



Boulder Park Project Beneficial Use Facility 2023 Annual Report



Boulder Park Project

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Boulder Park Project Beneficial Use Facility

PROJECT BACKGROUND

Over 30 years ago in 1991, three Douglas County farmers began working with King County to explore the potential of using treated wastewater solids on their fields as a soil amendment to improve soil quality and increase crop yields. These farmer's fields located in north Douglas County were non-irrigated, marginal quality soils, and received a mere 7 to 13 inches of annual rainfall.

The first biosolids land applications occurred in 1992 and the farmers saw the benefits immediately witnessing more vibrant, deeper green color of the crops and experiencing increased crop yields. It didn't take long before the three farmers established Boulder Park Incorporated (BPI) in 1994. In 1994, BPI and King County Department of Natural Resources and Parks (King County) entered a public-private partnership and initiated what is known as the Boulder Park Project. The Project is jointly permitted, operated, and managed by BPI and King County and has thrived for more than three decades. Boulder Park Project is one of the largest farmer-owned and operated, multi-farmer biosolids beneficial use projects in the United States.

There has been growing demand for biosolids from local farmers over the years. The number of participants has grown from three original farmer-sponsors to over 120 farmers/landowners and available permitted acreage has grown from 5,000 acres to over 110,000 acres. BPI makes great effort to distribute biosolids to as many farmers as possible, rather than concentrating on a few ownerships. This practice promotes a strong client base, which in turn makes the project more robust and more sustainable into the future.

This report summarizes annual operational and monitoring information from January 1, 2023 to December 31, 2023.

The farmer is the ultimate regulator – if biosolids didn't produce great results, farmers wouldn't use it and there would be no project.

Below: A biosolids application of 3 dry tons per acre at the JS-14 long-term research site at Boulder Park Project.



BENEFICIAL USE OF BIOSOLIDS

Recycling biosolids through land application improves soil health and achieves carbon sequestration goals while increasing crop yield for the farmers. Beneficially using biosolids at Boulder Park Project is consistent with the State of Washington’s Biosolids Management rule that “encourages the maximum beneficial use of biosolids” per Chapter 173-308-010(2)(a) WAC and recognizes the value of biosolids stating “the State of Washington recognizes biosolids as a valuable commodity” per Chapter 173-308-060(1) WAC.

The photo above shows biosolids being scattered agronomically and uniformly across the field surface in anticipation of the farmer seeding a triticale crop with cover crop mix. At Boulder Park Project the typical agronomic rate for a biosolids application is 2 to 3 dry tons per acre.

Below: A typical Boulder Park Project delivery site with signage for each biosolids product to be delivered and staged.



BENEFICIAL USE FACILITY

Boulder Park Project is permitted as a Beneficial Use Facility, which allows the project to receive biosolids from permitted treatment facilities for beneficial use and land application services. Boulder Park Project was issued Final Coverage under the new Statewide General Permit for Biosolids Management by Washington Department of Ecology on January 26, 2023.

In 2023, a total of 43 treatment facilities participated in the project with 35 of those facilities delivering biosolids to project fields for beneficial use as shown on page 6.

Biosolids delivered to project fields are stored separately and not mixed or co-mingled. The reason for not mixing the biosolids is each treatment facility produces a unique biosolids product with a different nitrogen content that must be land applied accordingly. An agronomic rate, also referred to as application rate, is calculated for each biosolids product based on (1) biosolids plant available nitrogen content, (2) residual soil nitrogen concentration at the application site, and (3) crop nitrogen requirements. Agronomic rates are reviewed by Washington State University, Mount Vernon Extension staff and approved by Washington Department of Ecology prior to land application of project sites. Refer to Appendix A, Figure 1 for a map of 2023 Application Sites.

2023 Participants of the Boulder Park Project Beneficial Use Facility

Ace Acme Incorporated	Arlington, WA
Alderwood Water & Wastewater District	Lynnwood, WA
City of Brewster Wastewater Treatment Plant	Brewster, WA
City of Bridgeport Wastewater Treatment Plant	Bridgeport, WA
City of Cashmere Wastewater Treatment Plant	Cashmere, WA
City of Chelan Wastewater Treatment Plant	Chelan, WA
Chelan County PUD No. 1, Peshastin WWTP	Wenatchee, WA
Town of Coulee Dam Wastewater Treatment Plant x	Coulee Dam, WA
Douglas County Sewer District No. 1	East Wenatchee, WA
City of Duvall Wastewater Treatment Plant	Duvall, WA
City of Enumclaw Wastewater Treatment Plant	Enumclaw, WA
City of Ephrata Wastewater Treatment Plant	Ephrata, WA
City of Grand Coulee Wastewater Treatment Plant	Grand Coulee, WA
Grant County PUD No. 2, Crescent Bar WWTP x	Crescent Bar, WA
Hayden Area Regional Sewer Board WWTP x	Hayden, ID
King County DNRP, WTD, Brightwater WWTP	Woodinville, WA
King County DNRP, WTD, South Plant WWTP	Renton, WA
King County DNRP, WTD, West Point WWTP	Seattle, WA
Lakehaven Water and Sewer District, Lakota WWTP	Federal Way, WA
Lakehaven Water and Sewer District, Redondo WWTP	Federal Way, WA
City of Leavenworth Wastewater Treatment Plant	Leavenworth, WA
Liberty Lake Sewer and Water District x	Liberty Lake, WA
LOTT Clean Water Alliance	Olympia, WA
City of Lynden Wastewater Treatment Plant	Lynden, WA
Midway Sewer District, Des Moines Creek WWTP	Des Moines, WA
City of Mount Vernon Wastewater Treatment Plant	Mount Vernon, WA
Mukilteo Water and Wastewater District	Mukilteo, WA
City of Okanogan Wastewater Treatment Plant	Okanogan, WA
City of Pateros Wastewater Treatment Plant	Pateros, WA
Pierce County Chambers Creek WWTP	Pierce County, WA
City of Quincy Wastewater Treatment Plant	Quincy, WA, WA
City of Rock Island Wastewater Treatment Plant	Rock Island, WA
City of Royal City Wastewater Treatment Plant	Royal City, WA
Sedron Services Sumner Washington	Sumner, WA
City of Sedro-Woolley Wastewater Treatment Plant	Sedro-Woolley, WA
City of Soap Lake Wastewater Treatment Plant	Soap Lake, WA
Southwest Suburban Sewer District, Miller Creek WWTP	Normandy Park, WA
Southwest Suburban Sewer District, Salmon Creek WWTP	Normandy Park, WA
Stevens Pass Sewer District	Stevens Pass, WA
Tree Top Incorporated	Wenatchee, WA
Town of Twisp Wastewater Treatment Plant	Twisp, WA
City of Warden Wastewater Treatment Plant x	Warden, WA
City of Wenatchee Wastewater Treatment Plant	Wenatchee, WA

x Indicates no biosolids were delivered to Boulder Park Project in 2023.

Below: King County trucks delivering Loop® biosolids at Boulder Park Project, April 2023.



PROJECT OPERATIONS

Project operations occur year-round and in all weather conditions. Trucks haul and deliver biosolids to the project every day and the BPI crews are always available and prepared to assist the truck drivers as needed.

Temporary staging of biosolids occurs in designated areas within a project field allowing accumulation of enough biosolids to complete land application for the scheduled field. The biosolids are staged for short periods of time prior to land application, except in winter months when biosolids can be stored for several months. The stored biosolids are carried over into the next year for application in spring.

Land application operations this year were stopped on November 10th when the area was blanketed in several inches of snow. Typically land applications continue until Thanksgiving or longer before moving into storage mode, but winter again came early in 2023 as it did the year before in 2022.

IMPORTANCE OF A QUALITY PRODUCT

Treatment facilities, or preparers, are tasked with the responsibility of making a great product for our farmers. The preparers must ensure biosolids delivered to project fields for beneficial use meet all state and federal requirements for land application through analytical testing and reporting as required by Washington Department of Ecology and their contract with Boulder Park Project. Treatment facilities collect and submit representative biosolids samples to accredited laboratories for analyses. The analytical results are shared with Boulder Park Project to demonstrate biosolids quality and regulatory requirements are met.

The preparers understand that farmers are purchasing their product for use as a soil amendment to build and improve their soils and achieve crop yield goals. These farmers depend on a quality product. The farmer is the ultimate regulator – if biosolids didn't produce great results – farmers wouldn't want it and there would be no project.



Above: Dave Ruud, BPI Operations Manager, addresses a tour group during the Northwest Biosolids Annual Conference, September 26, 2023. The long-term research plot, GP-17, is managed by Washington State University and has been applied with biosolids every four years since it was established in 1994. GP-17 was planted to millet in May 2023 and harvested on October 20, 2023.



THE NUMBERS

In 2023, Boulder Park Project land application operations began on April 13th and ended November 10th. The table below summarizes the 2023 biosolids deliveries, applications, and storage totals.

2023 Project Biosolids Totals:		
»	Total Wet Tons Received	119,284.4
»	Total Wet Tons Applied	122,943.1
»	Total Acres Applied	9,841.2
»	Total Sites Applied	60
»	2022 Total Wet Tons Winter Storage Applied in 2023	28,951.9
»	2023 Total Wet Tons in Winter Storage for 2024	25,328.5



Above: Typical land application operations at Boulder Park Project, May 2023.

Harnessing valuable resources that would otherwise be lost

PROJECT LAND APPLICATION ACTIVITY

In 2023, Boulder Park Project applied 122,943.1 wet tons of biosolids on 9,841.2 acres of farmland for crop production. The farmers grew wheat, canola, sunflowers, triticale, grass hay, field corn, millet, barley, and various cover crop mixes. Appendix A, Figure 1 provides a map of 2023 application sites and Appendix B, Tables 1 through 5 provide 2023 site application and storage activity information.

In north Douglas County, farms are primarily dryland, crop-fallow rotation systems. Crop-fallow means one year a field is in crop production and the next year it is in fallow with no crop. The purpose of fallow periods is to build moisture especially since north Douglas County is very dry generally receiving only 7-13 inches of precipitation annually. In 2023, the Washington State University AgWeatherNet Mansfield NW weather station received a total precipitation amount of 8.37 inches with a 5-year average of 7.21 inches.

Boulder Park Project fields are typically applied with biosolids once every four to six years, or every two to three crop cycles. Unlike commercial fertilizer, biosolids are primarily in an organic form with a smaller portion in mineral forms. This allows for slow release of organic nitrogen as it mineralizes over time at a rate similar to plant uptake. This means that nitrogen not used by the first crop is likely available for the next crop limiting the potential for leaching and negatively impacting groundwater quality.

Biosolids are applied by BPI personnel using standard farming practices. Large four-wheel drive tractors pull industrial manure spreaders across fields to uniformly apply biosolids at the approved agronomic rate. Equipment is regularly calibrated by BPI personnel to ensure application of biosolids is done as accurately as possible.

Global Positioning Systems (GPS) technology is installed in all five of our tractors along with automatic steering systems that (1) increases the precision of biosolids applications by decreasing overlap between passes, which means more acreage can be applied with the same amount of biosolids, and (2) improves recordkeeping by accurately documenting the location and acreage applied as shown below.



A Trimble GPS display shows the application path of a tractor applying biosolids (top left); A map created by exporting data captured by GPS and imported to Geographic Information Systems showing the final application of a project site (above).

RESEARCH

[1] 2023 WSU King Co. Biosolids Annual Report, Annual Report for January-December 2023. Dr. D. Griffin-LaHue, WSU Mount Vernon; M. Desjardins, WSU Mount Vernon.

There are currently two long term on-farm biosolids demonstration sites at the Boulder Park Project known as GP-17 and JS-14. Research at these sites is being done in cooperation with Washington State University, Boulder Park Project, and local farmers and landowners.

Research work at Boulder Park Project’s long term on-farm demonstration sites included the following in 2023:

Date	Site	Description
5/3/2023	JS-14	Soil sampling & biomass sampling completed
5/17/2023	BPP	Soil sampling Nationwide Collaborative Land Application Study
5/18/2023	GP-17	Soil sampling completed
5/22/2023	GP-17	Biosolids application (2, 3, 4.5 dry tons plots)
5/26/2023	GP-17	Test plots seeded by farmer to millet
6/1/2023	JS-14	Test plots seeded by farmer to spring triticale
10/4/2023	JS-14	Harvest spring triticale
10/20/2023	GP-17	Harvest millet
11/10/2023	JS-14	Biosolids application (3 dry tons plots)

GP-17: Application Rates and Grain Yield Results ^[1]

GP-17 was established in 1994 and has been applied with biosolids every four years since its inception. The initial purpose of GP-17 was to determine optimal biosolids application rates for achieving maximum crop yield while being mindful of good nutrient management practices. In addition to this research, further research at GP-17 includes gaining a better understanding of the effects of biosolids on carbon sequestration and soil health properties such as bulk density, soil organic matter cycling and soil fertility at various depths.

On May 22, 2023, Loop[®] biosolids from the King County Renton South Plant Facility were applied at GP-17. Three application rates of biosolids have been applied at this site every four years since the start of the trial. The application rates consist of a low 2 dry tons (DT) biosolids (BS) per acre (A) application rate, a medium 3 DT BS/A application rate, and a high 4.5 DT BS/A application rate. Truck scales were used to measure how much biosolids were being applied to each plot. Biosolids applied were 20.67% total solids. Samples of the biosolids applied were collected and half were mixed with 2M sulfuric acid and oven-dried, while the other half were oven-dried without sulfuric acid (acidification helps retain ammonium during drying so the ammonium is not lost to volatilization). The oven-dried, non-acidified samples were analyzed for total carbon and nitrogen, organic matter, sulfur, and phosphorus. Acidified samples were analyzed for nitrate, ammonium, total carbon and nitrogen.

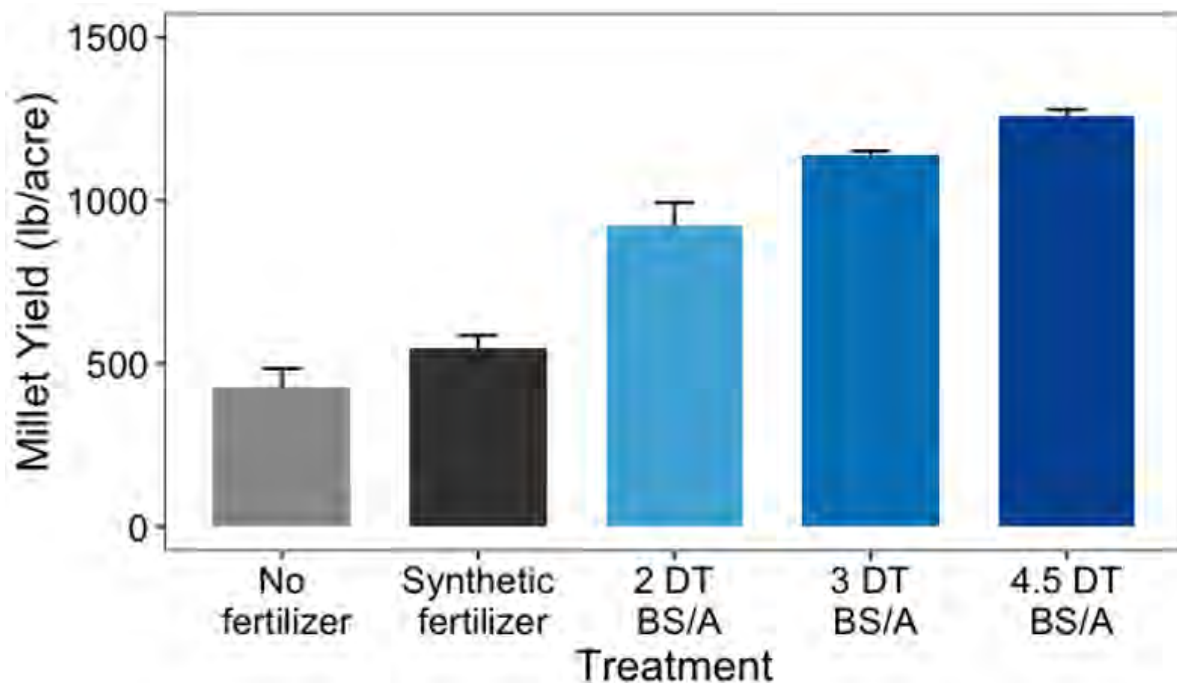
GP-17 was seeded to millet following biosolids application. Millet was harvested at GP-17 in October 2023. A 45-foot wide strip was harvested from the center of each plot



Above: Dr. Griffin-LaHue collects samples of millet grain as it is augered into truck at GP-17, October 20, 2023.

beginning to end, and the yield in pounds was weighed. A grain sample from each plot was collected for measurement of test weights and grain analysis. As shown in Graph 1 below, millet grain yields in biosolids-amended plots were all significantly higher than the synthetic fertilizer and unfertilized plots. Compared with synthetic fertilizer, there was a 40.5% increase in grain yield with

the 2 dry ton/acre rate, a 52.0% increase with 3 dry tons/acre, and a 56.4% increase with 4.5 dry tons/acre.

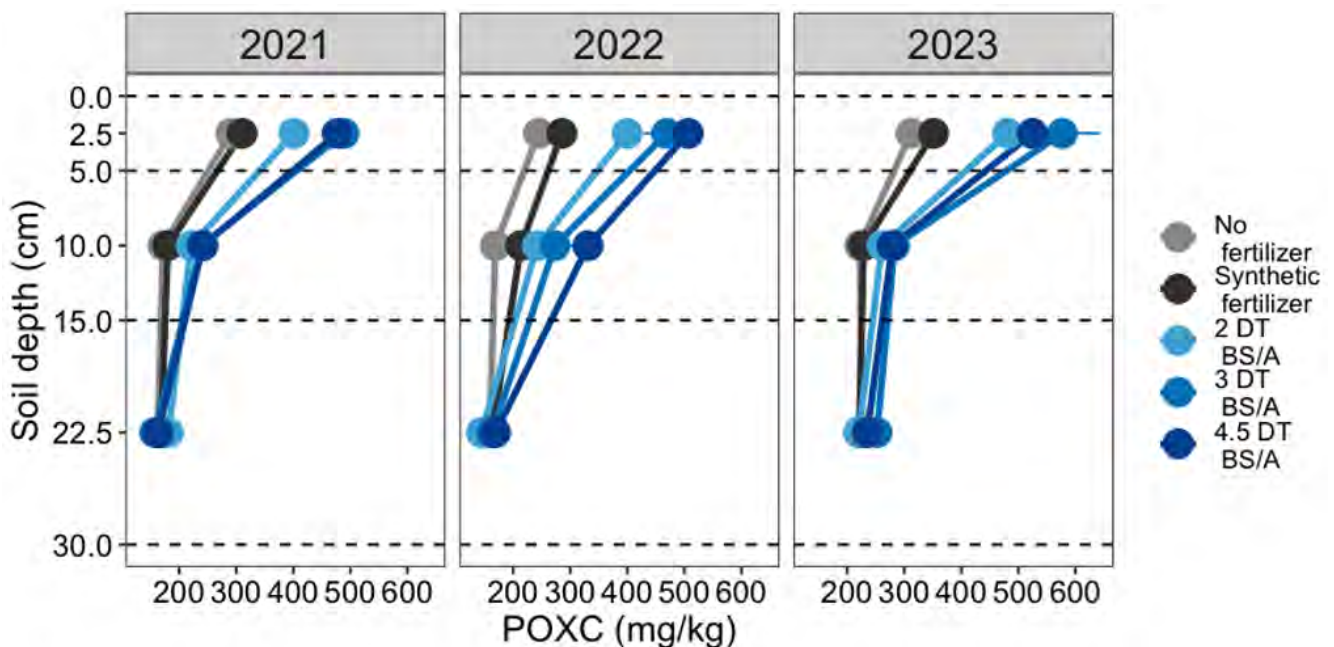


Graph 1. Millet yield (lbs/acre) at GP-17, October 2023. Bars represent the mean and error bars indicate standard error.

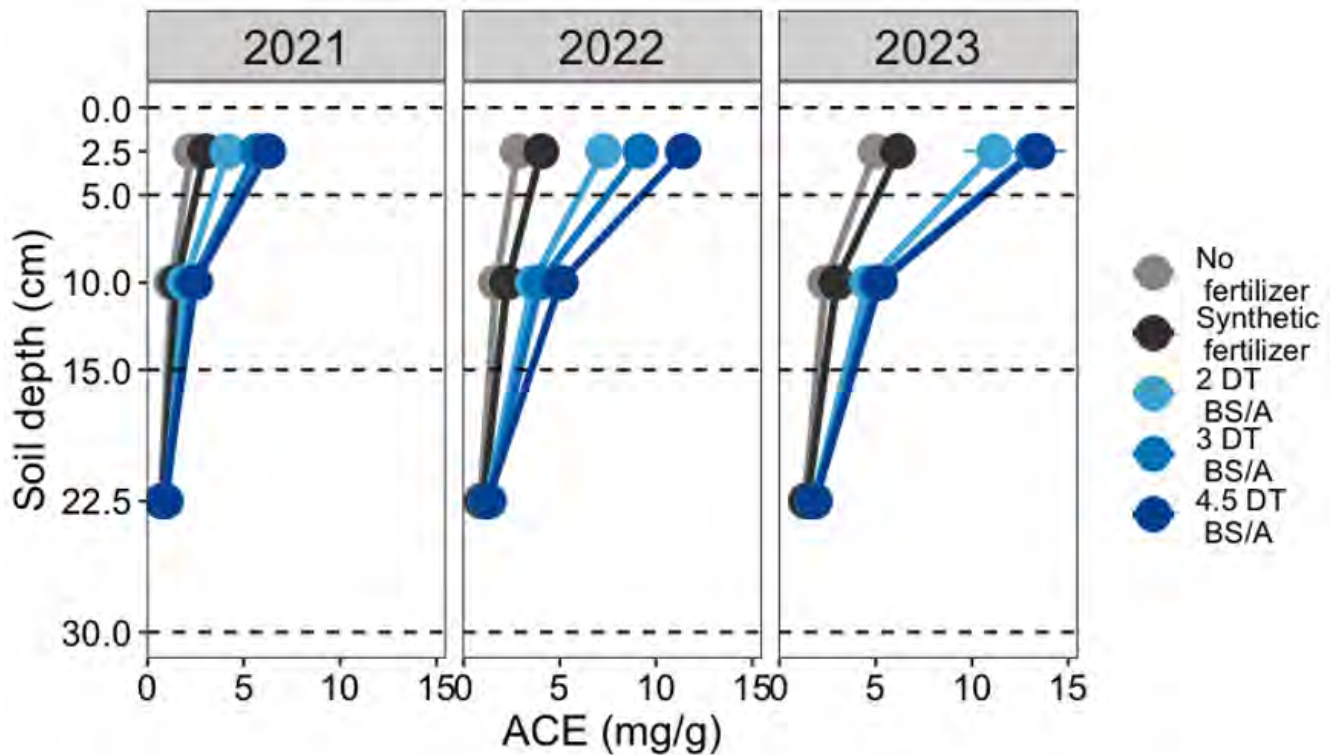
The 2023 soil sampling results showed repeated biosolids applications increase phosphorous concentrations over time while soil pH tends to decrease over time.

Several biological relevant soil health parameters such as permanganate oxidizable carbon (POXC) and autoclavable citrate extractable (ACE) protein saw improvements with increases in the two highest biosolids application rates at the 0-5 cm and 5-15 cm depths compared to the fertilized and unfertilized controls (Graph 2 and Graph 3).

POXC analysis measures the oxidation of compounds exposed to a permanganate (MnO₄⁻). Up until recently it was thought that POXC was measuring the most “active” portion of carbon in the soil, which was easily accessible as an energy source for microbes. However, several recent studies have shown that MnO₄⁻ is less reactive in the presence of carbohydrates that would be more “active”, and more reactive in the presence of lignin, which would be less susceptible to breakdown and utilization by the microbial community. While the definition of POXC is still evolving, it can still be a valuable measure of soil health, as it is associated with other soil health metrics like organic matter. ACE protein measures the fraction of soil organic matter containing proteins from organisms. ACE protein can tell us about the biological life in the soil, as well as predict nitrogen (N) availability, because these proteins contain N and can indicate the ability of the soil to mineralize N and make it plant available.



Graph 2. Permanganate oxidizable carbon from GP-17 in spring of 2021, 2022, 2023. Samples were collected at depths of 0-5 cm, 5-15 cm, and 15-30 cm. Points represent mean values of replicates (n=3) and with error bars for standard error of the mean.



Graph 3. ACE soil protein from GP-17 in spring of 2021, 2022, 2023. Samples were collected at depths of 0-5 cm, 5-15 cm, and 15-30 cm. Points represent mean values of replicates (n=3) and with error bars for standard error of the mean.

JS-14: Biosolids, Cover Cropping, and Grazing for Synergistic Soil Health Benefits^[1]

Site JS-14 was established in 2020 to investigate potential benefits and interactions of biosolids combined with cover cropping and integrated livestock grazing of cover crops long with analyses of soil health metrics including focus on various biological soil health indicators.

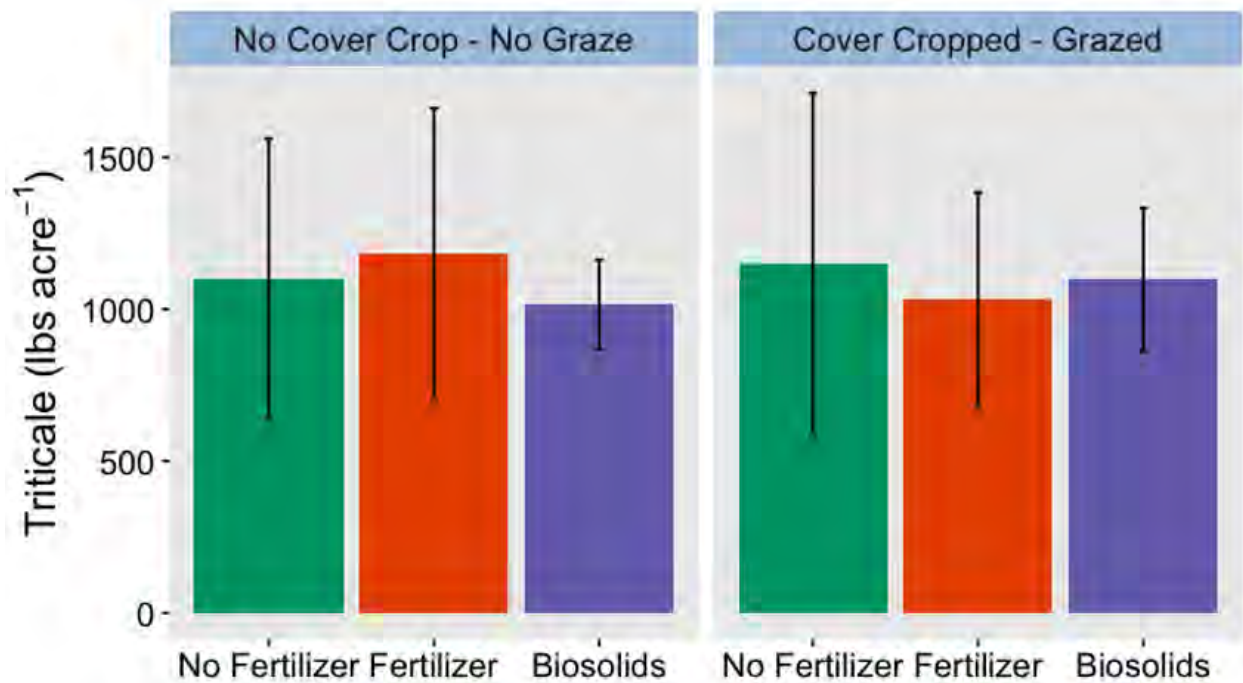
JS-14 was seeded with a cover crop mix on September 14, 2022 that included winter peas, winter triticale, radish, and turnip. Unfortunately, winter came early blanketing the area in snow on November 6, 2022 and shortening the growing season. The winter was long and the snow remained until eventually melting in late-March 2023. Cover crops planted in fall 2022 did not have enough biomass to graze in the Spring 2023. Soil samples, biomass



Above: Soil sampling at JS-14 using a UTV-mounted automated auger sampler. Also note low cover crop biomass coming out of winter.

samples and plant counts were collected in May 2023. After sampling was complete, the cover crops were terminated to continue managing goat grass on this site.

Plots were reseeded to spring triticale on June 1, 2023, and harvest took place on October 4, 2023. Yield was similar between treatments and between systems as shown below in Graph 4. Test weights for triticale were lower than usual, and lower than desired. We believe this was likely due to pre-harvest rain, which delayed harvest. Pre-harvest rain events on mature triticale and wheat are known to reduce test weights. The rain may have also decreased yield because the combine was unable to thresh all grain from the chaff, and as a result, some of the harvest was left in the field with the chaff.

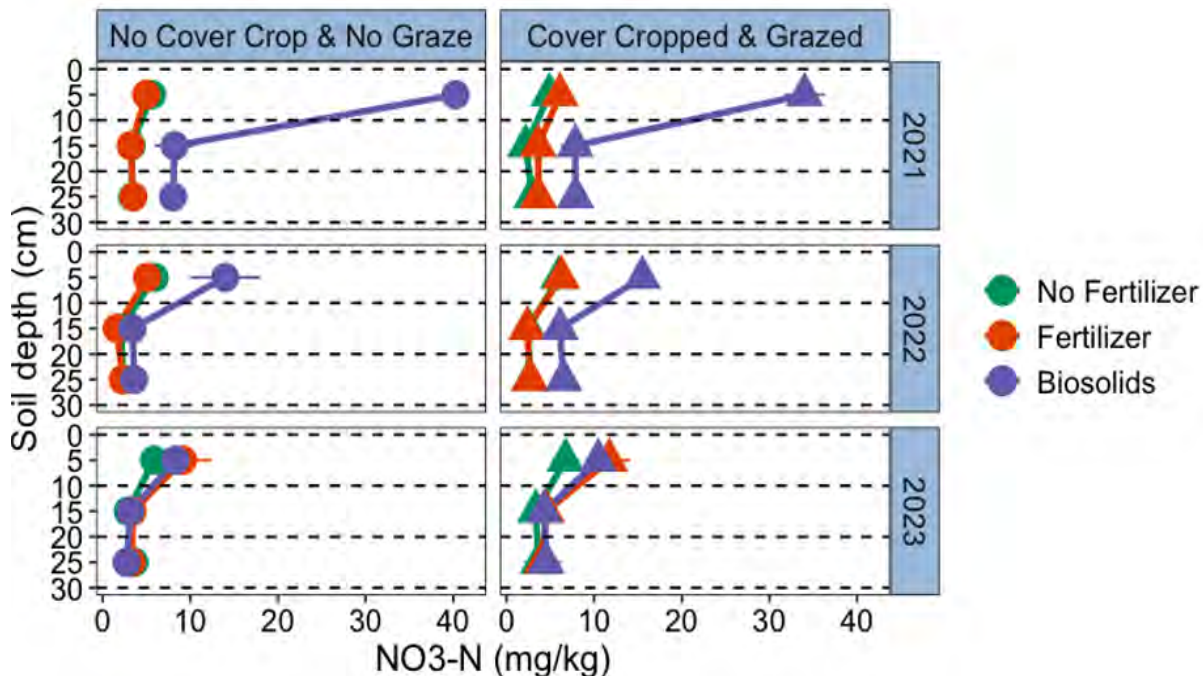


Graph 4. Triticale yield (lbs/acre) at JS-14, Oct. 2023. Bars represent the mean and error bars indicate standard error.

Soil nitrate-N (Graph 5) and ammonium-N (data not shown) concentrations, which were higher in biosolids-amended plots at most soil depths in 2021 and 2022, were similar to the synthetic fertilizer and unfertilized treatments in 2023. Prior to 2023 soil sampling, biosolids were last applied in August 2020, and after reviewing soil N levels, it was decided that biosolids would be applied in the Fall 2023, prior to the next cover crop planting in Spring 2024.

Loop® biosolids from the King County Renton South Plant Facility were reapplied to JS-14 biosolids treatment plots on November 10, 2023 at 3 DT/A. Truck scales were used

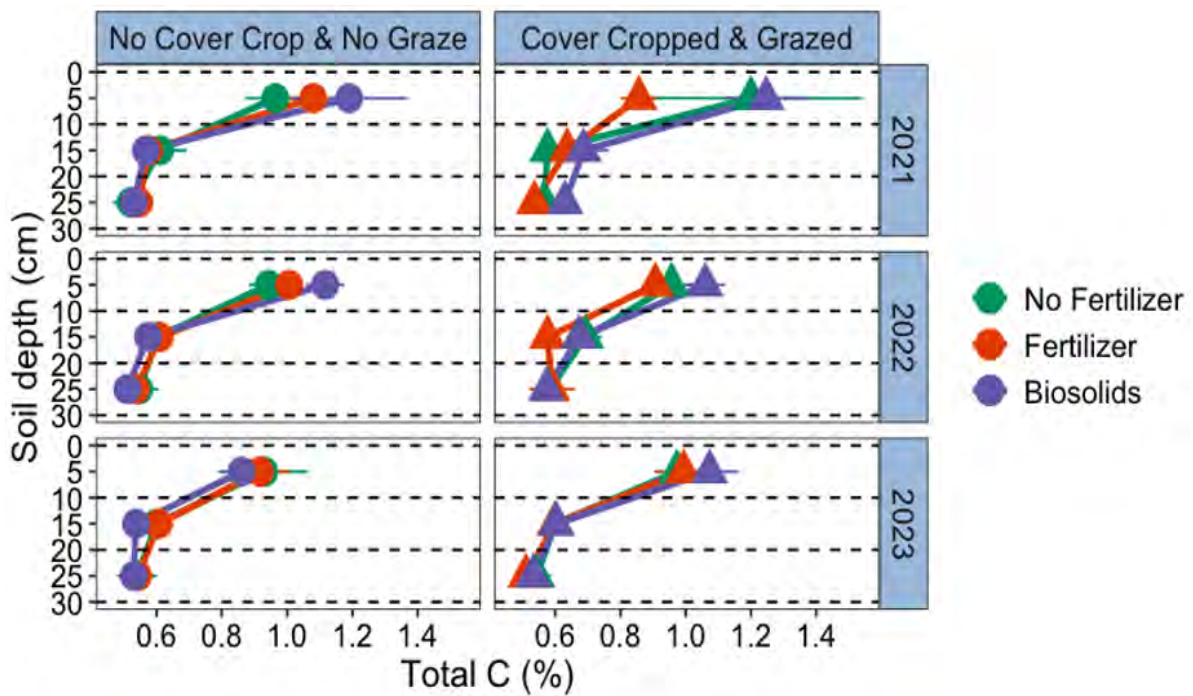
to weigh spreaders and measure how much biosolids were applied on to each plot. Three biosolids samples were collected during application. Half of the samples will be analyzed for moisture and oven-dried and half will be acidified before being oven dried. Samples will be sent to an analytical laboratory to be analyzed for total carbon and nitrogen, organic matter, sulfur, nitrate and ammonium and phosphorus.



Graph 5. Soil nitrate-N concentrations (mg/kg soil) for 2021 (top), 2022 (middle), and 2023 (bottom) in both the non-cover cropped/non-grazed and cover cropped/grazed plots. Points represent the mean and error bars indicate standard error.

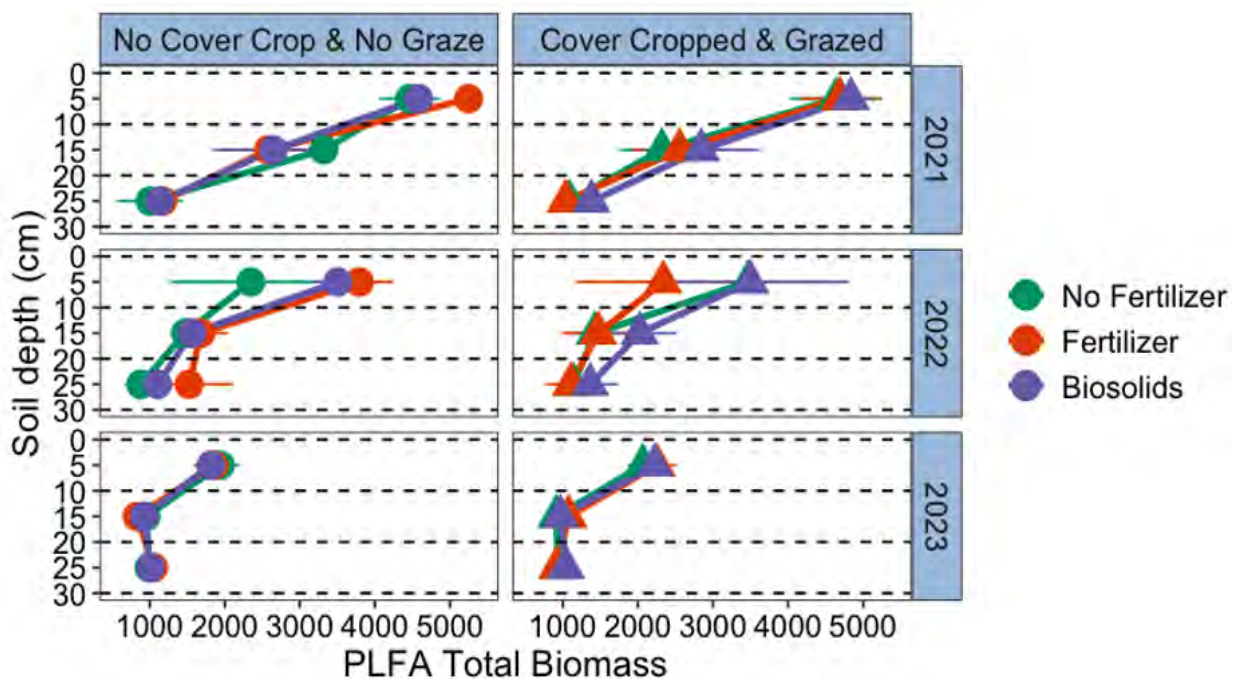
The soil samples collected at JS-14 in May 2023 will be analyzed for soil health metrics. Soil measurements have so far focused on (1) biological soil health indicator tests that are more sensitive to short-term management changes, including microbial biomass through phospholipid fatty acid analysis (PLFA), POXC, potentially mineralizable C, and biologically available nitrogen (soil protein, potentially mineralizable N) pools and examine the effects of the treatments on the abundance of soil microbes and the carbon and nitrogen cycles that they drive, and (2) more typical soil chemical measurements, including total C, pH, electrical conductivity, extractable nitrate, and Olsen-P. Additional soil health analyses for mineralizable carbon and permanganate oxidizable carbon are currently being conducted in the WSU Northwest Research Extension Center (NWREC) Soil Health Lab.

In 2022, there was a small increase in total carbon with biosolids in the 0-10 cm soil depth for both systems; however, this year, there were no treatment effects on total C as presented in Graph 6.



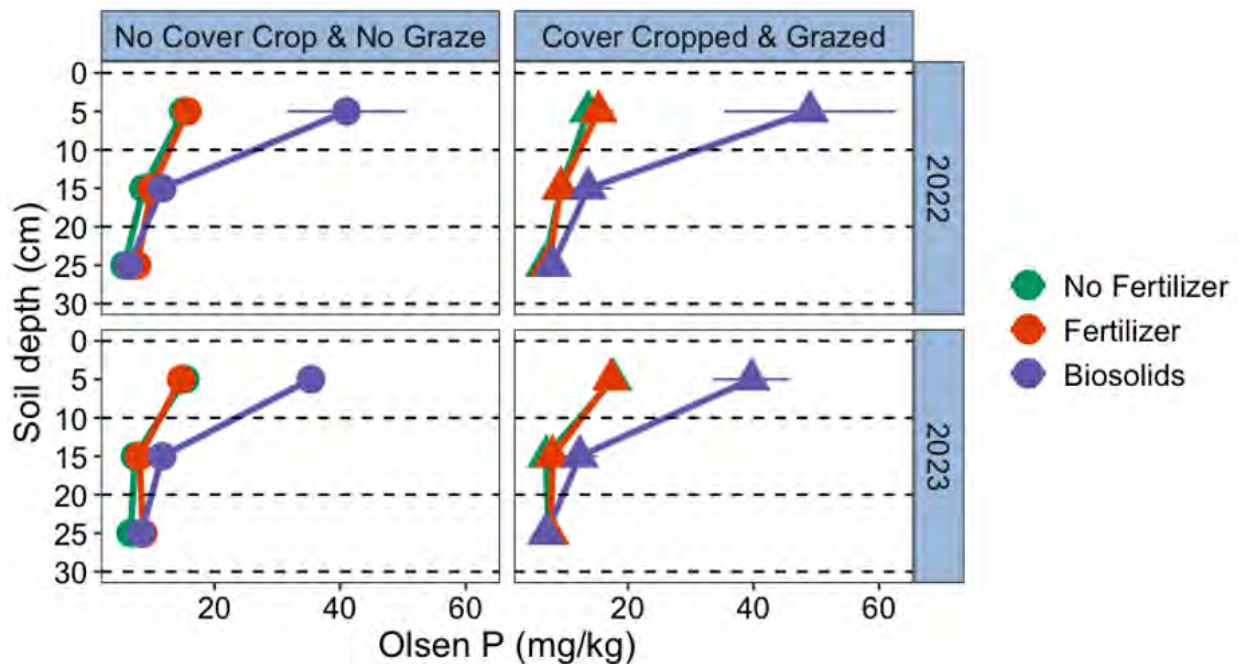
Graph 6. Total carbon (%) for 2021 (top), 2022 (middle), and 2023 (bottom) in both the non-cover cropped/non-grazed and cover cropped/grazed plots. Points represent the mean and error bars indicate standard error.

Thus far, no treatment effects have been observed on total microbial biomass as measured by PFLA analysis (Graph 7).



Graph 7. PLFA total biomass for 2021 (top), 2022 (middle), and 2023 (bottom) in both the non-cover cropped/non-grazed and cover cropped/grazed plots. Points represent the mean and error bars indicate standard error.

Increase in soil phosphorous with biosolids application at JS-14 is shown in Graph 8.



Graph 8. Soil phosphorous (mg/kg soil) for 2022 (top) and 2023 (bottom) in both the non-cover cropped/non-grazed and cover cropped/grazed plots. Points represent the mean and error bars indicate standard error.

As with the long-term site GP-17, most of the changes in soil health properties observed are in the surface depth.

In 2024, physical measurements (e.g., aggregate stability, water holding capacity, bulk density, water infiltration rate) will be included as these properties change more slowly in response to management treatments.

Nationwide Collaborative Land Application Study

Boulder Park Project Beneficial Use Facility is one of 22 sites participating in the Nationwide Collaborative Land Application Study led by Dr. Ian Pepper, Regents Professor, University of Arizona. This is a two-year study with the overall goal to evaluate whether land application of municipal biosolids is a significant route of human exposure to per- and polyfluoroalkyl substances, or PFAS.

Soil samples were collected at a selected Boulder Park Project location by Washington State University NWREC-Mount Vernon staff on May 17, 2023 and submitted to University of Arizona. The latest study update expected all sites to be sampled by the end of 2023 and modeling will be concluded by the end of 2024.

ENVIRONMENTAL SAMPLING & MONITORING

Each year, the Boulder Park Project conducts soil and water sampling resulting in a significant amount of analytical data. These sampling efforts not only allow the project to satisfy regulatory permit requirements, but also provides information needed to make proactive and better science-based biosolids management decisions, while continuing to demonstrate the project's commitment to environmental stewardship.

Soil samples from fields are required to determine the amount of biosolids to be land applied on a given field as part of the agronomic rate calculation. In 2023, Boulder Park Project collected composite soil samples from 122 fields. Representative soil samples were taken at depths of 0"-12" and 12"-24". Samples were not collected at the 24" to 36" depth due to shallow, rocky, impenetrable soils typically encountered throughout north Douglas County. For each field there were approximately 20-30 samples collected in an unbiased fashion, evenly distributed across the field helping to ensure samples were representative of the application area. These 20-30 samples were composited into a single sample for each sample depth and submitted to an analytical laboratory for analyses.

In 2023, there were 126 soil analyses for nutrients, four of which were resamples for phosphorus only. There were 29 fields that had soil analyses for background metals. Background metals are typically analyzed on new project sites prior to any biosolids applications to document existing metal concentrations.

All said, those 126 soil samples break down to a minimum 5,040 discrete samples collected (126 samples X 20 sample locations minimum each field X 2 soil profiles). That is a lot of sampling!

In addition, Boulder Park Project also conducts annual water sampling. Water samples are collected from domestic wells, irrigation wells, and surface waters located within 0.25 miles from a project site that had biosolids applied during the year.

The 2023 analytical results for soil and water sample analyses can be found in Appendix C of this report.

Below: Students from Central Washington University tour the GP-17 long-term research site at Boulder Park Project and learn about beneficial use of biosolids, May 2022.



PUBLIC OUTREACH & TOURS

Since the beginning of Boulder Park Project, considerable effort has gone towards providing information to the public, students, local wastewater utilities and organizations, and government officials about the beneficial use of biosolids and project operations. Each year, Boulder Park Project hosts tours that provide an opportunity to experience biosolids up close and learn about resource recovery and the many benefits of using biosolids in agriculture. Visitors tour and observe operations such as biosolids delivery, storage, and land application. In 2023, there were five tours given with 38 people attending.

To arrange a tour of the Boulder Park Project, please send an email to Jake at jake.finlinson@kingcounty.gov

INFORMATION

Regulatory Information and Permits

Boulder Park Project Beneficial Use Facility is jointly permitted, operated, and managed by BPI and King County. The project was granted Final Coverage under state of Washington Chapter 173-308 WAC, the General Permit for Biosolids Management on January 26, 2023, Permit Number BT0518.

Notice

Project records pertaining to this project are kept by King County Department of Natural Resources and Parks (KCDNRP) and can be obtained upon request using the contact information provided below. Historical information can be found in the respective annual project reports. This annual report is for informational purposes only and is submitted to Washington Department of Ecology and Boulder Park Project participants.

For information, please submit request to:

King County DNRP, WTD

Attention: Resource Recovery-Biosolids

201 S. Jackson Street, MS# KSC-NR-5500

Seattle, WA 98104

References

King County Department of Natural Resources & Parks and Boulder Park Inc.

August 2022. Boulder Park Project Beneficial Use Facility Site-Specific Land Application Plan.

Including subsequent Addenda.

United States Environmental Protection Agency. 1993. Standards for the Use or Disposal of Sewage Sludge. CFR 40, Part 503. Volume 58 Number 32.

Washington State Department of Ecology. May 2007. Biosolids Management. Chapter 173-308 WAC. Publication No. 08-07-006.

Washington State Department of Ecology. June 2022. General Permit for Biosolids Management. (To meet Chapter 173-308 WAC provisions).

Washington State University, Department of Crop and Soil Sciences, Northwest Research and Extension Center. 2023 *WSU King Co. Biosolids Annual Report*. D. Griffin-LaHue, Ph.D., WSU NWREC-Mount Vernon; M. Desjardins, WSU NWREC-Mount Vernon.

APPENDICES

APPENDIX A

FIGURE 1. 2023 BIOSOLIDS APPLICATION ACTIVITY MAP

FIGURE 2. 2023 WATER SAMPLING MAP

APPENDIX B

TABLE 1: 2023 SUMMARY TABLE

TABLE 2: 2023 KING COUNTY LAND APPLICATION ACTIVITY

TABLE 3: 2023 OTHER UTILITIES LAND APPLICATION ACTIVITY

TABLE 4: 2023 KING COUNTY STORAGE ACTIVITY

TABLE 5: 2023 OTHER UTILITIES STORAGE ACTIVITY

APPENDIX C

TABLE 6: 2023 SOIL SAMPLING DATA: CONVENTIONALS

TABLE 7: 2023 SOIL SAMPLING DATA: METALS

TABLE 8: 2023 WATER SAMPLING DATA

APPENDIX A

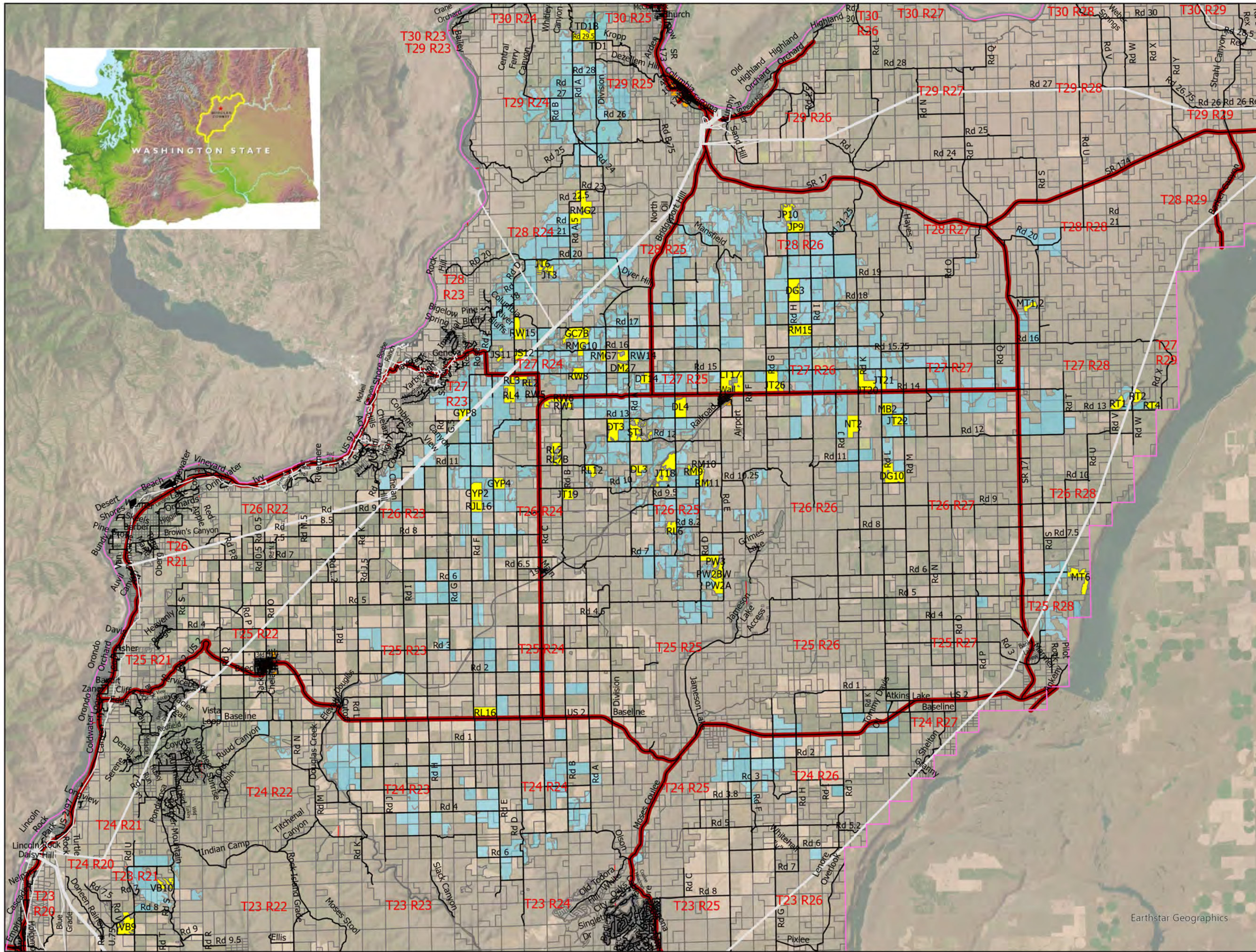
FIGURE 1. 2023 BIOSOLIDS APPLICATION ACTIVITY MAP

FIGURE 2. 2023 WATER SAMPLING MAP

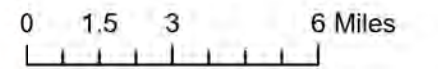


Boulder Park Project Beneficial Use Facility

2023 BIOSOLIDS APPLICATION ACTIVITY MAP, APPENDIX A, FIGURE 1



-  2023 Application Site
-  Boulder Park Project Site
-  Major Road
-  Public Road
-  City Limits
-  Power Line
-  PLSS_Township-Range Line
-  Douglas Co. Boundary Line



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Boulder Park Project Beneficial Use Facility

2023 WATER SAMPLING MAP, APPENDIX A, FIGURE 2

- 2023 Water Sample Locations
- 2023 Application Site
- Boulder Park Project Site
- Major Road
- Public Road
- City Limits
- Power Line
- PLSS_Township-Range Line
- Douglas Co. Boundary Line

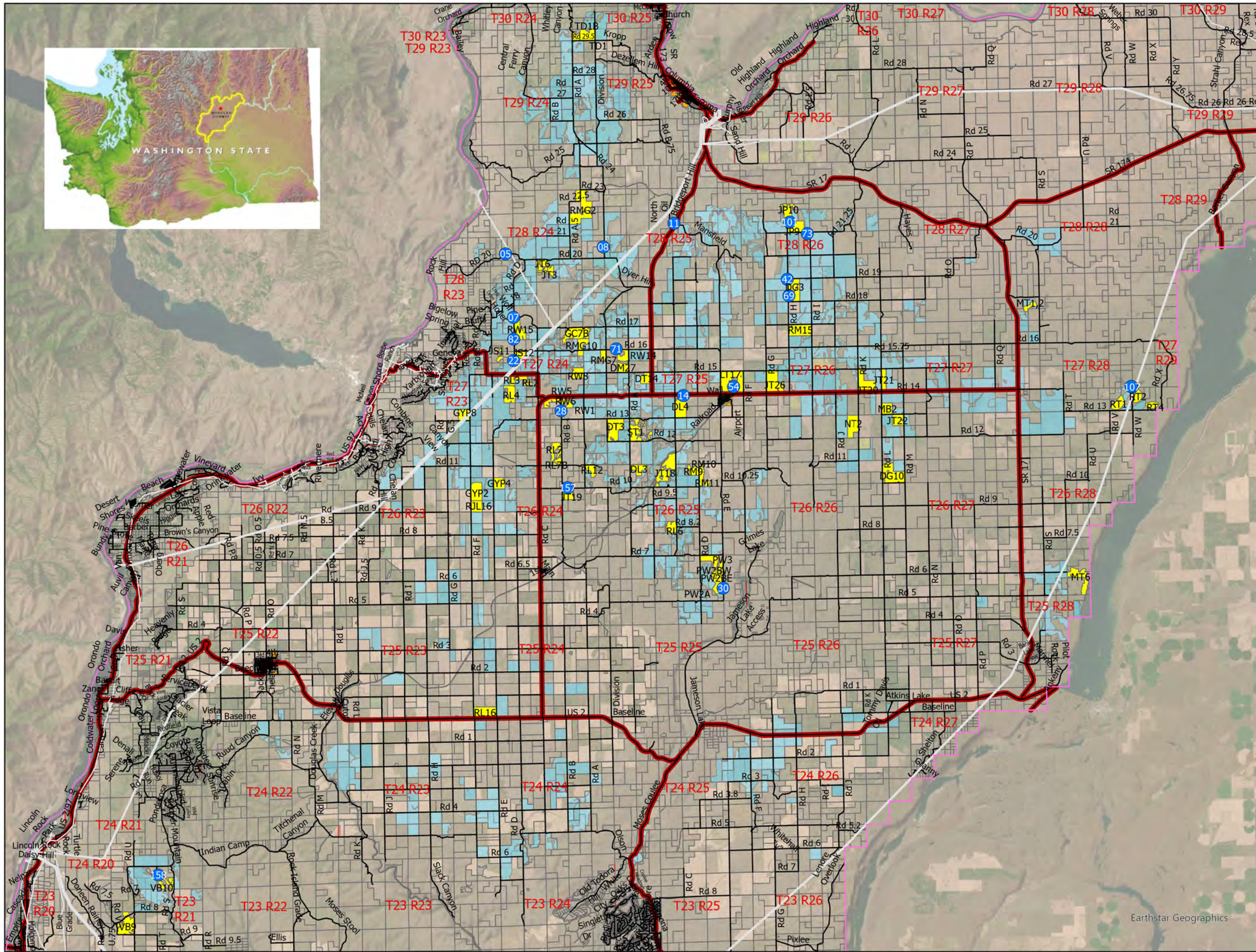


0 1.5 3 6 Miles



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Earthstar Geographics



APPENDIX B

TABLE 1: 2023 SUMMARY TABLE

TABLE 2: 2023 KING COUNTY LAND APPLICATION ACTIVITY

TABLE 3: 2023 OTHER UTILITIES LAND APPLICATION ACTIVITY

TABLE 4: 2023 KING COUNTY STORAGE ACTIVITY

TABLE 5: 2023 OTHER UTILITIES STORAGE ACTIVITY

BOULDER PARK PROJECT BENEFICIAL USE FACILITY

TABLE 1. 2023 TONNAGE SUMMARY

2023 SUMMARY						
TOTALS	2023 delivered wt	2023 delivered dt ¹	2023 applied wt	2023 applied dt ¹	2023 carry-over wt	2023 carry-over dt ¹
King County	67,818	16,615	69,560	17,066	15,750	3,806
Other Utilities	51,495	10,409	53,377	10,490	9,579	2,268
	119,313	27,024	122,936	27,557	25,329	6,073
King County	2023 delivered wt	2023 delivered dt	2023 applied wt	2023 applied dt	2023 carry-over wt	2023 carry-over dt
Brightwater	15,058	3,177	13,337	2,811	2,723	575
Renton	16,365	3,502	19,230	4,132	5,508	1,179
West Point	36,394	9,936	36,993	10,123	7,519	2,053
	67,818	16,615	69,560	17,066	15,750	3,806
OT-Utility	2023 delivered wt	2023 delivered dt	2023 applied wt	2023 applied dt	2023 carry-over wt	2023 carry-over dt
Ace Acme Inc	1,207	305	1,468	367	0	0
Alderwood	660	644	632	618	227	222
Brewster	202	33	229	37	29	5
Bridgeport	148	37	141	34	148	37
Cashmere	1,594	156	1,543	151	331	32
Chelan	376	109	411	119	57	17
Chelan Co. PUD	26	5	29	6	8	1
Coulee Dam	0	0	18	10	0	0
Douglas County	875	253	794	229	192	55
Duvall	967	115	1,090	130	164	20
Enumclaw	2,284	320	2,557	360	296	41
Ephrata	153	131	0	0	300	258
Grand Coulee	53	18	57	18	53	18
Grant Co PUD Cres	0	0	0	0	0	0
Hayden Lake	0	0	0	0	0	0
Lakehaven Lakota	5,640	863	5,850	896	1,056	162
Leavenworth	841	124	834	123	158	23
Liberty Lake	0	0	0	0	0	0
LOTT	8,790	1,811	8,978	1,839	1,902	392
Lynden	2,518	325	2,678	347	451	58
Swsb-Miller Cr	1,575	361	1,542	352	315	72
Midway	2,337	411	2,445	429	411	72
Mukilteo	1,912	252	1,999	262	318	42
Mount Vernon	2,486	485	2,591	501	435	85
Okanogan	26	24	56	51	0	0
Pateros	26	26	0	0	26	26
Pierce County	8,009	1,450	8,711	1,587	1,280	232
Quincy	1,604	324	1,604	324	0	0
Royal City	82	78	120	110	0	0
Lakehaven Redond	1,052	222	1,119	236	206	44
Rock Island	85	79	85	79	0	0
Swsb-Salmon Cr	1,279	275	1,302	282	284	61
Sedron Services	1,119	731	859	561	260	170
Soap Lake	53	53	46	41	53	53
Sedro Woolley	1,531	173	1,705	193	310	35
Stevens Pass	11	2	11	2	0	0
Tree Top Inc	887	67	972	73	108	8
Twisp	88	15	91	16	8	1
Warden	0	0	0	0	0	0
Wenatchee	999	133	807	107	192	26
	51,495	10,409	53,377	10,490	9,579	2,268

"wt" means wet tons and "dt" means dry tons

¹ Dry tons values shown are approximate values only calculated from a single annual average and will be different from actual reported dry ton values

**BOULDER PARK PROJECT BENEFICIAL USE FACILITY
TABLE 2. 2023 KING COUNTY LAND APPLICATION ACTIVITY**

Source ¹	Site	T-R-S Description	Year ²	Acres	Wet Tons	Dry Tons ³
BRIGHTWATER	DG10	T26N-R27E-S7	2023	45.0	693.4	146.3
BRIGHTWATER	DG3 north	T28N-R26E-S33	2023	18.0	157.5	33.2
BRIGHTWATER	DG3 south	T28N-R26E-S33	2023	17.0	218.6	46.1
BRIGHTWATER	DG3 south	T28N-R26E-S33	2022	22.0	308.1	64.1
BRIGHTWATER	DL3	T26N-R25E-S8	2023	40.0	250.5	52.9
BRIGHTWATER	DL4 north	T27N-R25E-S27	2022	21.0	278.9	58.0
BRIGHTWATER	DM27	T27N-R25E-S18	2023	5.0	62.8	13.2
BRIGHTWATER	DT14	T27N-R25E-S20	2023	26.2	314.3	66.3
BRIGHTWATER	DT3	T27N-R25E-S31	2023	28.0	284.3	60.0
BRIGHTWATER	GC7B, RMG10	T27N-R24E-S11;-S12;-S14	2023	15.0	187.4	39.5
BRIGHTWATER	JP9, JP10	T28N-R26E-S8;-S9;-S16;-S17	2023	70.0	970.0	204.7
BRIGHTWATER	JS11	T27N-R24E-S8;-S17	2023	13.7	156.1	32.9
BRIGHTWATER	JS12	T27N-R24E-S16	2023	16.0	156.9	33.1
BRIGHTWATER	JT21	T27N-R27E-S19	2023	18.0	188.6	39.8
BRIGHTWATER	JT22	T27N-R27E-S31	2023	3.0	31.0	6.5
BRIGHTWATER	JT3, JT6	T28N-R24E-S27	2022	8.0	93.7	19.5
BRIGHTWATER	LT17	T27N-R25E-S24	2023	10.0	157.6	33.3
BRIGHTWATER	MB2	T27N-R27E-S30	2023	2.5	31.6	6.7
BRIGHTWATER	MT1, MT2	T27N-R28E-S6	2023	16.0	189.5	40.0
BRIGHTWATER	MT6	T25N-R28E-S4; T26N-R28E-S33	2023	47.0	599.0	126.4
BRIGHTWATER	NT2	T27N-R26E-S35	2023	34.0	472.1	99.6
BRIGHTWATER	PW2A	T25N-R25E-S2	2023	30.0	252.5	53.3
BRIGHTWATER	PW3	T26N-R25E-S35	2023	38.0	375.8	79.3
BRIGHTWATER	RJL16	T26N-R24E-S18	2023	2.0	31.5	6.7
BRIGHTWATER	RL16	T25N-R24E-S31	2023	66.0	911.2	192.3
BRIGHTWATER	RL3, RL4	T27N-R24E-S20;-S29	2023	45.0	563.3	118.8
BRIGHTWATER	RL6	T26N-R25E-S21	2023	18.0	188.9	39.9
BRIGHTWATER	RL7, RL7B	T26N-R24E-S3	2023	57.0	844.3	178.1
BRIGHTWATER	RM9	T26N-R25E-S10	2023	11.0	124.9	26.4
BRIGHTWATER	RM9	T26N-R25E-S10	2022	28.0	320.9	66.7
BRIGHTWATER	RMG2	T28N-R24E-S11;-S12;-S13;-S14	2023	5.0	63.1	13.3
BRIGHTWATER	RT1	T27N-R28E-S26	2023	28.0	315.0	66.5
BRIGHTWATER	RT2	T27N-R28E-S25	2023	15.5	157.4	33.2
BRIGHTWATER	RT4	T27N-R28E-S25; T27N-R29E-S30	2023	19.0	220.8	46.6
BRIGHTWATER	RW1, RW6	T27N-R24E-S26	2023	31.0	314.3	66.3
BRIGHTWATER	RW14	T27N-R25E-S18	2023	17.0	220.1	46.4
BRIGHTWATER	RW15	T27N-R24E-S4;-S9	2023	8.7	126.1	26.6
BRIGHTWATER	RW5	T27N-R24E-S27	2023	53.0	597.6	126.1
BRIGHTWATER	RW8	T27N-R24E-S14;-S23	2023	6.0	92.9	19.6
BRIGHTWATER	RW8	T27N-R24E-S14;-S23	2023	11.0	154.3	32.6
BRIGHTWATER	ST1	T27N-R25E-S32	2023	61.9	628.0	132.5
BRIGHTWATER	VB10	T23N-R21E-S2	2023	23.0	250.8	52.9
BRIGHTWATER	VB9	T23N-R21E-S16	2023	62.5	781.2	164.8
SOUTH PLANT	DG10	T26N-R27E-S7	2023	32.0	501.3	107.3
SOUTH PLANT	DG3 north	T28N-R26E-S33	2023	32.0	280.2	60.0

**BOULDER PARK PROJECT BENEFICIAL USE FACILITY
TABLE 2. 2023 KING COUNTY LAND APPLICATION ACTIVITY**

Source ¹	Site	T-R-S Description	Year ²	Acres	Wet Tons	Dry Tons ³
SOUTH PLANT	DG3 south	T28N-R26E-S33	2022	47.0	607.6	131.2
SOUTH PLANT	DL3	T26N-R25E-S8	2023	9.9	62.8	13.4
SOUTH PLANT	DL4 south	T27N-R25E-S27	2022	155.0	1,206.5	260.6
SOUTH PLANT	DM27	T27N-R25E-S18	2023	11.0	157.5	33.7
SOUTH PLANT	DT14	T27N-R25E-S20	2023	37.0	441.6	94.5
SOUTH PLANT	DT3	T27N-R25E-S31	2023	23.0	220.7	47.2
SOUTH PLANT	GC7B, RMG10	T27N-R24E-S11;-S12;-S14	2023	5.0	63.3	13.5
SOUTH PLANT	GC7B, RMG10	T27N-R24E-S11;-S12;-S14	2022	87.0	1,027.4	221.9
SOUTH PLANT	GP17	T28N-R24E-S22	2023	12.6	188.3	40.3
SOUTH PLANT	GYP2	T26N-R24E-S7;-S18	2022	26.5	374.1	80.8
SOUTH PLANT	GYP4	T26N-R24E-S8	2022	71.0	965.5	208.5
SOUTH PLANT	JP9, JP10	T28N-R26E-S8;-S9;-S16;-S17	2023	14.0	188.7	40.4
SOUTH PLANT	JS11	T27N-R24E-S8;-S17	2023	13.0	157.1	33.6
SOUTH PLANT	JS12	T27N-R24E-S16	2023	3.0	31.5	6.7
SOUTH PLANT	JT18	T26N-R25E-S4;-S8;-S9	2023	3.0	31.3	6.7
SOUTH PLANT	JT18	T26N-R25E-S4;-S8;-S9	2022	56.0	744.2	160.8
SOUTH PLANT	JT21	T27N-R27E-S19	2023	24.0	282.7	60.5
SOUTH PLANT	JT3, JT6	T28N-R24E-S27	2022	88.0	1,025.1	221.4
SOUTH PLANT	LT17	T27N-R25E-S24	2023	4.0	63.2	13.5
SOUTH PLANT	MB2	T27N-R27E-S30	2023	5.0	63.0	13.5
SOUTH PLANT	MT1, MT2	T27N-R28E-S6	2023	21.0	219.5	47.0
SOUTH PLANT	MT6	T25N-R28E-S4; T26N-R28E-S33	2023	52.0	665.7	142.5
SOUTH PLANT	NT2	T27N-R26E-S35	2023	25.0	344.5	73.7
SOUTH PLANT	PW2A	T25N-R25E-S2	2023	64.0	558.6	119.5
SOUTH PLANT	PW2B	T26N-R25E-S35	2023	18.0	160.0	34.2
SOUTH PLANT	PW3	T26N-R25E-S35	2023	44.0	439.8	94.1
SOUTH PLANT	RJL16	T26N-R24E-S18	2023	9.0	125.9	26.9
SOUTH PLANT	RL12	T26N-R24E-S12	2023	4.5	62.7	13.4
SOUTH PLANT	RL16	T25N-R24E-S31	2023	64.0	879.6	188.2
SOUTH PLANT	RL3, RL4	T27N-R24E-S20;-S29	2023	55.0	689.4	147.5
SOUTH PLANT	RL6	T26N-R25E-S21	2023	24.6	252.0	53.9
SOUTH PLANT	RL7, RL7B	T26N-R24E-S3	2023	21.0	316.2	67.7
SOUTH PLANT	RL7, RL7B	T26N-R24E-S3	2022	2.0	30.3	6.5
SOUTH PLANT	RM10, RM11	T26N-R25E-S11	2022	144.0	1,522.9	328.9
SOUTH PLANT	RM15	T27N-R26E-S9	2022	36.0	525.9	113.6
SOUTH PLANT	RMG2	T28N-R24E-S11;-S12;-S13;-S14	2023	7.0	94.3	20.2
SOUTH PLANT	RMG7	T27N-R24E-S13	2022	26.0	343.0	74.1
SOUTH PLANT	RT1	T27N-R28E-S26	2023	19.0	217.9	46.6
SOUTH PLANT	RT2	T27N-R28E-S25	2023	15.5	156.8	33.6
SOUTH PLANT	RT4	T27N-R28E-S25; T27N-R29E-S30	2023	19.0	216.6	46.4
SOUTH PLANT	RW14	T27N-R25E-S18	2023	14.1	188.8	40.4
SOUTH PLANT	RW15	T27N-R24E-S4;-S9	2023	4.5	62.3	13.3
SOUTH PLANT	RW5	T27N-R24E-S27	2023	10.0	115.9	24.8
SOUTH PLANT	RW8	T27N-R24E-S14;-S23	2023	13.0	187.8	40.2
SOUTH PLANT	ST1	T27N-R25E-S32	2023	68.0	691.4	148.0

**BOULDER PARK PROJECT BENEFICIAL USE FACILITY
TABLE 2. 2023 KING COUNTY LAND APPLICATION ACTIVITY**

Source ¹	Site	T-R-S Description	Year ²	Acres	Wet Tons	Dry Tons ³
SOUTH PLANT	VB10	T23N-R21E-S2	2023	32.0	345.2	73.9
SOUTH PLANT	VB9	T23N-R21E-S16	2023	91.0	1,133.5	242.6
WEST POINT	DG10	T26N-R27E-S7	2023	129.0	1,668.1	455.4
WEST POINT	DG3 north	T28N-R26E-S33	2023	100.0	787.2	214.9
WEST POINT	DG3 south	T28N-R26E-S33	2023	29.5	314.5	85.9
WEST POINT	DG3 south	T28N-R26E-S33	2022	34.5	364.6	100.6
WEST POINT	DL3	T26N-R25E-S8	2023	105.0	599.6	163.7
WEST POINT	DL4 north	T27N-R25E-S27	2022	110.0	1,026.5	283.3
WEST POINT	DM27	T27N-R25E-S18	2023	18.0	190.1	51.9
WEST POINT	DT14	T27N-R25E-S20	2023	78.0	788.9	215.4
WEST POINT	DT3	T27N-R25E-S31	2023	53.0	471.9	128.8
WEST POINT	GC7B, RMG10	T27N-R24E-S11;-S12;-S14	2023	56.0	570.1	155.6
WEST POINT	GC7B, RMG10	T27N-R24E-S11;-S12;-S14	2022	91.0	912.4	251.8
WEST POINT	GYP2	T26N-R24E-S7;-S18	2022	73.0	815.2	225.0
WEST POINT	GYP4	T26N-R24E-S8	2022	86.0	913.6	252.2
WEST POINT	JP9, JP10	T28N-R26E-S8;-S9;-S16;-S17	2023	113.0	1,352.4	369.2
WEST POINT	JS11	T27N-R24E-S8;-S17	2023	36.0	379.8	103.7
WEST POINT	JS12	T27N-R24E-S16	2023	60.0	535.4	146.2
WEST POINT	JT18	T26N-R25E-S4;-S8;-S9	2023	6.0	63.7	17.4
WEST POINT	JT21	T27N-R27E-S19	2023	48.0	504.2	137.6
WEST POINT	JT3, JT6	T28N-R24E-S27	2023	15.0	158.1	43.1
WEST POINT	JT3, JT6	T28N-R24E-S27	2022	130.0	1,385.7	382.4
WEST POINT	LT17	T27N-R25E-S24	2023	26.0	347.4	94.8
WEST POINT	MB2	T27N-R27E-S30	2023	22.5	252.6	68.9
WEST POINT	MT1, MT2	T27N-R28E-S6	2023	41.0	410.3	112.0
WEST POINT	MT6	T25N-R28E-S4; T26N-R28E-S33	2023	151.0	1,581.4	431.7
WEST POINT	NT2	T27N-R26E-S35	2023	147.0	1,704.7	465.4
WEST POINT	PW2B	T26N-R25E-S35	2023	72.0	660.1	180.2
WEST POINT	PW3	T26N-R25E-S35	2023	85.0	758.8	207.2
WEST POINT	RJL16	T26N-R24E-S18	2023	21.0	283.8	77.5
WEST POINT	RL12	T26N-R24E-S12	2023	9.0	125.6	34.3
WEST POINT	RL16	T25N-R24E-S31	2023	164.0	1,957.7	534.4
WEST POINT	RL3, RL4	T27N-R24E-S20;-S29	2023	135.0	1,546.0	422.1
WEST POINT	RL6	T26N-R25E-S21	2023	30.0	282.5	77.1
WEST POINT	RL7, RL7B	T26N-R24E-S3	2023	125.0	1,637.7	447.1
WEST POINT	RM10, RM11	T26N-R25E-S11	2023	19.0	190.5	52.0
WEST POINT	RM15	T27N-R26E-S9	2022	82.0	1,144.5	315.9
WEST POINT	RM9	T26N-R25E-S10	2023	6.0	63.0	17.2
WEST POINT	RM9	T26N-R25E-S10	2022	90.0	1,022.3	282.1
WEST POINT	RMG2	T28N-R24E-S11;-S12;-S13;-S14	2023	8.0	94.4	25.8
WEST POINT	RMG7	T27N-R24E-S13	2022	47.0	532.7	147.0
WEST POINT	RT1	T27N-R28E-S26	2023	97.0	1,073.5	293.1
WEST POINT	RT2	T27N-R28E-S25	2023	74.0	660.7	180.4
WEST POINT	RT4	T27N-R28E-S25; T27N-R29E-S30	2023	46.0	474.1	129.4
WEST POINT	RW1, RW6	T27N-R24E-S26	2023	67.0	597.3	163.1

BOULDER PARK PROJECT BENEFICIAL USE FACILITY
TABLE 2. 2023 KING COUNTY LAND APPLICATION ACTIVITY

Source ¹	Site	T-R-S Description	Year ²	Acres	Wet Tons	Dry Tons ³
WEST POINT	RW14	T27N-R25E-S18	2023	78.0	850.6	232.2
WEST POINT	RW5	T27N-R24E-S27	2023	73.9	691.1	188.7
WEST POINT	RW8	T27N-R24E-S14;-S23	2023	29.0	379.8	103.7
WEST POINT	ST1	T27N-R25E-S32	2023	177.0	1,539.7	420.3
WEST POINT	VB10	T23N-R21E-S2	2023	69.0	659.9	180.2
WEST POINT	VB9	T23N-R21E-S16	2023	173.0	1,668.4	455.5

TOTAL APPLIED:

6,309.6	69,559.5	17,066.4
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¹ All biosolids stored and land applied separately.

² Biosolids produced in 2022 were placed in winter storage and land applied in 2023.

³ Dry tons is an approximate value and is calculated using the respective annual average for total percent solids.

**BOULDER PARK PROJECT BENEFICIAL USE FACILITY
TABLE 3. 2023 OTHER UTILITIES LAND APPLICATION ACTIVITY**

Source ¹	Site	T-R-S Description	Year ²	Acres	Wet Tons	Dry Tons ³
ACE ACME INC.	DG10	T26N-R27E-S7	2023	4.0	103.1	26.1
ACE ACME INC.	GC7B, RMG10	T27N-R24E-S11;-S12;-S14	2023	6.0	137.3	34.7
ACE ACME INC.	GC7B, RMG10	T27N-R24E-S11;-S12;-S14	2023	4.0	102.9	26.0
ACE ACME INC.	GYP8	T27N-R23E-S25	2022	2.0	66.3	15.6
ACE ACME INC.	JT18	T26N-R25E-S4;-S8;-S9	2022	1.5	35.0	8.2
ACE ACME INC.	JT20	T27N-R26E-S24	2023	6.0	160.0	40.5
ACE ACME INC.	JT21	T27N-R27E-S19	2023	1.0	27.7	7.0
ACE ACME INC.	JT22	T27N-R27E-S31	2023	4.0	73.2	18.5
ACE ACME INC.	JT26	T27N-R26E-S20	2023	6.0	135.6	34.3
ACE ACME INC.	LT17	T27N-R25E-S24	2023	1.5	38.6	9.8
ACE ACME INC.	RL12	T26N-R24E-S12	2022	1.0	29.6	7.0
ACE ACME INC.	RL12	T26N-R24E-S12	2023	4.0	131.3	33.2
ACE ACME INC.	RL2	T27N-R24E-S21	2022	3.5	130.0	30.6
ACE ACME INC.	RMG2	T28N-R24E-S11;-S12;-S13;-S14	2023	9.0	226.8	57.4
ACE ACME INC.	TD1	T29N-R24E-S1	2023	4.0	71.1	18.0
ALDERWOOD	DG10	T26N-R27E-S7	2023	14.1	52.0	50.8
ALDERWOOD	JP9, JP10	T28N-R26E-S8;-S9;-S16;-S17	2023	9.0	26.5	25.8
ALDERWOOD	JT18	T26N-R25E-S4;-S8;-S9	2022	24.0	65.7	64.3
ALDERWOOD	JT19	T26N-R24E-S14	2022	3.0	8.6	8.4
ALDERWOOD	JT26	T27N-R26E-S20	2023	20.0	54.0	52.7
ALDERWOOD	LT17	T27N-R25E-S24	2023	8.0	27.5	26.8
ALDERWOOD	NT2	T27N-R26E-S35	2022	12.0	37.0	36.2
ALDERWOOD	NT2	T27N-R26E-S35	2022	8.0	24.1	23.6
ALDERWOOD	NT2	T27N-R26E-S35	2022	9.0	28.3	27.7
ALDERWOOD	NT2	T27N-R26E-S35	2023	17.0	54.9	53.6
ALDERWOOD	RJL16	T26N-R24E-S18	2023	11.0	37.4	36.5
ALDERWOOD	RMG2	T28N-R24E-S11;-S12;-S13;-S14	2023	24.5	82.9	81.0
ALDERWOOD	RW14	T27N-R25E-S18	2022	11.0	35.5	34.7
ALDERWOOD	RW14	T27N-R25E-S18	2023	11.0	34.4	33.6
ALDERWOOD	RW8	T27N-R24E-S14;-S23	2023	3.0	9.8	9.6
ALDERWOOD	TD1	T29N-R24E-S1	2023	25.0	53.5	52.3
BREWSTER	DT3	T27N-R25E-S31	2023	2.0	22.6	3.7
BREWSTER	GC7B, RMG10	T27N-R24E-S11;-S12;-S14	2023	1.5	23.3	3.8
BREWSTER	JT18	T26N-R25E-S4;-S8;-S9	2022	2.0	33.4	5.4
BREWSTER	JT19	T26N-R24E-S14	2022	1.5	23.1	3.7
BREWSTER	JT21	T27N-R27E-S19	2023	1.5	26.9	4.4
BREWSTER	JT26	T27N-R26E-S20	2023	1.5	23.3	3.8
BREWSTER	RJL16	T26N-R24E-S18	2023	1.5	25.2	4.1
BREWSTER	RM15	T27N-R26E-S9	2023	2.5	51.5	8.4
BRIDGEPORT	JT18	T26N-R25E-S4;-S8;-S9	2022	10.0	141.0	33.6
CASHMERE	DG10	T26N-R27E-S7	2023	5.0	147.0	14.4
CASHMERE	DT3	T27N-R25E-S31	2023	5.0	104.3	10.2
CASHMERE	GC7B, RMG10	T27N-R24E-S11;-S12;-S14	2023	2.0	50.1	4.9
CASHMERE	GYP2	T26N-R24E-S7;-S18	2022	2.0	56.3	5.6
CASHMERE	JT18	T26N-R25E-S4;-S8;-S9	2022	7.5	160.1	15.8

**BOULDER PARK PROJECT BENEFICIAL USE FACILITY
TABLE 3. 2023 OTHER UTILITIES LAND APPLICATION ACTIVITY**

Source ¹	Site	T-R-S Description	Year ²	Acres	Wet Tons	Dry Tons ³
CASHMERE	JT19	T26N-R24E-S14	2022	3.0	63.2	6.3
CASHMERE	JT20	T27N-R26E-S24	2023	4.0	83.3	8.2
CASHMERE	JT21	T27N-R27E-S19	2023	1.0	31.9	3.1
CASHMERE	JT22	T27N-R27E-S31	2023	3.0	53.8	5.3
CASHMERE	JT26	T27N-R26E-S20	2023	7.0	184.2	18.1
CASHMERE	LT17	T27N-R25E-S24	2023	1.0	26.7	2.6
CASHMERE	RJL16	T26N-R24E-S18	2023	6.0	187.4	18.4
CASHMERE	RM15	T27N-R26E-S9	2023	7.5	237.8	23.3
CASHMERE	RMG2	T28N-R24E-S11;-S12;-S13;-S14	2023	3.0	81.5	8.0
CASHMERE	TD1	T29N-R24E-S1	2023	3.5	75.4	7.4
CHELAN CO. PUD 1	GC7B, RMG10	T27N-R24E-S11;-S12;-S14	2023	0.5	3.5	0.6
CHELAN CO. PUD 1	GYP2	T26N-R24E-S7;-S18	2022	0.5	4.0	0.6
CHELAN CO. PUD 1	GYP8	T27N-R23E-S25	2022	0.3	4.0	0.6
CHELAN CO. PUD 1	JT18	T26N-R25E-S4;-S8;-S9	2022	0.2	3.5	0.6
CHELAN CO. PUD 1	RJL16	T26N-R24E-S18	2023	0.5	6.8	1.1
CHELAN CO. PUD 1	RMG2	T28N-R24E-S11;-S12;-S13;-S14	2023	0.5	7.0	1.1
CHELAN	DG10	T26N-R27E-S7	2023	2.0	33.0	9.6
CHELAN	DT3	T27N-R25E-S31	2023	3.0	39.0	11.3
CHELAN	GC7B, RMG10	T27N-R24E-S11;-S12;-S14	2023	2.5	33.0	9.6
CHELAN	GYP2	T26N-R24E-S7;-S18	2022	1.0	10.0	2.9
CHELAN	JT18	T26N-R25E-S4;-S8;-S9	2022	1.0	12.0	3.4
CHELAN	JT20	T27N-R26E-S24	2023	1.0	10.0	2.9
CHELAN	JT21	T27N-R27E-S19	2023	1.0	9.0	2.6
CHELAN	JT22	T27N-R27E-S31	2023	1.5	18.0	5.2
CHELAN	JT26	T27N-R26E-S20	2023	2.5	25.0	7.3
CHELAN	RJL16	T26N-R24E-S18	2023	1.5	23.0	6.7
CHELAN	RL2	T27N-R24E-S21	2022	4.0	70.0	20.0
CHELAN	RM15	T27N-R26E-S9	2023	1.0	12.0	3.5
CHELAN	RMG2	T28N-R24E-S11;-S12;-S13;-S14	2023	5.5	73.0	21.2
CHELAN	TD1	T29N-R24E-S1	2023	4.5	44.0	12.8
COULEE DAM	JT19	T26N-R24E-S14	2022	4.0	18.4	10.3
DOUGLAS COUNTY	DG10	T26N-R27E-S7	2023	4.0	75.9	21.9
DOUGLAS COUNTY	DT3	T27N-R25E-S31	2023	4.1	63.5	18.4
DOUGLAS COUNTY	JT18	T26N-R25E-S4;-S8;-S9	2022	5.5	75.1	21.6
DOUGLAS COUNTY	JT20	T27N-R26E-S24	2023	5.5	69.1	20.0
DOUGLAS COUNTY	JT21	T27N-R27E-S19	2023	1.0	19.0	5.5
DOUGLAS COUNTY	JT22	T27N-R27E-S31	2023	1.5	23.4	6.8
DOUGLAS COUNTY	JT26	T27N-R26E-S20	2023	8.0	111.3	32.2
DOUGLAS COUNTY	LT17	T27N-R25E-S24	2023	3.5	76.3	22.0
DOUGLAS COUNTY	RJL16	T26N-R24E-S18	2023	2.5	43.8	12.6
DOUGLAS COUNTY	RL2	T27N-R24E-S21	2022	1.3	24.6	7.1
DOUGLAS COUNTY	RM15	T27N-R26E-S9	2023	6.0	116.1	33.5
DOUGLAS COUNTY	RM15	T27N-R26E-S9	2022	1.0	12.2	3.5
DOUGLAS COUNTY	RMG2	T28N-R24E-S11;-S12;-S13;-S14	2023	5.0	84.3	24.4
DUVALL	DG10	T26N-R27E-S7	2023	4.0	97.5	11.6

BOULDER PARK PROJECT BENEFICIAL USE FACILITY
TABLE 3. 2023 OTHER UTILITIES LAND APPLICATION ACTIVITY

Source ¹	Site	T-R-S Description	Year ²	Acres	Wet Tons	Dry Tons ³
DUVALL	DT3	T27N-R25E-S31	2023	2.0	25.4	3.0
DUVALL	GC7B, RMG10	T27N-R24E-S11;-S12;-S14	2023	6.0	102.8	12.2
DUVALL	GC7B, RMG10	T27N-R24E-S11;-S12;-S14	2023	2.0	27.6	3.3
DUVALL	GYP2	T26N-R24E-S7;-S18	2022	3.5	85.9	10.2
DUVALL	JT18	T26N-R25E-S4;-S8;-S9	2022	8.0	140.2	16.7
DUVALL	JT19	T26N-R24E-S14	2022	3.0	61.5	7.3
DUVALL	JT20	T27N-R26E-S24	2023	3.0	51.9	6.2
DUVALL	JT22	T27N-R27E-S31	2023	1.5	27.6	3.3
DUVALL	JT26	T27N-R26E-S20	2023	7.0	123.1	14.6
DUVALL	LT17	T27N-R25E-S24	2023	1.0	29.5	3.5
DUVALL	RL12	T26N-R24E-S12	2023	1.5	32.3	3.8
DUVALL	RM15	T27N-R26E-S9	2023	5.5	126.9	15.1
DUVALL	RMG2	T28N-R24E-S11;-S12;-S13;-S14	2023	5.0	107.1	12.7
DUVALL	TD1	T29N-R24E-S1	2023	3.5	51.2	6.1
ENUMCLAW	DG10	T26N-R27E-S7	2023	8.0	181.1	25.4
ENUMCLAW	GC7B, RMG10	T27N-R24E-S11;-S12;-S14	2023	18.0	258.3	36.2
ENUMCLAW	GC7B, RMG10	T27N-R24E-S11;-S12;-S14	2023	10.0	154.8	21.7
ENUMCLAW	GYP8	T27N-R23E-S25	2022	3.8	90.6	13.0
ENUMCLAW	JT18	T26N-R25E-S4;-S8;-S9	2022	7.5	121.7	17.4
ENUMCLAW	JT19	T26N-R24E-S14	2022	6.0	120.4	17.2
ENUMCLAW	JT20	T27N-R26E-S24	2023	15.0	204.6	28.6
ENUMCLAW	JT21	T27N-R27E-S19	2023	1.5	27.6	3.9
ENUMCLAW	JT22	T27N-R27E-S31	2023	9.0	115.0	16.1
ENUMCLAW	JT26	T27N-R26E-S20	2023	15.0	232.2	32.5
ENUMCLAW	LT17	T27N-R25E-S24	2023	4.0	92.3	12.9
ENUMCLAW	RL12	T26N-R24E-S12	2023	9.0	212.2	29.7
ENUMCLAW	RL12	T26N-R24E-S12	2022	3.0	59.7	8.5
ENUMCLAW	RL2	T27N-R24E-S21	2022	7.5	176.9	25.3
ENUMCLAW	RMG2	T28N-R24E-S11;-S12;-S13;-S14	2023	21.0	422.2	59.1
ENUMCLAW	TD1	T29N-R24E-S1	2023	6.5	87.7	12.3
GRAND COULEE	JT18	T26N-R25E-S4;-S8;-S9	2022	6.0	57.0	18.1
LAKEHAVEN LAKOTA	DG10	T26N-R27E-S7	2023	21.0	423.1	64.7
LAKEHAVEN LAKOTA	DT3	T27N-R25E-S31	2023	31.0	390.1	59.7
LAKEHAVEN LAKOTA	GC7B, RMG10	T27N-R24E-S11;-S12;-S14	2023	23.0	361.7	55.3
LAKEHAVEN LAKOTA	GYP2	T26N-R24E-S7;-S18	2022	14.0	271.9	41.9
LAKEHAVEN LAKOTA	JP9, JP10	T28N-R26E-S8;-S9;-S16;-S17	2023	16.0	272.3	41.7
LAKEHAVEN LAKOTA	JT18	T26N-R25E-S4;-S8;-S9	2022	35.0	541.6	83.4
LAKEHAVEN LAKOTA	JT19	T26N-R24E-S14	2022	18.0	302.0	46.5
LAKEHAVEN LAKOTA	JT20	T27N-R26E-S24	2023	16.0	213.7	32.7
LAKEHAVEN LAKOTA	JT21	T27N-R27E-S19	2023	6.0	60.5	9.3
LAKEHAVEN LAKOTA	JT22	T27N-R27E-S31	2023	20.0	241.6	37.0
LAKEHAVEN LAKOTA	JT26	T27N-R26E-S20	2023	36.0	482.5	73.8
LAKEHAVEN LAKOTA	LT17	T27N-R25E-S24	2023	7.5	150.9	23.1
LAKEHAVEN LAKOTA	RJL16	T26N-R24E-S18	2023	15.0	303.9	46.5
LAKEHAVEN LAKOTA	RL12	T26N-R24E-S12	2023	1.5	30.2	4.6

**BOULDER PARK PROJECT BENEFICIAL USE FACILITY
TABLE 3. 2023 OTHER UTILITIES LAND APPLICATION ACTIVITY**

Source ¹	Site	T-R-S Description	Year ²	Acres	Wet Tons	Dry Tons ³
LAKEHAVEN LAKOTA	RM15	T27N-R26E-S9	2023	16.0	302.4	46.3
LAKEHAVEN LAKOTA	RM15	T27N-R26E-S9	2022	8.0	151.1	23.3
LAKEHAVEN LAKOTA	RMG2	T28N-R24E-S11;-S12;-S13;-S14	2023	43.0	838.6	128.3
LAKEHAVEN LAKOTA	TD1	T29N-R24E-S1	2023	40.0	512.3	78.4
LAKEHAVEN REDONDO	DG10	T26N-R27E-S7	2023	6.0	93.1	19.6
LAKEHAVEN REDONDO	DT3	T27N-R25E-S31	2023	8.0	81.5	17.2
LAKEHAVEN REDONDO	GC7B, RMG10	T27N-R24E-S11;-S12;-S14	2023	6.0	68.0	14.3
LAKEHAVEN REDONDO	GYP2	T26N-R24E-S7;-S18	2022	4.5	62.1	13.0
LAKEHAVEN REDONDO	JT18	T26N-R25E-S4;-S8;-S9	2022	9.0	116.6	24.5
LAKEHAVEN REDONDO	JT19	T26N-R24E-S14	2022	3.0	48.3	10.1
LAKEHAVEN REDONDO	JT20	T27N-R26E-S24	2023	3.0	32.5	6.9
LAKEHAVEN REDONDO	JT22	T27N-R27E-S31	2023	5.0	51.9	11.0
LAKEHAVEN REDONDO	JT26	T27N-R26E-S20	2023	6.0	72.1	15.2
LAKEHAVEN REDONDO	LT17	T27N-R25E-S24	2023	1.0	14.8	3.1
LAKEHAVEN REDONDO	RJL16	T26N-R24E-S18	2023	3.0	45.8	9.7
LAKEHAVEN REDONDO	RM15	T27N-R26E-S9	2023	5.0	77.9	16.4
LAKEHAVEN REDONDO	RM15	T27N-R26E-S9	2022	3.0	46.5	9.8
LAKEHAVEN REDONDO	RMG2	T28N-R24E-S11;-S12;-S13;-S14	2023	12.0	170.5	36.0
LAKEHAVEN REDONDO	TD1	T29N-R24E-S1	2023	13.5	137.6	29.0
LEAVENWORTH	DG10	T26N-R27E-S7	2023	2.0	37.2	5.5
LEAVENWORTH	GC7B, RMG10	T27N-R24E-S11;-S12;-S14	2023	6.0	93.5	13.7
LEAVENWORTH	GYP2	T26N-R24E-S7;-S18	2022	1.5	29.2	4.3
LEAVENWORTH	JT18	T26N-R25E-S4;-S8;-S9	2022	3.0	42.4	6.2
LEAVENWORTH	JT19	T26N-R24E-S14	2022	1.5	28.7	4.2
LEAVENWORTH	JT20	T27N-R26E-S24	2023	5.5	72.9	10.7
LEAVENWORTH	JT22	T27N-R27E-S31	2023	2.0	31.4	4.6
LEAVENWORTH	JT26	T27N-R26E-S20	2023	6.0	83.1	12.2
LEAVENWORTH	LT17	T27N-R25E-S24	2023	1.5	30.1	4.4
LEAVENWORTH	RJL16	T26N-R24E-S18	2023	2.5	43.3	6.4
LEAVENWORTH	RL2	T27N-R24E-S21	2022	1.3	30.0	4.4
LEAVENWORTH	RM15	T27N-R26E-S9	2023	4.5	92.7	13.6
LEAVENWORTH	RM15	T27N-R26E-S9	2022	1.0	20.6	3.0
LEAVENWORTH	RMG2	T28N-R24E-S11;-S12;-S13;-S14	2023	9.0	156.0	22.9
LEAVENWORTH	TD1	T29N-R24E-S1	2023	3.5	42.9	6.3
LOTT	DG10	T26N-R27E-S7	2023	36.0	638.0	131.4
LOTT	DT3	T27N-R25E-S31	2023	68.0	709.7	146.2
LOTT	GC7B, RMG10	T27N-R24E-S11;-S12;-S14	2023	37.0	444.9	91.6
LOTT	GYP2	T26N-R24E-S7;-S18	2022	41.0	608.8	122.4
LOTT	JP9, JP10	T28N-R26E-S8;-S9;-S16;-S17	2023	27.0	385.5	79.4
LOTT	JT18	T26N-R25E-S4;-S8;-S9	2022	59.0	768.5	154.5
LOTT	JT19	T26N-R24E-S14	2022	30.0	440.8	88.6
LOTT	JT20	T27N-R26E-S24	2023	27.0	319.3	65.8
LOTT	JT21	T27N-R27E-S19	2023	5.0	65.6	13.5
LOTT	JT22	T27N-R27E-S31	2023	45.0	420.2	86.6
LOTT	JT26	T27N-R26E-S20	2023	61.0	730.0	150.4

**BOULDER PARK PROJECT BENEFICIAL USE FACILITY
TABLE 3. 2023 OTHER UTILITIES LAND APPLICATION ACTIVITY**

Source ¹	Site	T-R-S Description	Year ²	Acres	Wet Tons	Dry Tons ³
LOTT	LT17	T27N-R25E-S24	2023	19.5	318.7	65.6
LOTT	RJL16	T26N-R24E-S18	2023	26.0	411.7	84.8
LOTT	RL16	T25N-R24E-S31	2023	4.5	64.0	13.2
LOTT	RM15	T27N-R26E-S9	2023	41.0	616.1	126.9
LOTT	RM15	T27N-R26E-S9	2022	18.0	271.6	54.6
LOTT	RMG2	T28N-R24E-S11;-S12;-S13;-S14	2023	83.0	1,223.8	252.1
LOTT	TD1	T29N-R24E-S1	2023	55.0	540.7	111.4
LYNDEN	DG10	T26N-R27E-S7	2023	8.0	169.2	21.8
LYNDEN	DT3	T27N-R25E-S31	2023	8.0	135.2	17.4
LYNDEN	GC7B, RMG10	T27N-R24E-S11;-S12;-S14	2023	6.5	132.9	17.1
LYNDEN	GYP2	T26N-R24E-S7;-S18	2022	2.5	55.5	7.3
LYNDEN	JT18	T26N-R25E-S4;-S8;-S9	2022	14.0	247.3	32.6
LYNDEN	JT19	T26N-R24E-S14	2022	5.0	113.1	14.9
LYNDEN	JT20	T27N-R26E-S24	2023	10.0	169.9	21.9
LYNDEN	JT21	T27N-R27E-S19	2023	2.5	56.3	7.3
LYNDEN	JT22	T27N-R27E-S31	2023	7.0	111.4	14.4
LYNDEN	JT26	T27N-R26E-S20	2023	18.0	335.3	43.3
LYNDEN	LT17	T27N-R25E-S24	2023	3.0	84.8	10.9
LYNDEN	RJL16	T26N-R24E-S18	2023	5.0	112.9	14.6
LYNDEN	RL12	T26N-R24E-S12	2022	2.5	54.5	7.2
LYNDEN	RL2	T27N-R24E-S21	2022	5.5	140.6	18.6
LYNDEN	RM15	T27N-R26E-S9	2023	13.0	298.4	38.5
LYNDEN	RMG2	T28N-R24E-S11;-S12;-S13;-S14	2023	10.0	217.2	28.0
LYNDEN	TD1	T29N-R24E-S1	2023	16.0	243.6	31.4
MIDWAY	DG10	T26N-R27E-S7	2023	9.0	193.2	34.0
MIDWAY	DT3	T27N-R25E-S31	2023	14.0	170.5	30.0
MIDWAY	GC7B, RMG10	T27N-R24E-S11;-S12;-S14	2023	7.0	110.5	19.4
MIDWAY	GYP2	T26N-R24E-S7;-S18	2022	8.0	136.8	23.8
MIDWAY	JP9, JP10	T28N-R26E-S8;-S9;-S16;-S17	2023	5.0	82.0	14.4
MIDWAY	JT18	T26N-R25E-S4;-S8;-S9	2022	13.5	216.9	37.7
MIDWAY	JT19	T26N-R24E-S14	2022	6.0	109.9	19.1
MIDWAY	JT20	T27N-R26E-S24	2023	6.0	84.6	14.9
MIDWAY	JT22	T27N-R27E-S31	2023	9.0	108.4	19.1
MIDWAY	JT26	T27N-R26E-S20	2023	13.0	193.4	34.0
MIDWAY	LT17	T27N-R25E-S24	2023	4.0	83.1	14.6
MIDWAY	RJL16	T26N-R24E-S18	2023	7.0	138.2	24.3
MIDWAY	RM15	T27N-R26E-S9	2023	9.5	191.6	33.7
MIDWAY	RM15	T27N-R26E-S9	2022	2.5	54.5	9.5
MIDWAY	RMG2	T28N-R24E-S11;-S12;-S13;-S14	2023	16.0	280.2	49.3
MIDWAY	TD1	T29N-R24E-S1	2023	24.0	291.2	51.3
MOUNT VERNON	DG10	T26N-R27E-S7	2023	10.0	182.9	35.7
MOUNT VERNON	DT3	T27N-R25E-S31	2023	15.0	177.4	34.6
MOUNT VERNON	GC7B, RMG10	T27N-R24E-S11;-S12;-S14	2023	9.0	120.5	23.5
MOUNT VERNON	GYP2	T26N-R24E-S7;-S18	2022	9.5	150.4	28.3
MOUNT VERNON	JT18	T26N-R25E-S4;-S8;-S9	2022	15.0	206.9	38.9

**BOULDER PARK PROJECT BENEFICIAL USE FACILITY
TABLE 3. 2023 OTHER UTILITIES LAND APPLICATION ACTIVITY**

Source ¹	Site	T-R-S Description	Year ²	Acres	Wet Tons	Dry Tons ³
MOUNT VERNON	JT19	T26N-R24E-S14	2022	10.4	152.7	28.7
MOUNT VERNON	JT20	T27N-R26E-S24	2023	7.5	89.7	17.5
MOUNT VERNON	JT21	T27N-R27E-S19	2023	2.0	29.0	5.6
MOUNT VERNON	JT22	T27N-R27E-S31	2023	8.0	88.9	17.3
MOUNT VERNON	JT26	T27N-R26E-S20	2023	18.0	241.4	47.1
MOUNT VERNON	LT17	T27N-R25E-S24	2023	6.5	121.4	23.7
MOUNT VERNON	RJL16	T26N-R24E-S18	2023	9.0	152.6	29.8
MOUNT VERNON	RM15	T27N-R26E-S9	2023	13.0	271.6	53.0
MOUNT VERNON	RM15	T27N-R26E-S9	2022	1.5	28.9	5.4
MOUNT VERNON	RMG2	T28N-R24E-S11;-S12;-S13;-S14	2023	24.0	397.8	77.6
MOUNT VERNON	TD1	T29N-R24E-S1	2023	17.0	178.6	34.8
MUKILTEO	DG10	T26N-R27E-S7	2023	11.0	186.4	24.6
MUKILTEO	DT3	T27N-R25E-S31	2023	8.0	116.6	15.4
MUKILTEO	GC7B, RMG10	T27N-R24E-S11;-S12;-S14	2023	12.0	221.0	29.2
MUKILTEO	GC7B, RMG10	T27N-R24E-S11;-S12;-S14	2023	5.0	94.2	12.4
MUKILTEO	GYP2	T26N-R24E-S7;-S18	2022	3.5	81.8	10.4
MUKILTEO	JT18	T26N-R25E-S4;-S8;-S9	2022	5.5	113.7	14.4
MUKILTEO	JT19	T26N-R24E-S14	2022	4.0	83.3	10.6
MUKILTEO	JT20	T27N-R26E-S24	2023	4.0	55.0	7.3
MUKILTEO	JT22	T27N-R27E-S31	2023	4.0	57.2	7.5
MUKILTEO	JT26	T27N-R26E-S20	2023	9.0	176.2	23.3
MUKILTEO	LT17	T27N-R25E-S24	2023	2.0	58.8	7.8
MUKILTEO	RL12	T26N-R24E-S12	2023	7.5	177.6	23.4
MUKILTEO	RL12	T26N-R24E-S12	2022	3.0	73.2	9.3
MUKILTEO	RL2	T27N-R24E-S21	2022	1.8	53.5	6.8
MUKILTEO	RM15	T27N-R26E-S9	2023	2.0	44.6	5.9
MUKILTEO	RMG2	T28N-R24E-S11;-S12;-S13;-S14	2023	14.0	331.1	43.7
MUKILTEO	TD1	T29N-R24E-S1	2023	5.0	74.9	9.9
OKANOGAN	JT20	T27N-R26E-S24	2023	9.0	26.3	23.7
OKANOGAN	RL2	T27N-R24E-S21	2022	5.5	29.8	27.2
PIERCE COUNTY	DG10	T26N-R27E-S7	2023	14.0	251.0	45.4
PIERCE COUNTY	DT3	T27N-R25E-S31	2023	68.0	851.3	154.1
PIERCE COUNTY	GC7B, RMG10	T27N-R24E-S11;-S12;-S14	2023	5.0	62.7	11.3
PIERCE COUNTY	GYP2	T26N-R24E-S7;-S18	2022	37.0	628.0	116.8
PIERCE COUNTY	JT18	T26N-R25E-S4;-S8;-S9	2022	14.0	187.5	34.9
PIERCE COUNTY	JT19	T26N-R24E-S14	2022	43.0	632.5	117.6
PIERCE COUNTY	JT20	T27N-R26E-S24	2023	53.0	626.5	113.4
PIERCE COUNTY	JT21	T27N-R27E-S19	2023	11.0	157.1	28.4
PIERCE COUNTY	JT22	T27N-R27E-S31	2023	14.0	158.2	28.6
PIERCE COUNTY	JT26	T27N-R26E-S20	2023	114.0	1,493.7	270.4
PIERCE COUNTY	LT17	T27N-R25E-S24	2023	27.0	470.6	85.2
PIERCE COUNTY	RJL16	T26N-R24E-S18	2023	22.0	378.0	68.4
PIERCE COUNTY	RL12	T26N-R24E-S12	2023	29.5	440.7	79.8
PIERCE COUNTY	RL6	T26N-R25E-S21	2022	46.0	533.9	99.3
PIERCE COUNTY	RMG2	T28N-R24E-S11;-S12;-S13;-S14	2023	112.0	1,839.7	333.0

**BOULDER PARK PROJECT BENEFICIAL USE FACILITY
TABLE 3. 2023 OTHER UTILITIES LAND APPLICATION ACTIVITY**

Source ¹	Site	T-R-S Description	Year ²	Acres	Wet Tons	Dry Tons ³
QUINCY	JS12	T27N-R24E-S16	2023	51.0	1,604.3	324.1
ROCK ISLAND	RL12	T26N-R24E-S12	2023	16.0	85.3	79.3
ROYAL CITY	DT3	T27N-R25E-S31	2023	4.0	44.2	43.1
ROYAL CITY	DT3	T27N-R25E-S31	2023	2.0	37.9	34.4
ROYAL CITY	RL2	T27N-R24E-S21	2022	5.0	37.5	32.7
SEDRON SERVICES	DG10	T26N-R27E-S7	2023	8.0	101.2	66.1
SEDRON SERVICES	GC7B, RMG10	T27N-R24E-S11;-S12;-S14	2023	13.0	153.3	100.1
SEDRON SERVICES	GC7B, RMG10	T27N-R24E-S11;-S12;-S14	2023	6.0	64.2	41.9
SEDRON SERVICES	JT20	T27N-R26E-S24	2023	8.0	89.9	58.7
SEDRON SERVICES	JT21	T27N-R27E-S19	2023	2.0	32.3	21.1
SEDRON SERVICES	JT22	T27N-R27E-S31	2023	7.0	60.7	39.6
SEDRON SERVICES	JT26	T27N-R26E-S20	2023	3.5	34.6	22.6
SEDRON SERVICES	LT17	T27N-R25E-S24	2023	6.5	93.1	60.8
SEDRON SERVICES	RMG2	T28N-R24E-S11;-S12;-S13;-S14	2023	19.0	229.6	149.9
SEDRO-WOOLLEY	DG10	T26N-R27E-S7	2023	4.0	116.1	13.1
SEDRO-WOOLLEY	GC7B, RMG10	T27N-R24E-S11;-S12;-S14	2023	7.0	167.9	19.0
SEDRO-WOOLLEY	GC7B, RMG10	T27N-R24E-S11;-S12;-S14	2023	2.0	60.7	6.9
SEDRO-WOOLLEY	GYP8	T27N-R23E-S25	2022	2.5	83.6	9.5
SEDRO-WOOLLEY	JT18	T26N-R25E-S4;-S8;-S9	2022	6.0	146.9	16.7
SEDRO-WOOLLEY	JT19	T26N-R24E-S14	2022	3.0	81.5	9.3
SEDRO-WOOLLEY	JT20	T27N-R26E-S24	2023	9.0	183.6	20.7
SEDRO-WOOLLEY	JT21	T27N-R27E-S19	2023	1.0	29.6	3.3
SEDRO-WOOLLEY	JT22	T27N-R27E-S31	2023	1.5	29.7	3.4
SEDRO-WOOLLEY	JT26	T27N-R26E-S20	2023	7.0	168.1	19.0
SEDRO-WOOLLEY	LT17	T27N-R25E-S24	2023	1.5	57.3	6.5
SEDRO-WOOLLEY	RL12	T26N-R24E-S12	2023	6.0	177.7	20.1
SEDRO-WOOLLEY	RL2	T27N-R24E-S21	2022	5.5	171.9	19.6
SEDRO-WOOLLEY	RMG2	T28N-R24E-S11;-S12;-S13;-S14	2023	8.0	203.5	23.0
SEDRO-WOOLLEY	TD1	T29N-R24E-S1	2023	1.5	27.1	3.1
SOAP LAKE	RL2	T27N-R24E-S21	2022	7.0	46.3	41.4
SW SUBURBAN MILLER CR	DG10	T26N-R27E-S7	2023	8.0	115.1	26.4
SW SUBURBAN MILLER CR	DT3	T27N-R25E-S31	2023	11.0	113.9	26.1
SW SUBURBAN MILLER CR	GC7B, RMG10	T27N-R24E-S11;-S12;-S14	2023	7.0	85.7	19.6
SW SUBURBAN MILLER CR	GYP2	T26N-R24E-S7;-S18	2022	6.0	82.6	18.7
SW SUBURBAN MILLER CR	JT18	T26N-R25E-S4;-S8;-S9	2022	9.5	114.6	25.9
SW SUBURBAN MILLER CR	JT19	T26N-R24E-S14	2022	2.0	28.9	6.5
SW SUBURBAN MILLER CR	JT20	T27N-R26E-S24	2023	5.0	57.7	13.2
SW SUBURBAN MILLER CR	JT21	T27N-R27E-S19	2023	2.0	28.4	6.5
SW SUBURBAN MILLER CR	JT22	T27N-R27E-S31	2023	6.0	57.5	13.2
SW SUBURBAN MILLER CR	JT26	T27N-R26E-S20	2023	14.0	171.7	39.3
SW SUBURBAN MILLER CR	LT17	T27N-R25E-S24	2023	3.5	56.3	12.9
SW SUBURBAN MILLER CR	RJL16	T26N-R24E-S18	2023	4.0	57.1	13.1
SW SUBURBAN MILLER CR	RM15	T27N-R26E-S9	2023	10.0	141.5	32.4
SW SUBURBAN MILLER CR	RM15	T27N-R26E-S9	2022	4.0	56.8	12.8
SW SUBURBAN MILLER CR	RMG2	T28N-R24E-S11;-S12;-S13;-S14	2023	19.0	261.1	59.8

BOULDER PARK PROJECT BENEFICIAL USE FACILITY
TABLE 3. 2023 OTHER UTILITIES LAND APPLICATION ACTIVITY

Source ¹	Site	T-R-S Description	Year ²	Acres	Wet Tons	Dry Tons ³
SW SUBURBAN MILLER CR	TD1	T29N-R24E-S1	2023	12.5	113.7	26.0
SW SUBURBAN SALMON CR	DG10	T26N-R27E-S7	2023	5.0	85.4	18.4
SW SUBURBAN SALMON CR	DT3	T27N-R25E-S31	2023	8.0	85.3	18.3
SW SUBURBAN SALMON CR	GC7B, RMG10	T27N-R24E-S11;-S12;-S14	2023	9.0	113.9	24.5
SW SUBURBAN SALMON CR	GYP2	T26N-R24E-S7;-S18	2022	4.0	57.0	12.5
SW SUBURBAN SALMON CR	JT18	T26N-R25E-S4;-S8;-S9	2022	13.0	170.8	37.6
SW SUBURBAN SALMON CR	JT19	T26N-R24E-S14	2022	4.0	56.9	12.5
SW SUBURBAN SALMON CR	JT20	T27N-R26E-S24	2023	5.0	56.7	12.2
SW SUBURBAN SALMON CR	JT22	T27N-R27E-S31	2023	6.0	57.2	12.3
SW SUBURBAN SALMON CR	JT26	T27N-R26E-S20	2023	9.0	112.8	24.3
SW SUBURBAN SALMON CR	LT17	T27N-R25E-S24	2023	1.5	28.4	6.1
SW SUBURBAN SALMON CR	RJL16	T26N-R24E-S18	2023	4.0	56.8	12.2
SW SUBURBAN SALMON CR	RM15	T27N-R26E-S9	2023	9.0	142.1	30.6
SW SUBURBAN SALMON CR	RM15	T27N-R26E-S9	2022	1.5	23.5	5.2
SW SUBURBAN SALMON CR	TD1	T29N-R24E-S1	2023	17.5	170.4	36.6
SW SUBURBAN SALMON CR	TD1	T29N-R24E-S1	2023	9.0	85.2	18.3
STEVENS PASS	JT20	T27N-R26E-S24	2023	0.5	11.0	1.6
TREE TOP INC.	GYP2	T26N-R24E-S7;-S18	2022	3.0	126.3	9.5
TREE TOP INC.	JT18	T26N-R25E-S4;-S8;-S9	2022	2.0	67.5	5.1
TREE TOP INC.	JT26	T27N-R26E-S20	2023	7.0	253.1	19.0
TREE TOP INC.	LT17	T27N-R25E-S24	2023	2.5	132.3	9.9
TREE TOP INC.	RM15	T27N-R26E-S9	2023	8.0	393.2	29.5
TWISP	DT3	T27N-R25E-S31	2023	1.0	12.7	2.2
TWISP	JT18	T26N-R25E-S4;-S8;-S9	2022	1.0	10.4	1.8
TWISP	JT21	T27N-R27E-S19	2023	0.5	9.7	1.7
TWISP	JT26	T27N-R26E-S20	2023	0.5	7.3	1.3
TWISP	LT17	T27N-R25E-S24	2023	0.5	6.5	1.1
TWISP	RJL16	T26N-R24E-S18	2023	0.5	10.7	1.9
TWISP	RM15	T27N-R26E-S9	2023	0.5	8.2	1.4
TWISP	RMG2	T28N-R24E-S11;-S12;-S13;-S14	2023	1.0	16.5	2.9
TWISP	TD1	T29N-R24E-S1	2023	0.5	8.7	1.5
WENATCHEE	RL16	T25N-R24E-S31	2023	6.0	202.6	26.9
WENATCHEE	RMG2	T28N-R24E-S11;-S12;-S13;-S14	2023	18.0	604.7	80.4

TOTAL APPLIED:

3,531.1	53,376.6	10,489.4
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¹ All biosolids stored and land applied separately.

² Biosolids produced in 2022 were placed in winter storage and land applied in 2023.

³ Dry tons is an approximate value and is calculated using the respective annual average for total percent solids.

BOULDER PARK PROJECT BENEFICIAL USE FACILITY

TABLE 4. 2023 KING COUNTY STORAGE ACTIVITY

Source ¹	Site	T-R-S Description	Year ²	Wet Tons	Dry Tons ³
BRIGHTWATER	DM30	T28N-R26E-S19;-S30	2023	93.3	19.7
BRIGHTWATER	GP4, GP5	T28N-R25E-S30	2023	409.3	86.4
BRIGHTWATER	GYP1	T26N-R24E-S7	2023	252.6	53.3
BRIGHTWATER	JS14	T27N-R24E-S21	2023	125.9	26.6
BRIGHTWATER	MB1	T27N-R27E-S31	2023	466.0	98.3
BRIGHTWATER	MB23, MB24	T27N-R26E-S13	2023	499.2	105.3
BRIGHTWATER	MB8	T27N-R27E-S30	2023	407.3	85.9
BRIGHTWATER	NT1	T27N-R26E-S35	2023	281.6	59.4
BRIGHTWATER	RM2	T26N-R25E-S22	2023	187.7	39.6
SOUTH PLANT	DM30	T28N-R26E-S19;-S30	2023	62.3	13.3
SOUTH PLANT	GP4, GP5	T28N-R25E-S30	2023	1,031.5	220.7
SOUTH PLANT	GYP1	T26N-R24E-S7	2023	466.3	99.8
SOUTH PLANT	JS14	T27N-R24E-S21	2023	344.0	73.6
SOUTH PLANT	MB1	T27N-R27E-S31	2023	751.7	160.9
SOUTH PLANT	MB23, MB24	T27N-R26E-S13	2023	1,066.4	228.2
SOUTH PLANT	MB23, MB24	T27N-R26E-S13	2023	409.0	87.5
SOUTH PLANT	MB8	T27N-R27E-S30	2023	155.8	33.3
SOUTH PLANT	NT1	T27N-R26E-S35	2023	187.6	40.1
SOUTH PLANT	RM2	T26N-R25E-S22	2023	1,033.5	221.2
WEST POINT	DM30	T28N-R26E-S19;-S30	2023	157.2	42.9
WEST POINT	GP4, GP5	T28N-R25E-S30	2023	1,450.9	396.1
WEST POINT	GYP1	T26N-R24E-S7	2023	726.5	198.3
WEST POINT	JS14	T27N-R24E-S21	2023	816.0	222.8
WEST POINT	MB1	T27N-R27E-S31	2023	1,132.3	309.1
WEST POINT	MB23, MB24	T27N-R26E-S13	2023	1,381.8	377.2
WEST POINT	MB23, MB24	T27N-R26E-S13	2023	31.5	8.6
WEST POINT	MB8	T27N-R27E-S30	2023	314.5	85.9
WEST POINT	NT1	T27N-R26E-S35	2023	722.8	197.3
WEST POINT	RM2	T26N-R25E-S22	2023	785.3	214.4

TOTAL STORAGE: 15,749.6 3,805.9

¹ All biosolids stored and land applied separately.² Biosolids not land applied in 2023 are placed in winter storage and will be land applied in 2024.³ Dry tons are calculated using the respective annual average for total percent solids.

**BOULDER PARK PROJECT BENEFICIAL USE FACILITY
TABLE 5. 2023 OTHER UTILITIES STORAGE ACTIVITY**

Source ¹	Site	T-R-S Description	Year ²	Wet Tons	Dry Tons ³
ALDERWOOD	DR1	T24N-R22E-S10	2023	137.4	134.2
ALDERWOOD	MB1	T27N-R27E-S31	2023	27.7	27.1
ALDERWOOD	MB8	T27N-R27E-S30	2023	24.3	23.7
ALDERWOOD	NT1	T27N-R26E-S35	2023	15.5	15.1
ALDERWOOD	RM6	T26N-R25E-S22;-S27	2023	22.0	21.5
BREWSTER	MB1	T27N-R27E-S31	2023	28.8	4.7
BRIDGEPORT	MB1	T27N-R27E-S31	2023	148.0	37.2
CASHMERE	GP20	T28N-R24E-S25	2023	62.8	6.2
CASHMERE	MB1	T27N-R27E-S31	2023	87.9	8.6
CASHMERE	NT1	T27N-R26E-S35	2023	119.8	11.7
CASHMERE	RM6	T26N-R25E-S22;-S27	2023	60.6	5.9
CHELAN COUNTY PUD 1	GP20	T28N-R24E-S25	2023	4.1	0.6
CHELAN COUNTY PUD 1	RM6	T26N-R25E-S22;-S27	2023	4.3	0.7
CHELAN	GP20	T28N-R24E-S25	2023	11.0	3.2
CHELAN	MB1	T27N-R27E-S31	2023	9.0	2.6
CHELAN	NT1	T27N-R26E-S35	2023	27.0	7.8
CHELAN	RM6	T26N-R25E-S22;-S27	2023	10.0	2.9
DOUGLAS COUNTY	GP20	T28N-R24E-S25	2023	76.4	22.1
DOUGLAS COUNTY	MB1	T27N-R27E-S31	2023	22.0	6.4
DOUGLAS COUNTY	NT1	T27N-R26E-S35	2023	69.5	20.1
DOUGLAS COUNTY	RM6	T26N-R25E-S22;-S27	2023	24.2	7.0
DUVALL	DG11	T27N-R26E-S26;-S27	2023	164.0	19.5
ENUMCLAW	DG11	T27N-R26E-S26;-S27	2023	296.1	41.5
EPHRATA	GYP1	T26N-R24E-S7	2023	152.7	131.2
EPHRATA	GYP1	T26N-R24E-S7	2022	147.4	126.6
GRAND COULEE	GP20	T28N-R24E-S25	2023	53.0	18.1
LAKEHAVEN LAKOTA	DM30	T28N-R26E-S19;-S30	2023	30.2	4.6
LAKEHAVEN LAKOTA	GP20	T28N-R24E-S25	2023	151.2	23.1
LAKEHAVEN LAKOTA	MB1	T27N-R27E-S31	2023	335.0	51.3
LAKEHAVEN LAKOTA	NT1	T27N-R26E-S35	2023	358.2	54.8
LAKEHAVEN LAKOTA	RM6	T26N-R25E-S22;-S27	2023	181.5	27.8
LAKEHAVEN REDONDO	GP20	T28N-R24E-S25	2023	16.4	3.5
LAKEHAVEN REDONDO	MB1	T27N-R27E-S31	2023	62.2	13.1
LAKEHAVEN REDONDO	MB8	T27N-R27E-S30	2023	32.6	6.9
LAKEHAVEN REDONDO	NT1	T27N-R26E-S35	2023	66.4	14.0
LAKEHAVEN REDONDO	RM6	T26N-R25E-S22;-S27	2023	28.8	6.1
LEAVENWORTH	DG11	T27N-R26E-S26;-S27	2023	104.3	15.3
LEAVENWORTH	GP20	T28N-R24E-S25	2023	10.7	1.6
LEAVENWORTH	NT1	T27N-R26E-S35	2023	43.0	6.3
LOTT	DM30	T28N-R26E-S19;-S30	2023	33.6	6.9
LOTT	GP20	T28N-R24E-S25	2023	252.1	51.9
LOTT	MB1	T27N-R27E-S31	2023	604.1	124.5
LOTT	MB8	T27N-R27E-S30	2023	63.2	13.0
LOTT	NT1	T27N-R26E-S35	2023	571.0	117.6
LOTT	RM6	T26N-R25E-S22;-S27	2023	378.1	77.9

BOULDER PARK PROJECT BENEFICIAL USE FACILITY
TABLE 5. 2023 OTHER UTILITIES STORAGE ACTIVITY

Source ¹	Site	T-R-S Description	Year ²	Wet Tons	Dry Tons ³
LYNDEN	DG11	T27N-R26E-S26;-S27	2023	450.8	58.2
MIDWAY	GP20	T28N-R24E-S25	2023	81.2	14.3
MIDWAY	MB1	T27N-R27E-S31	2023	138.3	24.3
MIDWAY	MB8	T27N-R27E-S30	2023	27.4	4.8
MIDWAY	NT1	T27N-R26E-S35	2023	106.8	18.8
MIDWAY	RM6	T26N-R25E-S22;-S27	2023	57.0	10.0
MUKILTEO	DM30	T28N-R26E-S19;-S30	2023	29.2	3.9
MUKILTEO	GP20	T28N-R24E-S25	2023	83.9	11.1
MUKILTEO	MB1	T27N-R27E-S31	2023	86.9	11.5
MUKILTEO	NT1	T27N-R26E-S35	2023	57.3	7.6
MUKILTEO	RM6	T26N-R25E-S22;-S27	2023	61.1	8.1
MOUNT VERNON	DM30	T28N-R26E-S19;-S30	2023	28.9	5.6
MOUNT VERNON	GP20	T28N-R24E-S25	2023	115.5	22.5
MOUNT VERNON	MB1	T27N-R27E-S31	2023	115.4	22.5
MOUNT VERNON	NT1	T27N-R26E-S35	2023	146.2	28.5
MOUNT VERNON	RM6	T26N-R25E-S22;-S27	2023	28.7	5.6
PATEROS	GP20	T28N-R24E-S25	2023	26.3	26.3
PIERCE COUNTY	DM30	T28N-R26E-S19;-S30	2023	31.6	5.7
PIERCE COUNTY	GP20	T28N-R24E-S25	2023	403.5	73.0
PIERCE COUNTY	MB1	T27N-R27E-S31	2023	62.2	11.3
PIERCE COUNTY	NT1	T27N-R26E-S35	2023	782.3	141.6
SEDRON SERVICES	DG11	T27N-R26E-S26;-S27	2023	260.2	169.9
SEDRO-WOOLLEY	DG11	T27N-R26E-S26;-S27	2023	309.8	35.0
SOAP LAKE	RM6	T26N-R25E-S22;-S27	2023	52.8	52.8
SW SUBURBAN MILLER CR	GP20	T28N-R24E-S25	2023	28.8	6.6
SW SUBURBAN MILLER CR	MB1	T27N-R27E-S31	2023	114.8	26.3
SW SUBURBAN MILLER CR	NT1	T27N-R26E-S35	2023	114.3	26.2
SW SUBURBAN MILLER CR	RM6	T26N-R25E-S22;-S27	2023	57.4	13.2
SW SUBURBAN SALMON CR	GP20	T28N-R24E-S25	2023	85.3	18.3
SW SUBURBAN SALMON CR	MB1	T27N-R27E-S31	2023	85.6	18.4
SW SUBURBAN SALMON CR	NT1	T27N-R26E-S35	2023	56.7	12.2
SW SUBURBAN SALMON CR	RM6	T26N-R25E-S22;-S27	2023	56.7	12.2
TREE TOP INC.	MB1	T27N-R27E-S31	2023	50.2	3.8
TREE TOP INC.	NT1	T27N-R26E-S35	2023	57.9	4.3
TWISP	MB1	T27N-R27E-S31	2023	8.1	1.4
WENATCHEE	MB1	T27N-R27E-S31	2023	192.1	25.6

TOTAL STORAGE:

9,578.9	2,267.5
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¹ All biosolids stored and land applied separately.

² Biosolids not land applied in 2023 are placed in winter storage and will be land applied in 2024.

³ Dry tons are calculated using the respective annual average for total percent solids.

APPENDIX C

TABLE 6. 2023 SOIL SAMPLING DATA: CONVENTIONALS

TABLE 7. 2023 SOIL SAMPLING DATA: METALS

TABLE 8. 2023 WATER SAMPLING DATA

**BOULDER PARK PROJECT BENEFICIAL USE FACILITY
TABLE 6. 2023 SOIL SAMPLING DATA: CONVENTIONALS**

Site ID	Sample Type ¹	Date Recvd (Lab Rpt)	Sample ID	NO ₃ -N mg/kg	NH ₄ -N mg/kg	Exch. P mg/kg	Sulfate-S SO ₄ -S mg/kg	Potassium K ₂ O mg/kg	pH	Moisture in/acre ft	% Organic Matter
RT 1	reapp	3/31/2023	S23-05527	1.3	2.8	13	32	366	8.5	2.0	0.8
RT 4	reapp	3/31/2023	S23-05529	7.6	10.7	14	15	318	7.6	2.5	2.1
RT 2	reapp	3/31/2023	S23-05531	1.7	10.2	18	23	333	8.2	3.0	2.6
PW 2A	reapp	3/31/2023	S23-05533	7.0	5.2	36	17	249	7.6	1.9	1.9
PW 2	reapp	3/31/2023	S23-05535	7.3	8.1	36	12	364	7.5	1.9	2.0
PW 2A	reapp	3/31/2023	S23-05537	7.6	7.4	33	12	315	7.5	1.8	2.0
PW 2B	reapp	3/31/2023	S23-05539	2.6	6.1	31	11	276	7.8	1.7	1.7
DL 4	reapp	3/31/2023	S23-05541	1.8	3.4	19	13	331	7.1	1.7	1.1
DG 10	Pre	3/31/2023	S23-05543	3.4	2.4	9	126	494	7.7	1.5	0.9
RM 15	reapp	4/6/2023	S23-06014	1.4	5.2	11	10	362	7.3	2.1	1.1
LT 17	reapp	4/6/2023	S23-06016	1.5	4.1	13	12	298	7.7	2.0	0.8
MT 6	reapp	4/6/2023	S23-06018	2.7	6.0	15	9	618	7.0	2.0	2.0
MT 1	reapp	4/6/2023	S23-06020	3.5	5.3	18	10	576	7.4	2.4	1.2
MT 2	reapp	4/6/2023	S23-06022	5.7	6.2	20	9	534	6.8	2.0	1.1
RW 8	Pre	4/6/2023	S23-06024	1.3	4.6	11	74	473	7.3	1.7	1.1
DG 3	reapp	4/14/2023	S23-06547	2.7	3.2	19	11	397	6.9	2.2	1.3
DL 3	reapp	4/14/2023	S23-06549	3.8	3.9	21	12	407	7.8	2.3	1.2
GC 7B	reapp	4/14/2023	S23-06551	1.8	3.4	16	11	439	7.3	2.5	1.3
JT 26	Pre	4/14/2023	S23-06553	1.5	2.8	12	11	467	8.1	2.2	1.2
RJL 16	Pre	4/14/2023	S23-06555	1.8	1.9	9	79	261	7.7	2.6	1.3
MB 2	Pre	4/14/2023	S23-06559	1.0	4.3	11	5	524	7.4	2.0	0.9
RM 9	reapp	4/14/2023	S23-06561	2.4	4.4	17	8	551	8.0	2.1	1.3
RM 10	reapp	4/14/2023	S23-06563	2.4	4.2	18	10	576	7.8	2.0	1.3
RM 11	reapp	4/14/2023	S23-06567	3.6	3.7	14	10	491	6.9	2.3	1.3
RL 6	reapp	4/14/2023	S23-06565	4.4	4.7	27	15	558	6.9	2.2	1.4
RMG 10	Pre	5/12/2023	S23-08513	2.5	3.1	11	82	265	7.5	1.2	1.4
JS 11	reapp	5/12/2023	S23-08515	3.2	3.6	20	3	428	6.7	2.1	2.6
JS 12	reapp	5/12/2023	S23-08517	4.9	3.8	15	4	428	7.7	2.0	1.9
RL 11	Pre	5/12/2023	S23-08519	2.0	2.3	20	88	528	6.7	1.5	1.6
RL 12	Pre	5/12/2023	S23-08521	2.0	3.2	10	78	480	7.6	2.2	1.5
RL 16	Pre	5/12/2023	S23-08523	2.1	2.5	7	75	308	7.8	2.3	1.2
PW 2A	reapp	6/1/2023	S23-09691	3.3	5.0	42	11	309	7.5	2.1	1.7
JP 9	reapp	6/1/2023	S23-09693	3.9	3.2	16	4	431	6.9	1.7	1.2
JP 10	reapp	6/1/2023	S23-09695	3.8	2.5	14	7	425	6.8	1.7	1.2
RW 14	reapp	6/13/2023	S23-10457	6.3	1.4	28	3	286	8.5	0.9	2.1
RW 6	reapp	6/13/2023	S23-10459	13.8	2.4	39	56	490	7.1	1.3	1.9
RW 1	reapp	6/13/2023	S23-10461	12.4	2.9	45	9	627	7.3	1.3	2.5
RW 5	reapp	6/13/2023	S23-10463	11.5	0.6	44	7	444	6.5	1.2	2.3
RW 6	reapp	6/16/2023	S23-10832	17.4	5.6	35	5	404	6.1	1.5	1.4
RW 1	reapp	6/16/2023	S23-10833	13.1	6.3	35	7	459	6.5	1.2	1.2
TD 1	reapp	6/19/2023	S23-10843	7.1	0.9	19	94	416	5.8	1.6	2.9
TD 6	Pre	6/19/2023	S23-10845	5.6	2.1	15	79	376	6.2	1.7	1.1
NT 2	Pre	6/19/2023	S23-10847	2.6	0.8	12	97	553	6.8	0.7	0.8
RW 5	reapp	6/19/2023	S23-10849	10.6	2.1	27	6	454	6.7	1.3	1.4
DM 38	Pre	6/26/2023	S23-11483	5.5	2.8	12	80	357	7.8	3.5	1.8
DL 8	Pre	6/26/2023	S23-11487	1.8	2.9	8	83	527	7.0	2.5	1.3
DG 3	reapp	6/28/2023	S23-11683	9.2	4.5	31	8	429	7.0	1.5	1.1
DT 14	reapp	8/28/2023	S23-18424	1.3	2.3	28	7	263	6.2	0.1	1.8

**BOULDER PARK PROJECT BENEFICIAL USE FACILITY
TABLE 6. 2023 SOIL SAMPLING DATA: CONVENTIONALS**

Site ID	Sample Type ¹	Date Recvd (Lab Rpt)	Sample ID	NO ₃ -N mg/kg	NH ₄ -N mg/kg	Exch. P mg/kg	Sulfate-S SO ₄ -S mg/kg	Potassium K ₂ O mg/kg	pH	Moisture in/acre ft	% Organic Matter
DT 3	reapp	8/28/2023	S23-18426	3.4	1.6	30	7	222	6.1	0.2	1.4
ST 1	reapp	8/28/2023	S23-18428	5.7	3.6	38	7	392	6.2	0.1	2.0
JT 22	Pre	8/28/2023	S23-18430	7.9	3.2	38	6	551	6.3	0.1	1.5
VB 9	Pre	9/7/2023	S23-19399	5.1	5.9	12	7	345	6.6	0.7	0.6
VB 10	Pre	9/7/2023	S23-19401	11.9	3.2	11	7	396	6.1	1.4	1.0
DM 30	Pre	9/7/2023	S23-19403	4.2	3.4	8	35	236	7.0	0.9	0.5
DM 36	Pre	9/7/2023	S23-19405	4.1	3.0	13	96	467	6.3	0.6	0.7
JT 21	Pre	9/7/2023	S23-19407	3.2	3.4	8	104	430	6.3	0.7	0.6
JT 20	Pre	10/2/2023	S23-23174	7.0	3.0	7	6	486	6.9	1.1	0.8
RJL 6	Pre	10/18/2023	S23-25965	4.7	1.8	8	9	183	7.5	0.8	1.2
GP 4,5	reapp	10/18/2023	S23-25967	2.6	1.2	28	8	268	6.1	0.4	0.9
GP 20MV	reapp	10/18/2023	S23-25969	3.5	2.6	28	12	302	6.3	0.5	0.9
GYP 1	reapp	10/18/2023	S23-25971	6.9	2.3	16	8	167	7.5	0.7	1.2
GJP 1	reapp	10/18/2023	S23-25973	4.2	3.6	41	9	3.5	6.2	0.5	1.2
LT 9	reapp	10/23/2023	S23-26363	8.1	5.0	57	10	542	5.6	0.4	1.7
DT 10	reapp	10/23/2023	S23-26365	9.6	3.0	30	9	416	6.1	0.5	1.6
LT 1	reapp	10/23/2023	S23-26367	11.6	6.4	61	11	347	5.5	0.3	2.0
LT 18	reapp	10/23/2023	S23-26369	7.3	2.9	28	4	377	6.4	0.4	1.1
LT 18	reapp	10/23/2023	S23-26371	8.1	3.0	24	8	477	6.7	0.6	1.4
LT 21	reapp	10/23/2023	S23-26373	4.3	2.9	26	7	313	6.5	0.3	1.0
DR 1	Pre	10/23/2023	S23-26375	6.4	2.8	24	9	272	7.3	0.7	1.3
JR 3	Pre	10/23/2023	S23-26377	6.6	2.7	31	5	306	6.2	0.9	1.2
DG 11	Pre	10/25/2023	S23-26788	4.2	1.0	14	83	551	6.6	0.5	1.2
JP 6	reapp	10/25/2023	S23-26786	9.2	4.2	24	11	542	6.1	0.6	1.1
JP 7	reapp	10/25/2023	S23-26784	16.8	6.5	30	11	457	5.7	0.9	0.9
LT 3	reapp	10/25/2023	S23-26782	3.8	1.5	39	5	347	6.1	0.4	1.4
LT 13	reapp	10/25/2023	S23-26780	2.9	1.3	33	5	306	6.1	0.5	1.2
LT 14	reapp	10/25/2023	S23-26778	4.5	2.5	20	1	303	6.5	0.6	0.6
LT 11&12	reapp	10/25/2023	S23-26776	22.1	5.5	41	12	423	6.5	0.8	1.5
LT 20	reapp	10/25/2023	S23-26774	4.2	2.6	18	5	381	6.9	0.7	0.9
DG 12	Pre	11/1/2023	S23-27237	3.8	2.2	10	7	302	7.0	0.2	1.7
NT 1	Pre	11/1/2023	S23-27239	2.4	1.6	11	4	606	7.1	0.5	1.0
MB 10	reapp	11/1/2023	S23-27241	17.2	5.5	16	26	534	8.3	1.1	0.9
MB 8	reapp	11/1/2023	S23-27243	7.8	4.0	16	35	576	7.7	1.0	0.7
MB 4	reapp	11/1/2023	S23-27245	14.0	5.4	20	12	518	7.0	1.1	0.5
MB 1	reapp	11/1/2023	S23-27247	7.7	4.6	16	17	570	7.0	1.3	0.7
MB 14	reapp	11/1/2023	S23-27249	4.0	2.7	12	31	663	8.9	1.9	1.0
MT 11	reapp	11/6/2023	S23-27746	5.8	3.3	18	7	756	7.5	0.7	1.9
JS 14	reapp	11/6/2023	S23-27748	4.5	3.3	12	8	367	7.3	0.6	1.1
RW 9	reapp	11/6/2023	S23-27750	7.2	4.6	25	10	320	6.9	0.5	1.2
RW 2	reapp	11/6/2023	S23-27752	17.4	7.4	29	93	337	6.9	0.6	1.3
RW 7	reapp	11/6/2023	S23-27754	7.8	5.1	25	7	382	6.4	0.6	1.4
RW 12	reapp	11/10/2023	S23-28341	11.0	11.9	31	13	365	7.3	1.2	2.3
RMG 1	reapp	11/10/2023	S23-28343	4.8	4.0	38	5	209	6.3	1.2	2.6
RMG 6A	reapp	11/10/2023	S23-28345	9.6	5.3	49	6	338	6.2	1.5	1.6
RMG 6B	reapp	11/10/2023	S23-28347	6.5	3.9	31	8	383	6.4	1.4	1.5
RMG 3	reapp	11/10/2023	S23-28349	4.5	3.9	45	6	280	6.1	1.3	2.0
RMG 5	reapp	11/10/2023	S23-28351	7.1	4.8	49	6	324	5.9	1.3	1.6

**BOULDER PARK PROJECT BENEFICIAL USE FACILITY
TABLE 6. 2023 SOIL SAMPLING DATA: CONVENTIONALS**

Site ID	Sample Type ¹	Date Recvd (Lab Rpt)	Sample ID	NO ₃ -N mg/kg	NH ₄ -N mg/kg	Exch. P mg/kg	Sulfate-S SO ₄ -S mg/kg	Potassium K ₂ O mg/kg	pH	Moisture in/acre ft	% Organic Matter
RMG 4	reapp	11/10/2023	S23-28353	12.9	4.2	31	9	324	6.2	1.4	2.8
RL 17	Pre	11/20/2023	S23-29280	12.0	2.7	9	6	240	7.9	1.5	1.3
RM 17	reapp	11/20/2023	S23-29282	6.3	2.9	9	9	448	8.2	1.5	1.2
RM 19	reapp	11/20/2023	S23-29284	5.5	2.0	11	9	511	7.2	1.1	1.0
RM 6	reapp	11/20/2023	S23-29286	5.8	2.7	16	6	444	6.9	1.0	1.0
RM 2	reapp	11/20/2023	S23-29288	4.2	3.4	23	5	424	6.7	1.0	1.1
RM 13	reapp	11/20/2023	S23-29290	6.2	3.7	17	4	579	6.7	1.3	1.2
RM 22	Pre	11/20/2023	S23-29292	2.3	4.1	12	4	587	7.2	1.1	1.0
MB 14	reapp	11/27/2023	S23-29723	5.5	2.6	19	91	717	7.1	1.8	2.2
MB 11	reapp	11/27/2023	S23-29721	4.8	2.7	17	5	400	6.5	1.4	1.2
JS 6	reapp	11/27/2023	S23-29719	8.2	2.2	18	4	396	7.0	1.6	1.8
JS 4	reapp	11/27/2023	S23-29717	3.4	1.9	24	5	219	6.7	1.1	1.0
JS 3	reapp	11/27/2023	S23-29715	4.8	2.0	24	6	206	6.9	1.1	1.3
JS 2	reapp	11/27/2023	S23-29713	5.5	2.5	24	10	281	6.5	1.1	1.0
GYP 9	reapp	11/27/2023	S23-29711	11.2	2.0	17	14	265	7.6	1.9	1.7
GJP 1	reapp	11/27/2023	S23-29707			21					
RMG 6A	reapp	11/27/2023	S23-29708			34					
RMG 5	reapp	11/27/2023	S23-29709			34					
RMG 3	reapp	11/27/2023	S23-29710			35					
MB 23	reapp	11/29/2023	S23-29952	5.9	4.6	17	8	346	6.7	1.5	1.6
MB 24	reapp	11/29/2023	S23-29954	4.0	3.7	15	13	543	8.2	1.5	1.3
BM 3	Pre	11/29/2023	S23-29956	2.3	3.7	9	6	653	7.2	1.6	1.9
DT 23A	reapp	11/29/2023	S23-29962	11.6	6.0	17	8	386	7.0	1.7	2.1
DT 24	reapp	11/29/2023	S23-29964	8.3	1.4	19	8	501	6.2	1.9	1.8
DT 23B	reapp	11/29/2023	S23-29966	17.9	3.6	32	8	586	5.6	1.4	1.7
GYP 3	reapp	11/29/2023	S23-29968	26.9	4.5	29	15	332	7.1	1.6	1.5
DT 26B	reapp	12/7/2023	S23-30273	5.1	6.2	21	5	455	6.2	0.6	1.3
DT 26A	reapp	12/7/2023	S23-30271	5.2	5.6	18	5	435	6.5	0.7	1.4
RJL 2	Pre	12/7/2023	S23-30269	6.7	4.8	13	6	450	7.8	0.8	1.6
RJL 7	Pre	12/7/2023	S23-30267	5.6	5.1	4	6	210	7.4	1.0	1.8

All samples are one-foot depth, 0"-12"

¹ "Pre" means a site has never been applied with biosolids and a sample was collected to establish background conditions ("PRE") and

"reapp" means the sample was collected from a site that has previously been land applied with biosolids.

BOULDER PARK PROJECT BENEFICIAL USE FACILITY

TABLE 7. 2023 SOIL SAMPLING DATA: METALS

Site ID	Sample Type ¹	Date Recvd (Lab Rpt)	Sample ID	As mg/kg	Cd mg/kg	Cr mg/kg	Cu mg/kg	Hg mg/kg	Mo mg/kg	Ni mg/kg	Pb mg/kg	Se mg/kg	Zn mg/kg
DG 10	Pre	3/31/2023	S23-05543	4.11	<0.19	5.3	13.0	0.007	0.3	7.6	2.26	2.1	45.0
RW 8	Pre	4/6/2023	S23-06024	5.59	<0.19	6.6	12.5	0.008	<0.08	9.3	2.35	1.9	42.0
JT 26	Pre	4/14/2023	S23-06553	5.15	<0.19	12.8	19.1	0.005	<0.08	12.6	9.52	3.3	41.0
RJL 16	Pre	4/14/2023	S23-06555	3.33	<0.19	9.1	11.4	0.008	0.2	8.1	2.93	<0.59	24.0
MB 2	Pre	4/14/2023	S23-06559	7.35	<0.19	7.5	14.9	0.005	<0.08	9.4	9.24	1.6	45.0
RMG 10	Pre	5/12/2023	S23-08513	3.4	<0.19	7.4	12.2	0.006	<0.08	6.8	2.12	0.9	30.0
RL 11	Pre	5/12/2023	S23-08519	2.62	<0.19	5.4	12.0	0.007	0.1	6.3	1.59	0.7	42.0
RL 12	Pre	5/12/2023	S23-08521	3.75	<0.19	7.4	14.3	0.007	<0.08	8.5	2.88	<0.59	40.0
RL 16	Pre	5/12/2023	S23-08523	2.2	<0.19	10.3	14.9	0.011	<0.08	9.0	3.25	1.3	30.0
TD 1	reapp	6/19/2023	S23-10843	2.78	<0.19	9.3	13.7	0.016	<0.08	8.3	4.34	1.3	41.0
TD 6	Pre	6/19/2023	S23-10845	4.48	<0.19	7.4	12.6	0.004	0.1	7.8	3.58	1.0	41.0
NT 2	Pre	6/19/2023	S23-10847	3.5	<0.19	5.0	12.7	0.005	<0.08	6.8	3.01	1.5	50.0
DM 38	Pre	6/26/2023	S23-11483	5.07	<0.19	5.7	11.2	0.005	<0.08	5.9	3.00	2.3	34.0
DL 8	Pre	6/26/2023	S23-11487	4.58	<0.19	5.0	11.8	0.006	<0.08	6.0	2.46	1.5	42.0
JT 22	Pre	8/28/2023	S23-18430	5.02	<0.19	4.9	11.5	0.008	0.2	6.5	1.75	1.5	44.0
VB 9	Pre	9/7/2023	S23-19399	5.07	<0.19	23.1	18.1	0.01	0.1	16.2	7.48	3.4	52.0
VB 10	Pre	9/7/2023	S23-19401	3.52	<0.19	22.3	20.1	0.01	<0.08	15.0	8.45	3.4	53.0
DM 30	Pre	9/7/2023	S23-19403	4.46	<0.19	11.5	13.3	0.005	0.1	10.1	4.39	<0.59	41.0
DM 36	Pre	9/7/2023	S23-19405	3.64	<0.19	13.0	14.8	0.007	0.4	10.6	4.56	4.2	57.0
JT 21	Pre	9/7/2023	S23-19407	4.7	<0.19	6.3	16.0	0.007	<0.08	9.0	2.12	3.2	51.0
JT 20	Pre	10/2/2023	S23-23174	5.09	<0.19	4.7	12.2	0.005	0.2	6.5	3.41	3.5	46.0
RJL 6	Pre	10/18/2023	S23-25965	5.44	<0.19	6.8	11.9	0.009	0.4	9.3	2.72	<0.59	25.0
DR 1	Pre	10/23/2023	S23-26375	4.55	<0.19	18.5	18.1	0.012	0.2	15.7	6.96	<0.59	39.0
JR 3	Pre	10/23/2023	S23-26377	3.72	<0.19	19.1	17.3	0.011	0.2	13.0	6.60	<0.59	41.0
DG 11	Pre	10/25/2023	S23-26788	3.29	<0.19	5.1	10.5	0.004	<0.08	5.8	3.50	1.2	40.0
DG 12	Pre	11/1/2023	S23-27237	3.53	<0.19	7.6	5.7	0.004	0.4	7.4	3.38	<0.59	28.0
NT 1	Pre	11/1/2023	S23-27239	5.22	<0.19	5.4	11.5	0.004	0.9	6.5	3.27	2.1	42.0
RL 17	Pre	11/20/2023	S23-29280	4.12	<0.19	9.2	13.8	0.01	0.1	12.0	4.60	<0.59	30.0
RM 22	Pre	11/20/2023	S23-29292	4.12	<0.19	3.6	10.9	0.004	<0.08	7.3	3.29	<0.59	42.0
BM 3	Pre	11/29/2023	S23-29956	4.28	<0.19	5.4	12.3	0.005	0.2	5.6	3.66	<0.59	39.0

All samples are one-foot depth, 0"-12"

¹ "Pre" means a site has never been applied with biosolids and a sample was collected to establish background conditions ("PRE") and "reapp" means the sample was collected from a site that has previously been land applied with biosolids.

BOULDER PARK PROJECT BENEFICIAL USE FACILITY
TABLE 8. 2023 WATER SAMPLING DATA

Site ID	Township -Range	WRIA	Collection Date	Sample ID	F. Coliform CFU/100 ml	NH3-N mg/L	NO3+NO2 mg/L	Cl mg/L	TDS mg/L
5	T28N-R24E	50	10/9/23	WDJ0652-06	1		5.64		285
7	T27N-R24E	50	10/9/23	WDJ0652-07	ND		ND	10.9	30000
8	T28N-R24E	50	10/9/23	WDJ0652-04	ND		0.311		199
11	T28N-R25E	50	10/9/23	WDJ0652-05	TNTC	0.022	ND		
14	T27N-R25E	50	10/9/23	WDJ0652-02	ND		0.278	7.36	267
22	T27N-R24E	50	10/9/23	WDJ0652-09	ND		9.13		421
28	T27N-R24E	50	10/9/23	WDJ0652-11	ND		4.59		234
30	T25N-R25E	44	10/10/23	WDJ0775-01	3		3.99		272
42	T28N-R26E	50	10/10/23	WDJ0775-06	1		10.1		654
42*	T28N-R26E	50	12/13/23	YDL0367-01	<1		8.17		347
54	T27N-R25E	50	10/9/23	WDJ0652-01	ND		14.5		415
69	T28N-R26E	50	10/10/23	WDJ0775-07	ND		14.5	9.33	478
70	T27N-R28E	50	10/10/23	WDJ0775-03	ND		0.263		316
71	T27N-R25E	50	10/9/23	WDJ0652-03	ND		13.4		383
73	T28N-R26E	50	10/10/23	WDJ0775-04	ND		1.22		282
82	T27N-R24E	50	10/9/23	WDJ0652-08	ND		17.9		258
101	T28N-R26E	50	10/10/23	WDJ0775-05	ND		7.33		464
107	T27N-R28E	50	10/10/23	WDJ0775-02	ND		21.5		498
157	T26N-R24E	44	10/9/23	WDJ0652-10	ND		10.1	6.57	320
158	T23N-R21E	44	10/11/23	WDJ0892-02	ND		0.823	3.19	180
<i>Groundwater Quality Criteria¹:</i>									
					0	na	10	250	500

Site ID	Township -Range	WRIA	Collection Date	Sample ID	As ² mg/L	Cd mg/L	Cr mg/L	Cu mg/L	Hg mg/L	Mo mg/L	Ni mg/L	Pb mg/L	Se mg/L	Zn mg/L
7	T27N-R24E	50	10/9/23	WDJ0652-07	ND	ND	ND	0.0592	ND	0.00189	ND	ND	ND	0.0323
14	T27N-R25E	50	10/9/23	WDJ0652-02	ND	ND	ND	0.00146	ND	0.00278	ND	ND	ND	0.0503
69	T28N-R26E	50	10/10/23	WDJ0775-07	0.00122	ND	ND	ND	ND	0.00157	ND	ND	0.00137	0.0211
157	T26N-R24E	44	10/9/23	WDJ0652-10	0.00144	ND	ND	0.00111	ND	0.0026	ND	ND	0.00218	0.0646
158	T23N-R21E	44	10/11/23	WDJ0892-02	ND	ND	ND	0.0021	ND	ND	ND	ND	ND	0.0888
<i>Groundwater Quality Criteria¹:</i>														
					0.00005	0.01	0.05	1.0	0.002	na	na	0.05	0.01	5.0

* indicates a retest

"na" means not applicable

"ND" means not detected

"TNTC" means Too Numerous To Count

¹ Water Quality Standard for Groundwaters of the State of Washington, Chapter 173-200 Washington Administrative Code

² WA Dept. of Health states arsenic can enter wells via natural processes and drinking water in WA typically contains less than 3 ppb (or 0.003) arsenic. Pub. #3334-156, Feb. 2014.