12in	26.5 sf	35.0 sf
Pro ARC Standard Unit	5.0 ft * 34.5in * 13in	28.7 sf	34.7 sf
BIODIFFUSER brand:			
Standard Unit (11" tall)	6.33ft * 34in * 11in	35.8 sf	42.0 sf / unit
14" Tall High Capacity Unit	6.33ft * 34in * 14in	35.8 sf	45.0 sf
16" Tall High Capacity Unit	6.33ft * 34in * 16in	35.8 sf	47.5 sf
Bio 2 Chamber	7.25ft * 15in * 12in	18.0 sf	26.0 sf
Bio 3 Chamber	7.25ft * 22in * 12in	26.5 sf	35.0 sf
ARC 24 Unit	5.58ft * 22.5in * 12in	18.7 sf	23.9 sf
ARC 36	5.25ft * 34.5in * 13in	28.7 sf	34.7 sf
ARC 36HC	5.25ft * 34.5in * 16in	28.7 sf	37.7 sf

WYW-152435 Amendment #1
Red Butte Pipe Line Co.



Project Area

T. 49 N., R. 98 W., sec. 7, NENE.