CRS ENGINEERS
Answers to Infrastructure®

2028 W. 500 N. PO Box 1485. Vernal, UT 84078
o. 435.781.2550. f. 435.781.2950. crsengineers.com

January 11, 2021

Ty L. Howard, Director
Utah Division of Waste Management and Radiation Control
Utah Department of Environmental Quality
PO Box 144880
Salt Lake City, UT 14114-4880

Re: Renewal and Expansion of Ashley Valley Class IIIb Permit #1005

Dear Ty:

The Ashley Valley Sewer Management Board has asked CRS Engineers to prepare an application to renew their permit to operate a Class IIIb landfill (permit number 1005) and to expand the facility into Phase 2, which would open Cells 2 and 3 of the abandoned sewer lagoons for landfill activities as described in this application.

This application contains the Division forms and supporting documentation, description and details as required by the Utah Division of Waste Management and Radiation Control.

Please review the application and notify me if more information is needed. Also, feel free to contact me with any questions at (435) 790-3913.

Sincerely,
CRS Engineers

LICENSED PROFESSIONAL ENGINEER
8037903
KEITH DESPAIN
STATE OF UTAH

Keith Despain
Associate

cc
2020-0575

Keith Despain, PE
Associate

c. 435.790.3913
keith.despain@crsengineers.com

APPLICATION FOR A PERMIT TO OPERATE A CLASS III LANDFILL

JANUARY 2021

PREPARED FOR

ASHLEY VALLEY SEWER MANAGEMENT BOARD

PREPARED BY

CRS ENGINEERS
Answers to Infrastructure®

Table of Contents

Part I & II of Division Forms

Division of Waste Management and Radiation Control

Solid Waste Management Program

WASTE MANAGEMENT
& RADIATION CONTROL

Mailing Address
P.O. Box 144880
Salt Lake City, Utah 84114-4880

Office Location
195 North 1950 West
Salt Lake City, Utah 84116

Phone (801) 536-0200
Fax (801) 536-0222
www.deq.utah.gov

APPLICATION FOR A PERMIT TO OPERATE A CLASS III LANDFILL

Please read the instructions that are found in the document, INSTRUCTIONS FOR APPLICATION FOR A PERMIT TO OPERATE A CLASS III LANDFILL. This application form shall be used for all Class III solid waste disposal facility permits and modifications. Part I, GENERAL INFORMATION, must accompany a permit application. Part II, APPLICATION CHECKLIST, is provided to assist applicants and, if included with the application, will assist review. Part II is provided to assist in preparation and review of a permit application; it is not required by rule. The text of the rule governs all permit application contents and should be consulted when questions arise.

Please note the version date of this form found on the lower right of the page; if you have received this form more than six months after this date it is recommended you contact our office at (801) 536-0200 to determine if this form is still current. When completed, please return this form and support documents, forms, drawings, and maps to:

Ty L. Howard, Director
Division of Waste Management and Radiation Control
Utah Department of Environmental Quality
PO Box 144880
Salt Lake City, Utah 84114-4880

Utah Class III Landfill Permit Application Form

Part I General Information APPLICANT: PLEASE COMPLETE ALL SECTIONS.

I. Landfill Type		II. Application Type		
☐ Class IIIa ☒ Class IIIb		☐ New Application ☒ Renewal Application		☒ Facility Expansion ☐ Modification

For Renewal Applications, Facility Expansion Applications and Modifications Enter Current Permit Number 1005

III. Facility Name and Location

Name of Facility
Ashley Valley Class IIIb Landfill

Site Address (street or directions to site)			County
1947 S Burns Bench Rd			Uintah
City Vernal		Zip Code 80478	Telephone 435-789-9805
Township 5 S	Range 22 E	Section(s) 33, 34	Quarter/Quarter Section / Quarter Section
Main Gate Latitude degrees 40 minutes 25 seconds 42		Longitude degrees 109 minutes 27 seconds 19	

IV. Facility Owner(s) Information

Name of Facility Owner
Ashely Valley Sewer Management Board

Address (mailing)
PO Box 426

City	State	Zip Code	Telephone
Vernal	UT	84078	435-789-9805

V. Facility Operator(s) Information

Name of Facility Operator
Dean Gibbs

Address (mailing)
PO Box 426

City	State	Zip Code	Telephone
Vernal	UT	84078	435-789-9805

VI. Property Owner(s) Information

Name of Property Owner
Ashley Valley Sewer Management Board

Address (mailing)
PO Box 426

City	State	Zip Code	Telephone
Vernal	UT	84078	435-789-9805

VII. Contact Information

Owner Contact	Title
Dean Gibbs	Manager

Address (mailing)
PO Box 426

City	State	Zip Code	Telephone
Vernal	UT	84078	435-789-9805

Email Address	Alternative Telephone (cell or other)

Operator Contact	Title

Address (mailing)

City	State	Zip Code	Telephone

Email Address	Alternative Telephone (cell or other)

Property Owner Contact	Title

Address (mailing)

City	State	Zip Code	Telephone

Email Address	Alternative Telephone (cell or other)

Utah Class III Landfill Permit Application Form

Part I General Information (Continued)

VIII. Waste Types (check all that apply)

☐ All types of non-hazardous industrial waste generated by the facility **OR** the following specific waste types

Waste Type	Combined Disposal Unit	Monofill Unit
☐ Construction & Demolition	☐	☐
☐ Industrial	☐	☐
☐ Incinerator Ash	☐	☐
☐ Animals	☐	☐
☐ Asbestos	☐	☐
☒ Other Biosolids	☐	☒

Note. All waste types must be generated by the industry which owns the facility

IX. Facility Area

Facility Area	800	acres
Disposal Area	250	acres
Design Capacity		
Years	800	
Cubic Yards	337820	
Tons	3000000	

X. Fee and Application Documents

Indicate Documents Attached To This Application ☒ Application Fee: Amount $100.00

☒ Facility Map or Maps	☒ Facility Legal Description	☒ Plan of Operation	☒ Waste Description
☒ Ground Water Report	☒ Closure Design	☒ Cost Estimates	☒ Financial Assurance

I HEREBY CERTIFY THAT THIS INFORMATION AND ALL ATTACHED PAGES ARE CORRECT AND COMPLETE.

Signature of Authorized Owner Representative: Dean Gibbs Name typed or printed	Title: Manager Address: PO Box 426 Vernal, UT 84078	Date: 1-12-21
Email Address: Dean@avwrf.org	Alternative Telephone (cell or other): (435)-789-9805 ext. 10	(435)-790-2818
Signature of Authorized Land Owner Representative (if applicable): Same Name typed or printed	Title	Date
	Address	
Email Address	Alternative Telephone (cell or other)	
Signature of Authorized Operator Representative (if applicable): Same Name typed or printed	Title	Date
	Address	
Email Address	Alternative Telephone (cell or other)	

Dean Gibbs

From: support@utah.gov
Sent: Monday, January 11, 2021 2:52 PM
To: Dean Gibbs
Subject: Online Payment Receipt

Credit Card Payment Receipt

Your payment was successfully processed.

Item	Quantity	Item Amount	Total
Permit Filing, Renewals & Modifications *Please include your permit number and submission date in the Additional Information Field.*	1	$100.00	$100.00
Total Amount:			**$100.00**

Payment Processing Details

Order Number: 1864393
Date of Transaction: Jan 11, 2021
Amount Paid: $100.00
Cardholder's Name: Dean Gibbs
Credit Card Number: **********9569
Credit Card Type: Visa
Amount Charged: $100.00

Utah Class III Landfill Permit Application Checklist

Important Note: The following checklist is for the permit application and addresses only the requirements of the Division of Waste Management and Radiation Control . Other federal, state, or local agencies may have requirements that the facility must meet. The applicant is responsible to be informed of, and meet, any applicable requirements. Examples of these requirements may include obtaining a conditional use permit, a business license, or a storm water permit. The applicant is reminded that obtaining a permit under the *Solid Waste Permitting and Management Rules* does not exempt the facility from these other requirements. Please take note of the heading of each section for the facilities that the section applies to.

An application for a permit to construct and operate a landfill is the documentation that the landfill will be located, designed, constructed, operated, and closed in compliance with the requirements of Utah Administrative Code R315-301 through 320 (*Utah Solid Waste Permitting and Management Rules*) and Utah Code Annotated 19-6-101 through 126 (*Utah Solid and Hazardous Waste Act*). The application should be written to be understandable by regulatory agencies, landfill operators, and the general public. The application should also be written so that the landfill operator, after reading it, will be able to operate the landfill according to the requirements with a minimum of additional training.

Copies of the *Solid Waste Permitting and Management Rules*, the *Utah Solid and Hazardous Waste Act*, along with many other useful guidance documents can be obtained by contacting the Division of Waste Management and Radiation Control at 801-536-0200. Most of these documents are available on the Division's web page at https://deq.utah.gov/division-waste-management-radiation-control. Guidance documents can be found at the solid waste section portion of the web page.

Part II **Application Checklist**

I. **Facility General Information**	
Description of Item	Location In Document
Ia. General Information For All Facilities	
Completed Part I General information	This section
General description of the facility (R315-310-3(1)(b))	Page 1
Legal description of property (R315-310-3(1)(c))	Appendix A
Proof of ownership, lease agreement, or other mechanism (R315-310-3(1)(c))	Page 1
A demonstration that the landfill is not a commercial facility (see Utah Code Annotated 19-6-102(3) for definition of Commercial)	Page 2
Waste type and anticipated daily volume (R315-310-3(1)(d))	Page 2
Intended schedule of construction (R315-302-2(2)(a))	Page 2
Ib. General Information for New Or Laterally Expanding Class III Landfills	
Documentation that the facility has met the historical survey requirement of R315-302-1(2)(f) (R315-304-4(1)(a) or R315-304-4(2)(a)(iv))	Page 2
Name and address of all property owners within 1000 feet of the facility boundary (R315-310-3(2)(i))	Page 2
Documentation that a notice of intent to apply for a permit has been sent to all property owners listed above (R315-310-3(2)(ii))	Appendix B
Name of the local government with jurisdiction over the facility site (R315-310-3(2)(iii))	Page 2

I. **Facility General Information**	
Description of Item	Location In Document
Ic. Location Standards for New Class IIIa Landfills (R315-304-4(1))	
Geology	
Geologic maps showing significant geologic features, faults, and unstable areas	
Maps showing site soils	
Surface water	
Magnitude of 24 hour 25 year and 100 year storm events	
Average annual rainfall	
Maximum elevation of flood waters proximate to the facility	
Maximum elevation of flood water from 100 year flood for waters proximate to the facility	
Wetlands	
Ground water	
Historic Preservation Survey	
Id. Additional Location Standards for New Class IIIa Landfills Not On Waste Generation Site	
Land use compatibility (R315-304-4(1)(a))	
Maps showing the existing land use, topography, residences, parks, monuments, recreation areas or wilderness areas within 1000 feet of the site boundary	
Certifications that no ecologically or scientifically significant areas or endangered species are present in site area	
List of airports within five miles of facility and distance to each	
Ie. Location Standards for New Class IIIb Landfills	
Floodplains as specified in R315-302-1(2)(c)(ii) (R315-304-4(2)(a)(i))	Pages 3-4
Wetlands as specified in R35-302-1(2)(d) (R315-304-4(2)(a)(ii))	Page 5
The landfill is located so that the lowest level of waste is at least ten feet above the historical high level of ground water (R315-304-4(2)(a)(iii))	Page 5
Historical Preservation Survey (R315-304-4(2)(a)(iv))	
If. Plan of Operations for All Class III Landfills (R315-310-3(1)(e) and R315-302-2(2))	
Description of on-site waste handling procedures and an example of the form that will be used to record the weights or volumes of waste received (R315-302-2(2)(b) And R315-310-3(1)(f))	Pages 5-6
Schedule for conducting inspections and monitoring, and examples of the forms that will be used to record the results of the inspections and monitoring (R315-302-2(2)(c), R315-302-2(5)(a), and R315-310-3(1)(g))	Pages 6-7, Appendix C

I. **Facility General Information**	
Description of Item	Location In Document
Contingency plans in the event of a fire or explosion (R315-302-2(2)(d))	Page 7
Plan to control fugitive dust generated from roads, construction, general operations, and covering the waste (R315-302-2(2)(g))	Page 7
Plan for letter control and collection (R315-302-2(2)(h))	Page 8
Procedures for excluding the receipt of prohibited hazardous or PCB containing wastes (R315-302-2(2)(j))	Page 8
Procedures for controlling disease vectors (R315-302-2(2)(k))	Page 8
A plan for alternative waste handling (R315-302-2(2)(l))	Page 8
A general training plan for site operations (R315-302-2(2)(o))	Page 8
Any recycling programs planned at the facility (R315-303-4(6))	Page 8
Any other site-specific information pertaining to the plan of operation required by the Director (R315-302-2(2)(p))	n/a
Ig. Ground Water Monitoring for Class IIIa landfills	
Ground Water Monitoring Plan (R315-304-5(4)(a)	
***II* Facility Technical Information**	
IIa. Maps for All Class III Landfills	
Topographic map drawn to the required scale with contours showing the boundaries of the landfill unit, ground water monitoring well locations (if required), and the borrow and fill areas (R315-310-4(2)(a)(i))	Page 9
Most recent U.S. Geological Survey topographic map, 7-1/2 minute series, showing the waste facility boundary; the property boundary; surface drainage channels; any existing utilities and structures within one-fourth mile of the site; and the direction of the prevailing winds (R315-310-4(2)(a)(ii))	Page 9
IIb. Geohydrological Assessment for Class IIIa Landfills (R315-310-4(2)(b))	
Local and regional geology and hydrology including faults, unstable slopes and subsidence areas on site (R315-310-4(2)(b)(i))	
Evaluation of bedrock and soil types and properties including permeability rates (R315-310-4(2)(b)(ii))	
Depth to ground water (R315-310-4(2)(b)(iii))	
Quantity, location, and construction of any private or public wells on-site or within 2,000 feet of the facility boundary (R315-310-4(2)(b)(v))	
Tabulation of all water rights for ground water and surface water on-site and within 2,000 feet of the facility boundary (R315-310-4(2)(b)(vi))	

I. **Facility General Information**	
Description of Item	Location In Document
Identification and description of all surface waters on-site and within one mile of the facility boundary (R315-310-4(2)(b)(vii))	
For an existing facility, identification of impacts upon the ground water and surface water from leachate discharges (R315-310-4(2)(b)(viii))	
Calculation of site water balance (R315-310-4(2)(b)(ix))	
IIc. Engineering Report - Plans, Specifications, And Calculations for All Class III Landfills	
Unit design to include cover design; fill methods; and elevation of final cover including plans and drawings signed and sealed by a professional engineer registered in the State of Utah, when required (R315-310-3(1)(b))	Appendix D
Design and location of run-on and run-off control systems (R315-310-5(2)(b))	Page 10
IId. Engineering Report - Plans, Specifications, And Calculations for Class IIIa Landfills	
Engineering reports required to meet the location standards of R315-304-4 including documentation of any demonstration or exemption made for any location standard (R315-310-4(2)(c)(i))	
Anticipated facility life and the basis for calculating the facility's life (R315-310-4(2)(c)(ii))	
Equipment requirements and availability (R315-310-4(2)(c)(iii))	
Identification of borrow sources for daily and final cover and for soil liners (R315-310-4(2)(c)(iv))	
Run-off treatment and disposal and documentation to show that any treatment system being used has been reviewed by the Division of Water Quality (R315-310-4(2)(c)(v) and R315-310-3(1)(i))	
IIe. Closure Requirements for All Class III Landfills	
Closure plan (R315-310-3(1)(h))	Page 10
Closure schedule (R315-310-4(2)(d)(i))	Page 10
Design of final cover (R315-310-4(2)(c)(iii))	Pages 10-11, Appendix D
Capacity of site in volume and tonnage (R315-310-4(2)(d)(ii))	Page 11
Final inspection by regulatory agencies (R315-310-4(2)(d)(iii))	Page 11
IIf. Post-Closure Care Requirements for All Class III Landfills	
Post-closure care plan (R315-310-3(1)(h))	Pages 11-12
Changes to record of title, land use, and zoning restrictions (R315-310-4(2)(e)(v))	Page 11

I. **Facility General Information**	
Description of Item	Location In Document
Maintenance activities to maintain cover and run-on/run-off control systems (R315-310-4(2)(e)(iii))	Pages 11-12
List the name, address, and telephone number of the person or office to contact about the facility during the post-closure care period (R315-310-4(2)(e)(vi))	Page 12
IIg. Financial Assurance Requirements for All Class III Landfills	
Identification of closure costs including cost calculations (R315-310-4(2)(d)(iv))	Page 12
Identification of post-closure care costs including cost calculations (R315-310-4(2)(e)(iv))	Page 12
Identification of the financial assurance mechanism that meets the requirements of Rule R315-309 and the date that the mechanism will become effective (R315-309-1(1) and R315-310-3(1)(j))	Page 12

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Part I - Facility General Information

Ia. General Information

The Ashley Valley Sewer Management Board (AVSMB) owns property in Uintah County east of Vernal City. On the property is situated the Ashley Valley Water Reclamation Facility (AVWRF), which treats sewer from the Maeser Water Improvement District, the Ashley Valley Water and Sewer Improvement District and Vernal City residents. The Facility has a capacity of 4.7 MGD but is currently treating about 2.6 MGD.

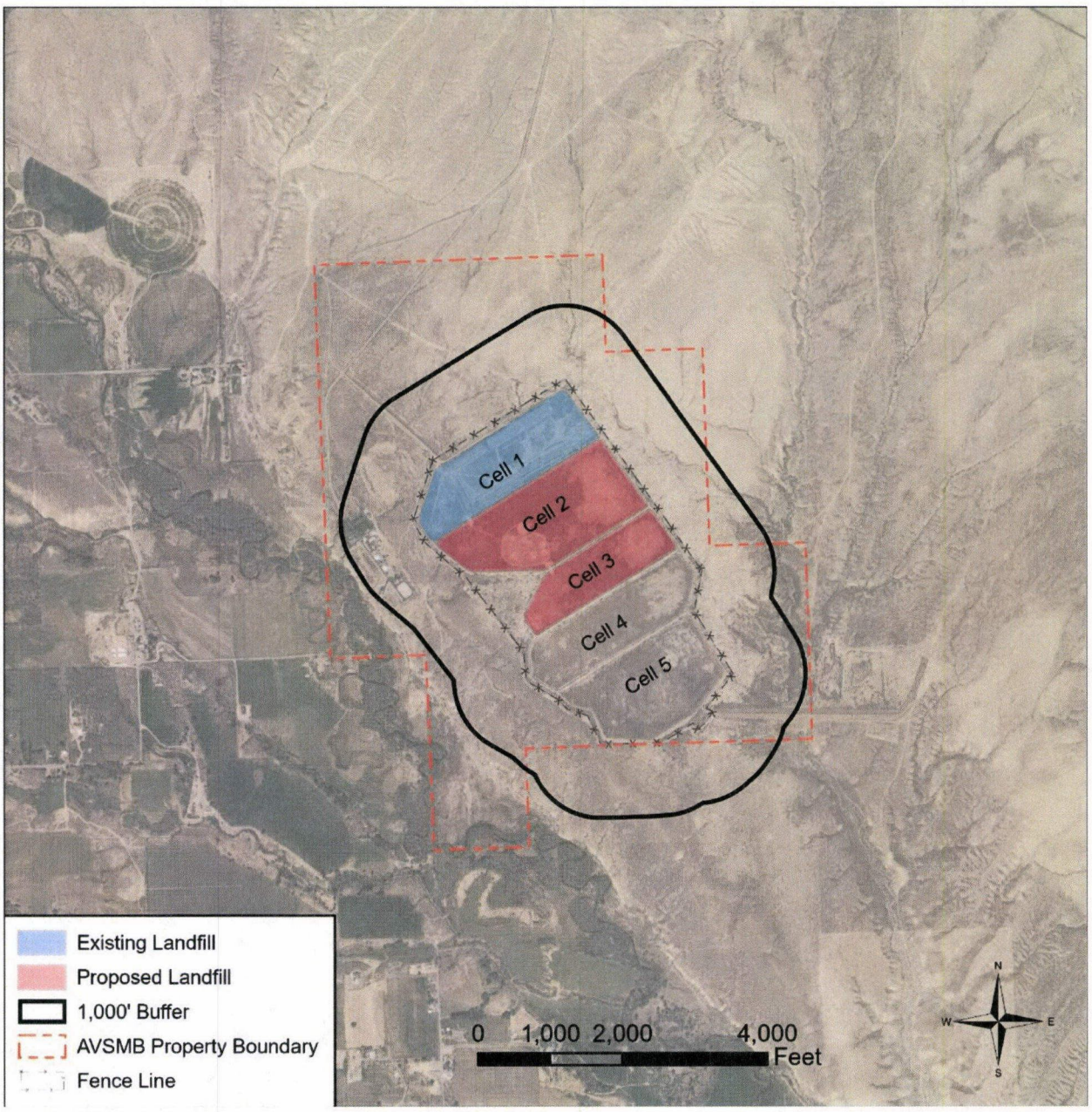


Figure 1: Landfill Site

Historically, five sewer lagoons were used for sewage containment. Since 2001, the AVWRF has treated wastewater and released it back to natural waterways leaving all

five lagoon cells unused. In 2010, the AVSMB permitted all five lagoons as a landfill with Cell 1 being the only active cell under phase 1 (Ashley Valley Class IIIb Permit Number: 1005). This application is to renew the use of Cell 1 and activate Cells 2 and 3 for landfill activities. Figure 1 shows the facility with existing and proposed landfill areas. Cell 1 will continue to operate as it has been, but Cells 2 and 3 will implement different techniques than in Cell 1. These techniques are described later in this application. Appendix A shows the survey of the property.

The proposed landfill expansion will dispose of the same sludge material as the current landfill. The Water Reclamation Facility currently produces about 550 dry metric tons of sludge each year. It is anticipated that all produced sludge will be disposed of either in the first lagoon under the current permit or in lagoons two and three under this expansion. No outside entities will be allowed to dispose of waste of any kind at the facility. Cells 2 and 3 will begin to be used upon approval of this application.

1b. General Information for New or Laterally Expanding Class III Landfills

The landfill operations will take place within the lagoons that have not been used as such since 2001. When the lagoons were built, significant excavation occurred. The lagoons do not have structures in or around them that do not pertain to the operation of sewer treatment facilities. Due to the disturbed state of the existing facility from original conditions, a Historical Survey is not necessary for the proposed expansion.

The five lagoon cells have a fence around them. This fence was taken as the facility boundary and a 1000-foot buffer was mapped as shown in Figure 2. Names and addresses of properties falling within that buffer are shown in Table 1. Appendix B shows the letter sent to these property owners.

Table 1: Landowners within 1000 feet

Parcel Number	Owner	Address
06: 044: 0066	Baxter Enterprises, LLC	4300 E 2500 S Vernal, UT 84078
06: 043: 0002	Baxter Enterprises, LLC	4620 E 2500 S Vernal, UT 84078
06: 043: 0001	Green Domain, LLC	4884 E 2500 S Vernal, UT 84078
	BLM	Roger Bankert, Field Manager 170 S 500 E Vernal, UT 84078

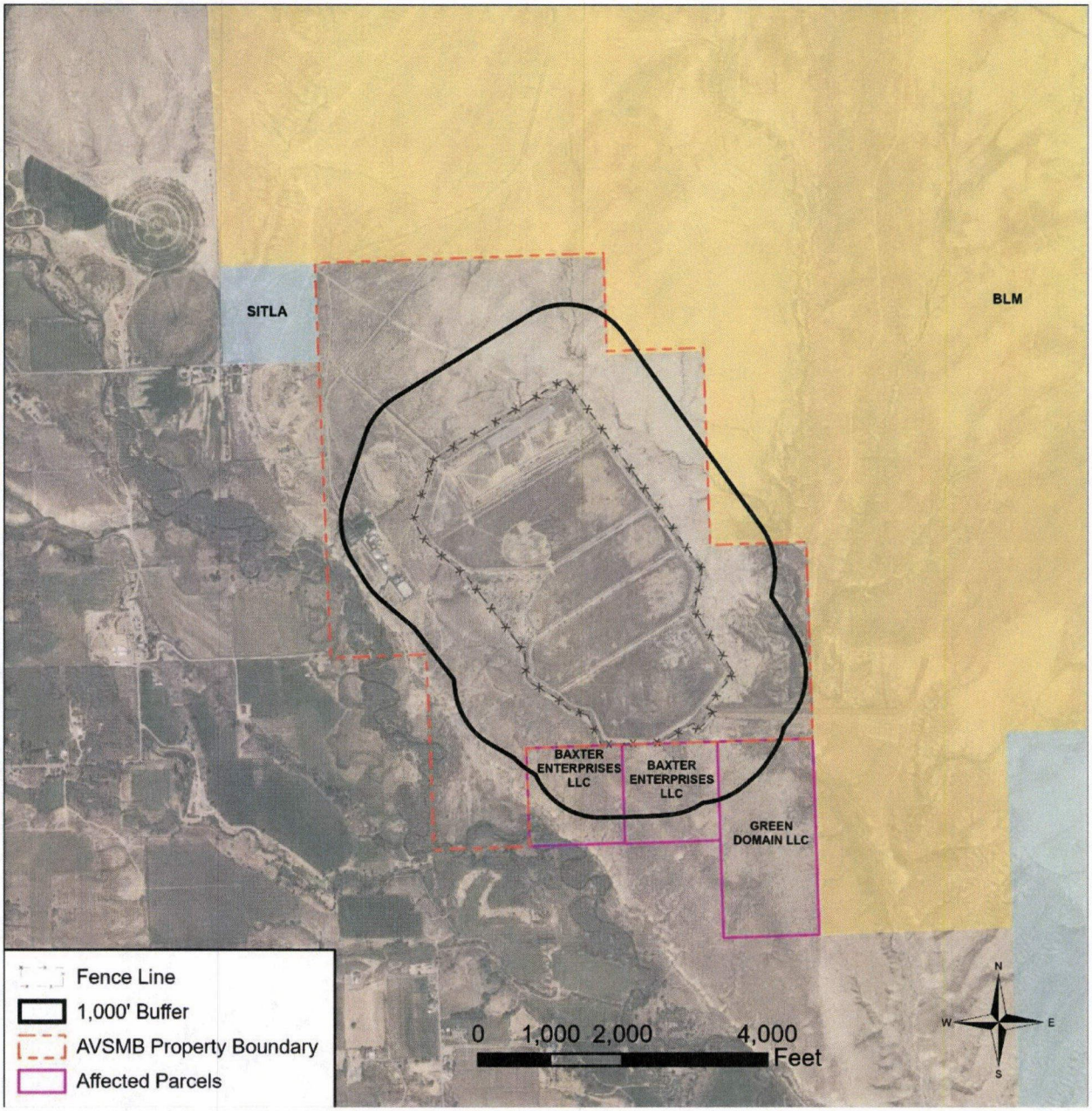


Figure 2: Land ownership within 1000 feet

Ie. Location Standards

The Ashley Creek drainage is located south and west of the existing water reclamation facility. The flood plain for Ashley Creek and adjacent drainages are shown in Figure 3. As shown, the flood plain does not conflict with the proposed landfill expansion footprint. The area directly north and east of Ashley Creek near the existing water reclamation facility and proposed landfill location is very dry; as a result no wetlands are in conflict.

Figure 4 shows the wetlands around the lagoon area from the National Hydrography Dataset (NHD) managed by the USGS National Geospatial Program. All of the current and proposed landfill activity will be confined to within the abandoned lagoons, so wetlands will be affected.

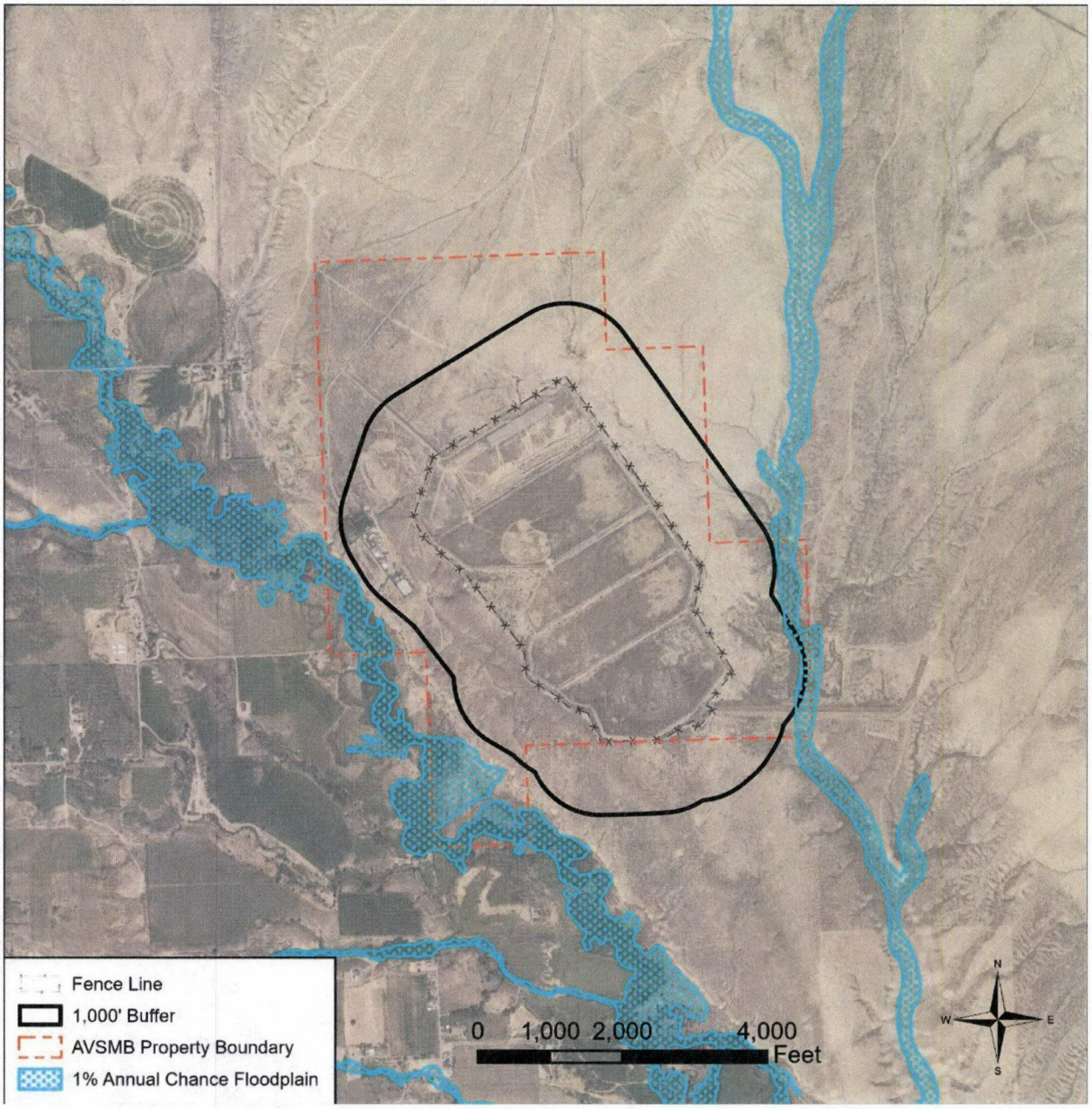


Figure 3: Floodplain map

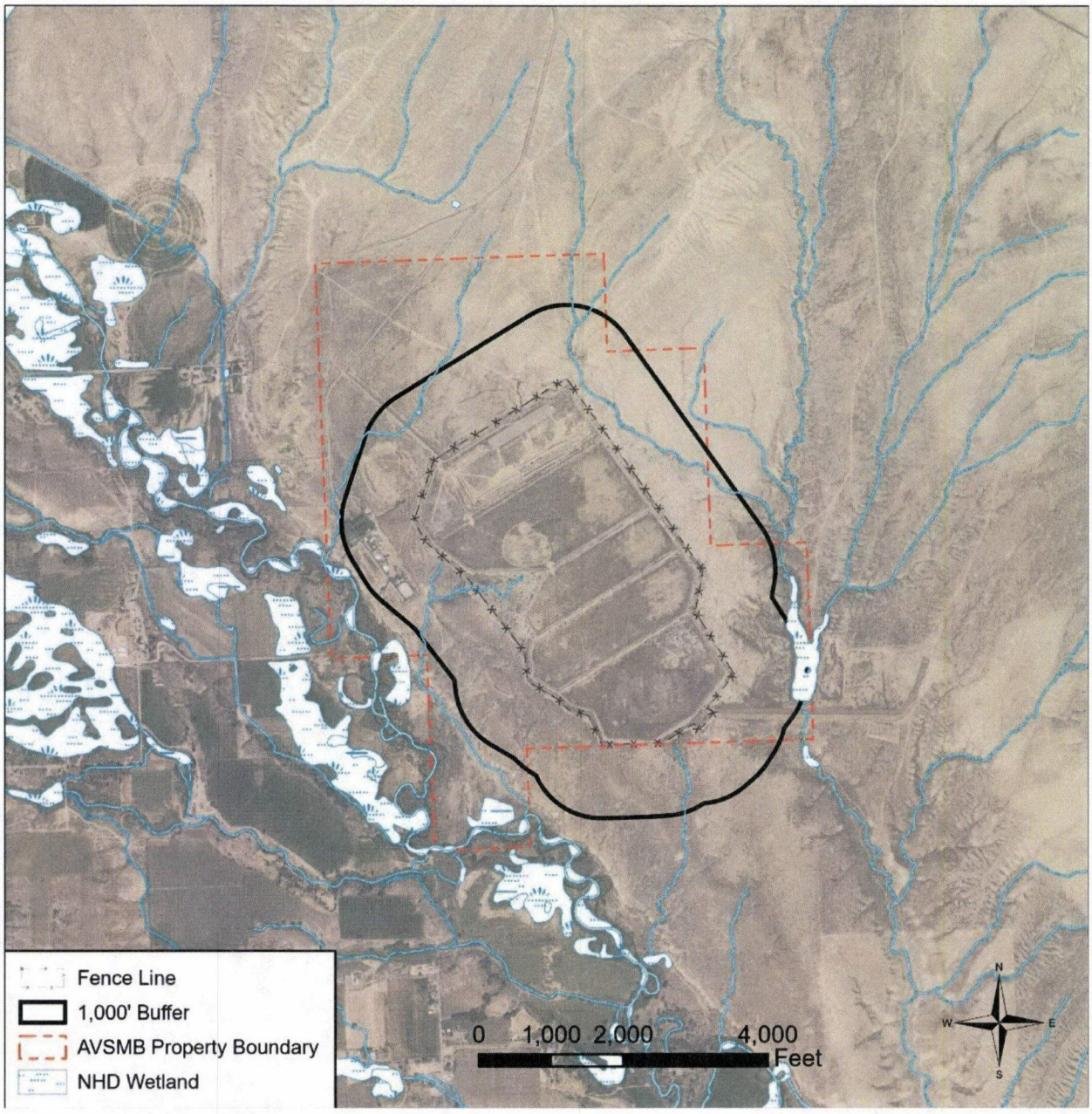


Figure 4: Wetlands near landfill area

The lowest level of waste is at least 10 feet above the historical high level of ground water. Over the 10 years Cell 1 has been operating trenches 12 feet deep have been dug year round. Ground water has not been encountered. The Cell 3 of the lagoons are situated 120 feet above Ashley Creek, the waterway to the southwest and 40 feet above the intermittent stream to the northeast. No signs of leaching groundwater on the sides of these river valleys are present. Cell 2 and 3 activity will be as fill on existing grade.

If. Plan of Operations

The currently approved trench and bury method of sludge disposal will continue to be used in Cell 1 as needed. In this cell, sludge that meets the required paint filter test and is between 13% and 20% solids is buried in trenches approximately 10' wide and 10' deep and capped with a minimum of 24" of soil. When filled, trenches are capped with 6 feet of soil. Trenches are separated by 15 feet. The Ashley Valley Sewer Management Board estimates about 30% to 50% of the sludge produced in 2021 will be disposed of using the trench and bury method. This equates to approximately 165 to 275 dry metric tons of sludge. In 2022 and beyond, it is estimated that only 25% (138 dry metric tons) will be disposed of in this manner.

Cells 2 and 3 will implement a different procedure for sludge disposal. These cells are expected to receive 50% to 70% of the sludge produced in 2021 and 75% of the sludge produced thereafter. In these cells, sludge (16% solids) will be spread to approximately 3 or 4 inches deep using a tractor and side discharging manure spreader at a 50% coverage rate. The approximate coverage rate will deposit 20 to 22 dry metric tons of sludge per acre. Depending on temperature and weather, it will take sludge 14 to 28 days to dry to 70% to 80% solids, reducing to a 0.5-inch layer of dried sludge which will be turned into the existing soil 8" to 10" deep using a disc or tillage implement. With about 43 useable acres in Cell 2 it will take approximately 20 months to cover the entire cell with 0.5" of dried sludge at current production rates. Cell 3 has approximately 21 useable acres and will take about 10 months to cover with each layered application.

The distance traveled to transport sludge from the Water Reclamation Facility to the landfill area is about 2.8 mile round trip and is entirely on AVSMB property. Appendix C shows examples of the forms used to track daily biosolids transported to the landfill (Bio-Solids Loadout) and monthly sludge report (Dewatering Summary Report).

The facility will be inspected by the owner or operator at least quarterly to ascertain the proper function of the landfill and monitor signs of threats to human health or the environment. Inspection logs (form below) will be filled out and kept on file for at least three years.

ASHLEY VALLEY WATER RECLAMATION FACILITY LANDFILL INSPECTION FORM	
DATE / / 20____	TIME : ☐AM ☐ PM
INSPECTOR NAME (PRINT)	
OBSERVATIONS / COMMENTS	
CORRECTIVE ACTION TAKEN OR NEEDED	
SIGNATURE	
Keep this inspection form on file for at least three years.	

It is very unlikely that an event rendering the facility incapable of disposing the sludge in the landfill will occur. If that extremely unlikely event takes place, sludge will be stockpiled on the existing drying pad until disposal in the landfill can take place.

The semi-moist disposed sludge will be dumped out of the dump truck and either spread or buried. There is no real threat of fire or explosion occurring or being fueled by the landfill. The receiving area is lower than surrounding berms of the lagoons which should minimize the wind. Dust on existing and future roads required to access the proposed disposal area shall be controlled as necessary using a water truck. The location of the existing water reclamation facility is in a remote area within Uintah County with prevailing winds from the north, northwest, west, southwest and south depending on the time of year. Typical winds, in any season, would blow dust and odor away from populated areas. It is not anticipated that large scale dust control will be necessary, but primarily performed as desired for comfortable operation of the facility.

Disposed material consists of sludge only with no other commercial deposition within the landfill. It is anticipated that there will be no additional litter to control as a result of the landfill.

As mentioned, no outside disposal will be allowed within the facility, therefore no outside waste, hazardous or not, will be allowed to be disposed of.

Material disposed of will have been treated and stabilized previously within the Ashley Valley Water Reclamation Facility. As a result, no material harboring disease vectors is expected to be present in the landfill. Soil and sludge will be graded to avoid ponding to prevent mosquito larvae habitat.

Staff participate in monthly training meetings to educate and remind staff of proper plant functions and safety measures required.

Part II - Facility Technical Information

IIa. Maps

The most recent U.S. Geological Survey topographic 7 ½ minute series map showing the waste facility boundary, property boundary, surface drainage channels, existing structures within ¼ mile of the site, and the direction of the prevailing winds is shown in Figure 5.

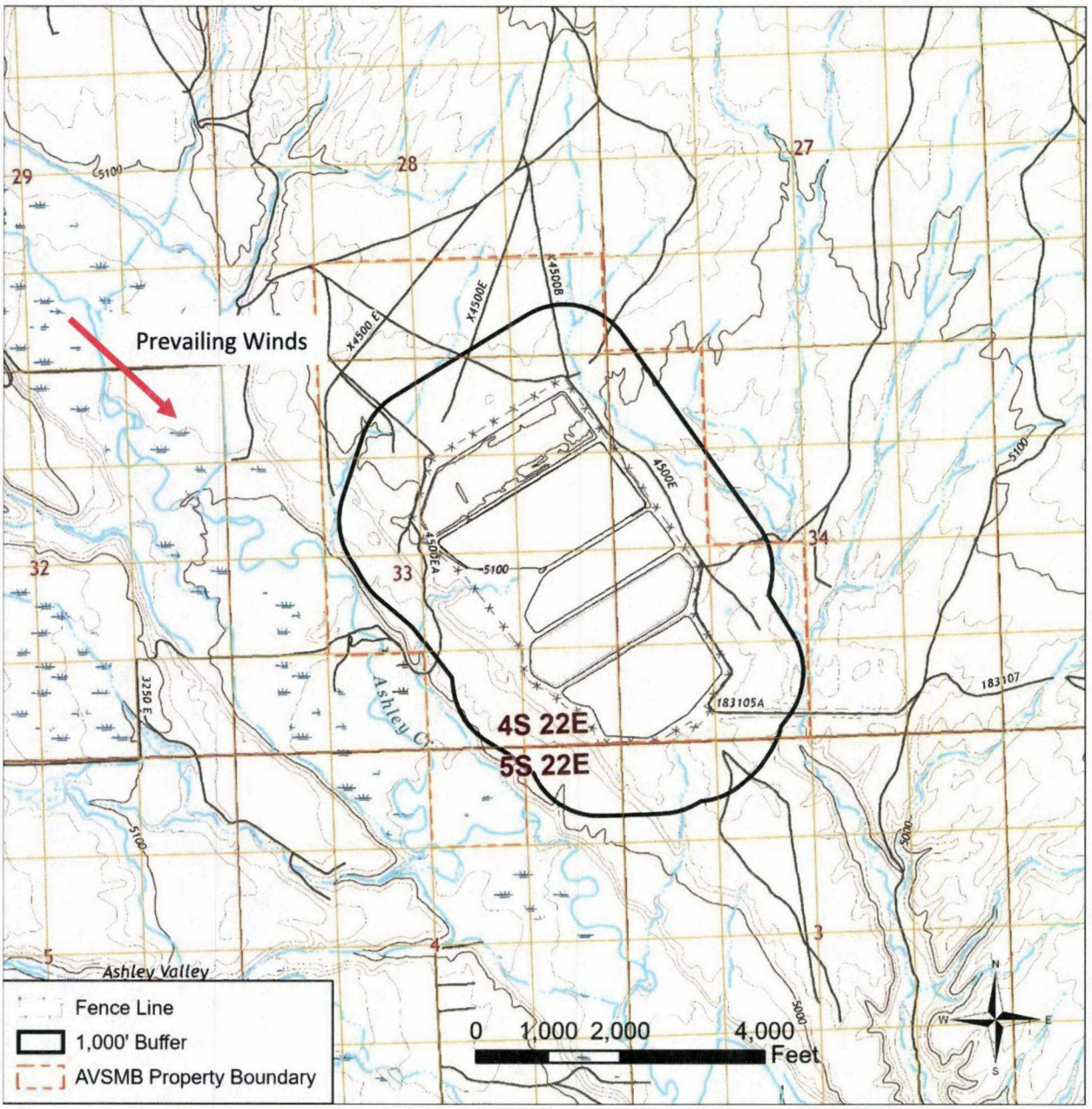


Figure 5: 7 1/5 minute series map

IIc. Engineering Report – Plans, Specifications, and Calculations

The currently approved trench disposal method will continue in Cell 1 as described earlier. In Cells 2 and 3 the spreading method will be implemented, allowing the sludge to dry and be tilled into the soil. When the landfill is closed, a soil cap 24 inches thick will be placed over the active landfill areas. Deposited sludge will not be allowed to reach a height higher than 27" below the lowest point on the lagoon berm. When the 24-inch cap is placed on top of the sludge, the elevation will be 3 inches below the berm which will provide ample storm water hold capacity for the 100-year 24-hour storm event.

Storm water is prevented from running on to and off of the landfill site by the existing berms from the abandoned sewer lagoons. When the lagoons were built the berms were constructed above the adjacent natural grade. This effectively contains storm water falling within the landfill area from discharging to the environment and prevents runoff from the environment from entering the landfill area.

IIe. Closure Requirements

The owner shall notify the Director of the intent to implement the closure plan in whole or part, 60 days prior to the projected final receipt of waste at the unit or facility unless otherwise specified in the closure plan.

Within 30 days of the receipt of the final volume of waste, the owner or operator shall commence implementation of the closure plan, in part or in whole.

Within 180 days of commencement of closure plan implementation, closure activities shall be completed. Extensions of the closure period may be granted by the Director if justification for the extension is documented by the owner or operator.

Within 60 days from the completion of closure, the owner or operator will submit plats and a statement of fact concerning the location of the disposal site to the county recorder to be recorded as part of the record of title. Proof of this filing will be submitted to the Director.

Within 90 days from the completion of the closure of a cell or the entire facility, the owner or operator will provide to the Director plans representing the closure of the unit or the facility with as-built changes noted if modifications were made to the final closure construction plans as approved in the closure plan together with a certification by the owner or operator that the site has been closed in accordance with the approved closure plan.

Facility closure will be performed to minimize further maintenance, minimize or eliminate threats to human health and the environment, and prepare the facility for the post-closure period. The owner will cover the landfill area with a minimum of 24 inches of clean fill graded smooth and representative of adjacent topography and seeded with

vegetation native to the area. Grade shall be such to prevent water from draining on or off the landfill. Runoff shall be contained on-site.

The facility closure timeline is not anticipated to be due to the landfill reaching capacity. More likely reasons for the landfill closure are the Water Reclamation Facility reaching the end of its usable lifecycle or being modified to accommodate demand. The lagoon berms are 9' high. At a sludge production rate of 550 dry metric tons per year and a spreading rate of 22 dry metric tons per acre, it will take 2.5 years to cover Cells 2 and 3 with one layer of sludge. The sludge will dry to a 0.5" layer within 28 days.

The maximum design elevation of the sludge in Cells 2 and 3 is three inches below the lowest elevation on the berm. This allows for 105" of dried sludge to be placed in these cells, or 210 layers. At 2.5 years per layer, the lifespan of Cells 2 and 3 is 525 years. Table 2 shows the capacities and lifespan of each cell following the previously mentioned distribution of 25% of the produced sludge going to Cell 1, 50% to Cell 2 and 25% to Cell 3.

Table 2: Landfill cell properties

	Cell 1	Cell 2	Cell 3
Usable Area (ac)		42	21
Usable Volume (ac-ft)	20.4	126	63
Usable Volume (cy)	32,900	203,280	101,640
Sludge Load (dmt/year)	n/a	277.5	138.8
Sludge Load (dcy/year)	936.0	234.6	117.3
Lifespan (years)	35	867	867

The owner shall schedule a final inspection with all regulatory agencies prior to final closure of the landfill.

IIf. Post-Closure Care Requirements

The Owner shall provide post-closure activities for continued facility maintenance and monitoring of land, and water run-on/run-off for 30 years or for as long as the Director determines is necessary for the facility or unit to become stabilized and to protect human health and the environment.

Any changes to ownership, zoning, or land use shall be reported the appropriate regulatory agency and the Director.

Post Closure Inspections shall be conducted annually to ensure soil stability and erosion control systems are still in place and that the structure and intent of the site grading is still performing as intended. The person inspecting the site shall have a competent understanding of the design of the landfill, closure design and final cover, and post-closure procedures for the facility. The report shall include a site description comparing existing conditions, previous year's conditions, and initial conditions at closure. Details

shall include diagrams illustrating compromises and potential compromises to the structure and to the intended drainage paths.

The inspector will be required to complete the inspection report detailing his/her observations and recommendations for repair and/or remediation if deemed necessary. A copy of the report shall be submitted to the Director and to all regulatory agencies pertinent to the landfill.

Contact the following person during post-closure care period:

Dean Gibbs, Plant Manager
Ashley Valley Water Reclamation Facility
1947 S. Burns Bench Rd. Vernal, Utah 84078
(435) 789-9805

IIg Financial Assurance

As reported, the life and capacity of the landfill should easily outlast the needs of the Ashley Valley Water Reclamation Facility. Closure of the landfill will most likely coincide with closure of the facility. Anticipated costs associated with closing and post-closure maintenance of the three cells of the landfill are shown in Table 3. When cells 2 and 3 close, the soil cap will come from native material in Cells 4 and 5 and placed as designed.

Table 3: Closure and post-closure costs

	Cell 1(as permitted)	Cells 2 & 3	Total
Closure (Final Cover, Grading, Seeding)	$ 11,667.34	$ 8,000.00	$19,667.34
Post-Closure Inspection	$28,001.61	$ 8,000.00	$36,001.61

Ashley Valley Sewer Management Board has created an account specifically for landfill closure and post-closure costs along with bond obligation reserve funds in Utah PTIF Account #7434. The balance of the account as of November 30, 2020 which includes sufficient funds to cover both landfill closure costs and outstanding bond obligations was $616,621.11. Deposits/adjustments are made annually based on an estimated closing of the facility in 2045 and in accordance with the Division's inflation calculations.

Since the landfill area is being constructed within existing sewer lagoons, containment berms are already in place. A detail has been provided in case the berm is destroyed or if construction methods require the temporary removal or modification of the in-place berms. The existing berm is sufficient to both retain rainfall falling on the enclosed landfill area and to provide a barrier from rainfall falling outside the area. See Appendix D for berm details. During daily routine use of the facility, berms and runoff evidence will

be observed to become aware of issues that may be developing. If problems are detected, a quarterly inspection will be performed and documented.

Appendix A – Survey

FOCAL POINT SURVEYS

RECORD OF SURVEY

Ashley Valley Sewer District

Appendix B – Letter to Property Owners

CRS ENGINEERS
Answers to Infrastructure®

2028 W. 500 N. PO Box 1485. Vernal, UT 84078
o. 435 781 2550. f. 435.781.2950. crsengineers.com

January 11, 2021

Baxter Enterprises, LLC
4300 E 2500 S
Vernal, UT 84078

Re: Ashley Valley Sewer Management Board – Landfill Renewal and Expansion Application

Dear Landowner:

The Ashley Valley Sewer Management Board has asked CRS Engineers to prepare an application to renew and expand their Class IIIb landfill near Vernal, UT. The facility is located near or adjacent to property you own. This letter is to inform you of Ashley Valley Sewer Management Board's application. The landfill will contain sludge, which is a byproduct of the reclamation facility operations.

Please direct any questions to the Ashley Valley Sewer Management Board at (435) 789-9805. Also, feel free to contact me with any questions at (435) 781-2550.

Sincerely,
CRS Engineers

Keith Despain
Associate

cc
2020-0575

Keith Despain, PE
Associate

c. 435.790.3913
keith.despain@crsengineers.com

Appendix C – Sludge Report Forms

BIO-SOLIDS LOADOUT

DATE: 1-2-20

TIME	LOADOUT WEIGHT	OPERATOR
9:00	8300	DL
12:00	8800	DL
1:15	12,000	MD
3:30	6070	DL
DAILY TOTAL	35,770	

DATE: 1-3-20

TIME	LOADOUT WEIGHT	OPERATOR
9:20	12810	DL
11:35	7660	MD
1:35	8620	DL
3:30	7290	DL
DAILY TOTAL	35,780	

DATE: 1-6-20

TIME	LOADOUT WEIGHT	OPERATOR
9:30	11150	MD
11:30	8370	MD
2:00	11350	
3:35	6270	RW
DAILY TOTAL	37,440	

DATE: 1-7-20

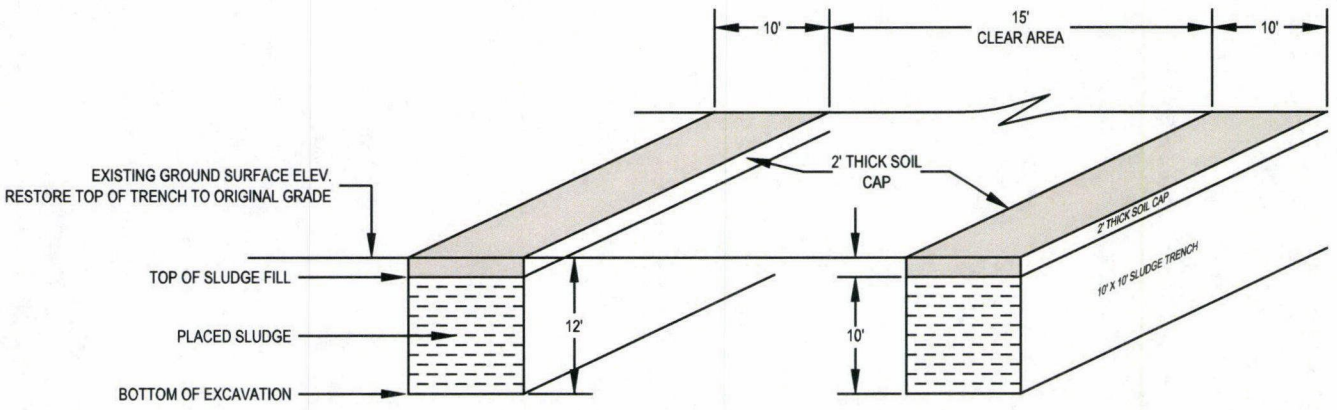
TIME	LOADOUT WEIGHT	OPERATOR
8:55	10020	RW
11:45	9940	MD
1:20	7710	MD
2:45	6790	RW
DAILY TOTAL	34,460	

Dewatering Summary Report

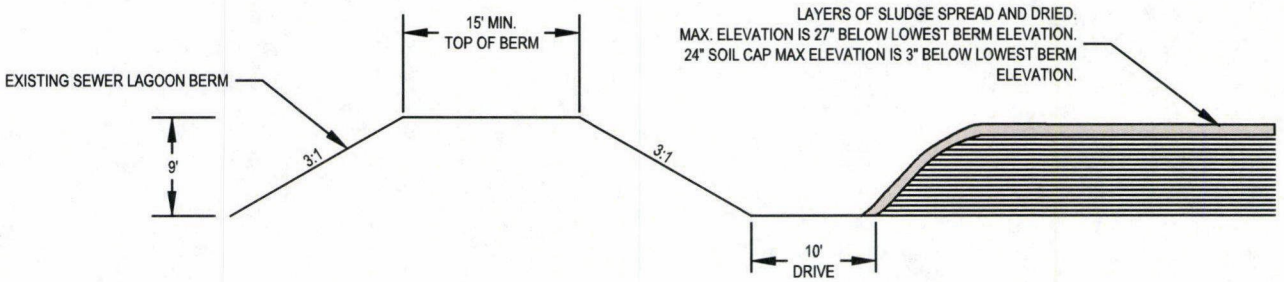
Interval: Jan-20 - Jan-20

Date	Sludge Feed (gal)	Cake Solids (%)	Wet Solids (lbs)	Cake Dry Solids (lbs)	Polymer Used (lbs)	Disposal Location
1/1/20	0	-	-	-	-	-
1/2/20	0	15.13	35770	5412	41	Landfill
1/3/20	0	14.83	35780	5306	41	Landfill
1/4/20	0	-	-	-	-	-
1/5/20	0	-	-	-	-	-
1/6/20	0	14.12	37440	5287	44	Landfill
1/7/20	0	15.23	34460	5248	39	Landfill
1/8/20	0	-	-	-	-	-
1/9/20	0	16.93	38770	6564	42	Landfill
1/10/20	0	14.65	22030	3227	25	Landfill
1/11/20	0	-	-	-	-	-
1/12/20	0	-	-	-	-	-
1/13/20	0	18.19	36180	6581	43	Landfill
1/14/20	85314	18.14	38990	7073	45	Landfill
1/15/20	73758	15.64	34110	5335	41	Landfill
1/16/20	54819	-	-	-	-	-
1/17/20	86289	16.93	37830	6405	45	Landfill
1/18/20	0	-	-	-	-	-
1/19/20	53553	-	-	-	-	-
1/20/20	83453	17.94	34810	6245	45	Landfill
1/21/20	84113	14.62	40619	5938	42	Landfill
1/22/20	83750	14.86	38530	5726	46	Landfill
1/23/20	55347	-	-	-	-	-
1/24/20	85693	18.36	35790	6571	47	Landfill
1/25/20	0	-	-	-	-	-
1/26/20	54962	-	-	-	-	-
1/27/20	85365	16.74	37600	6294	46	Landfill
1/28/20	81633	14.53	37300	5420	53	Landfill
1/29/20	84293	14.27	37710	5381	45	Landfill
1/30/20	55494	-	-	-	-	-
1/31/20	86907	15.89	37360	5937	44	Landfill
Totals	1,194,743	X	651,079	103,949	774	X
Average	74,671	15.94	36,171	5775	43.0	X
Dry MTons	X	X	X	47.2	X	X

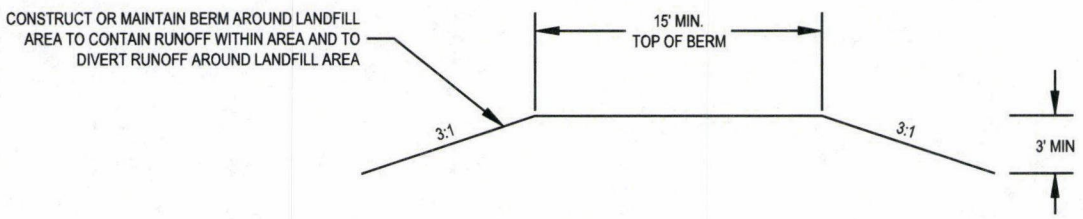
Appendix D – Landfill Details



CELL 1 SLUDGE DISPOSAL - TRENCH METHOD DETAIL



CELLS 2 AND 3 DISPOSAL - SPREAD, DRY AND TILL



CONTAINMENT BERM DETAIL

PROFESSIONAL ENGINEER
KEITH A DESPAIN
8037903
8 JAN 21
STATE OF UTAH

CRS ENGINEERS
Answers to Infrastructure®
PO Box 1485 | 2028 W 500 N | Vernal, UT 84078 | P: 435.781.2550 | www.crsengineers.com

ASHLEY VALLEY CLASS IIIb LANDFILL
ASHLEY VALLEY SEWER MANAGEMENT BOARD
LANDFILL DETAILS

PROJECT NUMBER 2020-0575
SHEET 1 OF 1
SHEET NUMBER APPENDIX D