

ROCKY FLATS STEWARDSHIP COUNCIL

P.O. Box 17670

(303) 412-1200

Boulder, CO 80308-0670

www.rockyflatssc.org

Jefferson County ~ Boulder County ~ City and County of Broomfield ~ City of Arvada ~ City of Boulder
City of Golden ~ City of Northglenn ~ City of Thornton ~ City of Westminster ~ Town of Superior
League of Women Voters ~ Rocky Flats Cold War Museum ~ Rocky Flats Homesteaders
Kim Griffiths

Special COVID-19 Announcement

Board of Directors Meeting

Monday, September 14, 2020, 8:30 – 10:15 AM

Due to COVID-19 social distancing requirements, the Rocky Flats Stewardship Council Board of Directors will meet via WebEx, with an internet/phone link provided by separate notice. The meeting is open to the public. Following the direction of local governments and other public entities throughout Colorado, public engagement is being modified for this virtual meeting.

To ensure the meeting participants are able to hear the information being presented and the members of the Board of Directors are able to engage in conversation, the following meeting-specific protocols have been developed:

1. Public comments during the 8:40 am (approximate time) public comment period are limited to two minutes. Participants must sign up in advance by emailing a request to speak to info@rockyflatssc.org. Requests must be made no later than 5:00 pm (MDT), Thursday, September 10, 2020. Persons submitting requests after this deadline will not be allowed to speak during the public comment period.
2. Public comments on the DOE Quarterly Report presentation are limited to written comments. Comments must be sent to info@rockyflatssc.org. All comments sent by 5:00 pm (MDT), Thursday, September 10, 2020, will be forwarded to the Board of Directors prior to the meeting. Comments sent during or following the meeting are also accepted.
3. All written comments, including those sent during or following the meeting, will be posted on the Stewardship Council website 1-2 weeks following the September 14, 2020, meeting.
4. DOE has agreed to respond in writing to comments offered on that agency's annual report. Those responses will be posted on the Stewardship Council website.

Please direct any questions to dabelson@rockyflatssc.org

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Board of Directors Meeting – Agenda

Monday, September 14, 2020, 8:30 – 10:15 AM

VIA WEBEX

Email info@rockyflatssc.org for WebEx details

- 8:30 AM Convene/Introductions/Agenda Review
- 8:40 AM Public Comment: Comments are limited to the Consent Agenda and non-agenda items. See the “Special COVID-19 Announcement” for details.
- 8:50 AM Business Items
1. Consent Agenda
 - Approval of meeting minutes and checks
 2. Executive Director’s Report
- 9:00 AM Host DOE Quarterly Meeting (briefing memo attached)
- DOE will brief on site activities for the first quarter of 2020.
 - DOE has posted the report on its website and will provide a summary of its activities to the Stewardship Council.
 - Activities included surface water monitoring, groundwater monitoring, ecological monitoring, and site operations (inspections, maintenance, etc.).
- Public Comment on DOE Briefing: As explained in the “Special COVID-19 Announcement,” all comments must be submitted in writing.
- 9:45 AM 2021 Work Plan – Initial Review (briefing memo attached)
- The Board will review and edit the draft 2021 work plan.
 - Formal approval of the work plan will take place at the October 26th meeting.
- 10:00 AM 2021 Budget – Initial Review (briefing memo attached)
- The Board will review, and modify as necessary, the draft 2021 budget.

- The budget hearing and adoption of the 2021 budget will take place at the October 26th meeting.

Board Roundtable – Big Picture/Additional Questions/Issue Identification

Adjourn

Upcoming Meetings: October 26

Business Items

- June 8, 2020, draft board meeting minutes
- List of Stewardship Council checks

DOE Quarterly Report Briefing

- Cover memo
- Selection of the quarterly report

ROCKY FLATS STEWARDSHIP COUNCIL
Monday, June 8, 2020, 8:30 – 10:00 AM
Virtual Meeting via WebEx

Board members in attendance: Nancy Ford (Arvada), Sandra McDonald (Alternate, Arvada), Matt Jones (Director, Boulder County), Summer Laws (Alternate, Boulder County), Mirabai Nagle (Alternate, City of Boulder), Deven Shaff (Director, Broomfield), Heidi Henkel (Alternate, Broomfield), David Allen (Alternate, Broomfield), Jim Dale (Director, Golden), Libby Szabo (Director, Jefferson County), Joyce Downing (Director, Northglenn), Sophie Porcelli (Alternate, Northglenn), Mark Lacin (Director, Superior), Ken Lish (Alternate, Superior), Jan Kulmann (Director, Thornton), Emily Hunt (Alternate, Thornton), Kathryn Skulley (Director, Westminster), Rich Seymour (Alternate, Westminster), Lindie Aragon (Alternate, Westminster), Jeannette Hillery (Director, League of Women Voters), Linda Porter (Alternate, League of Women Voters), Roman Kohler (Rocky Flats Homesteaders), Murph Widdowfield (Rocky Flats Cold War Museum), Kim Griffiths (Director/Citizen).

Stewardship Council staff members and consultants in attendance: David Abelson (Executive Director), Melissa Weakley (Technical Program Manager), Barb Vander Wall (Seter & Vander Wall, P.C), Erin Rogers (consultant).

Attendees: Scott Surovchak (DOE-LM), Andy Keim (DOE-LM), Gwen Hooten (DOE-LM), Karen Edson (DOE-LM), Peter O’Konski (DOE-LM), Nicole Lachance (Navarro), Chris Stewart (Navarro), Jody Nelson (Navarro), Dana Santi (Navarro), John Boylan (Navarro), George Squibb (Navarro), Jesse Aviles (EPA), Lindsey Archibald (CDPHE), Lindsey Masters (CDPHE), Laura Hubbard (Broomfield), Trea Nance (Westminster), Nell Salzman (Westword), Heather Pruitt (auditor), Eric Barnes (auditor), Lynn Segal (citizen), Nancy Wolfe (citizen).

Convene/Agenda Review

Chair Joyce Downing convened the meeting at 8:37 a.m. David Abelson noted that the Board sent out information in advance of the meeting requiring anyone wishing to provide public comment to sign up in advance. No requests for public comment were received. He said one comment was received from Lynn Segal, which was shared with the Board and would be posted to the website. He also noted that the Executive Committee decided to hold this meeting virtually.

Consent Agenda

The Board moved on to the consent agenda, which included approval of the minutes from the February meeting and the checks written since the last meeting. David Abelson noted one typo on the February minutes that would be corrected.

Joyce Downing moved to approve the February Board minutes as amended and the checks. The motion was seconded by Matt Jones. The motion to accept the minutes and checks passed 14-0.

Executive Director’s Report

David Abelson began by sharing the information that DOE-Legacy Management had provided the RFSC with another round of funding. This funding applies to the grant cycle beginning March 1, 2020 through

February 28, 2021. He said there was no deduction for \$4,500 of carryover funds, but this would likely be addressed during the next grant period.

David also noted that CDPHE was in the process of reviewing the soil sampling analysis from the Jefferson Parkway Public Highway Authority (JPPHA). However, the timeline for completion of the review was pushed back to late June or early July. He said there would also be a public comment process.

David shared that during the pandemic there had been a significant increase in visitor use at the Rocky Flats National Wildlife Refuge. He added that local county health departments made a request to the US Fish and Wildlife Service to allow the Refuge to stay open in order to allow people to get outdoors during this time.

Receive Stewardship Council 2019 Financial Audit

David Abelson introduced a review of the Board's 2019 audit. He explained that the Stewardship Council is not required by either state law or the DOE grant to secure an audit. However, the Board has always operated according to a belief that an independent audit is an important check that confirms both the Board and staff are managing the finances in accordance with applicable laws and regulations.

Eric Barnes with Fiscal Focus Partners was on hand to present the audit to the Board and answer any questions. Eric began by summarizing that the audit resulted in a 'clean opinion', as it had each year. Heather Pruitt, the manager who prepared the audit, explained that their work involved obtaining an understanding of the Board's financial processes and then to develop tests to get to level of assurance on balances. She noted that the Board's processes were working as intended. She referred to page 5 of the report, which showed the budget-to-actual comparison. She noted a small upcoming change to the totals, which was not significant to their findings. She said that the total 2019 expenditures were less than the amount approved by the Board. The Stewardship Council was found to be in compliance with all applicable laws and regulations.

Jeannette Hillery moved to accept the Stewardship Council 2019 Financial Audit. The motion was seconded by Roman Kohler. The motion passed 14-0.

Host DOE Quarterly Meeting

DOE was on hand to brief the Board regarding on the 2019 Annual Report. Annual Reports are required as part of the Rocky Flats Legacy Management Agreement (RFLMA) to document that the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) remedy continues to be protective of people and the environment. The Stewardship Council was previously briefed on the first, second and third quarters of 2019. The full report is posted on the Rocky Flats website.

The Rocky Flats Site remedy components include:

- Maintain two landfill covers
- Maintain three groundwater treatment systems
- Monitor surface water and groundwater

- Maintain physical controls
 - Signage
 - Access restriction
- Institutional controls
 - No occupied building construction
 - Excavation and soil-disturbance restrictions
 - No surface water consumption or agricultural use
 - No groundwater wells, except for monitoring
 - Protection of landfill covers and engineered remedy components

Activities included surface water monitoring, groundwater monitoring, ecological monitoring, and site operations (inspections, maintenance, etc.).

Surface Water Monitoring – George Squibb

George began with a quick review of the monitoring requirements and map of locations and monitoring sites, noting the list constituents which are monitored for.

At both the Original Landfill (OLF) on Woman Creek and the Present Landfill (PLF), quarterly concentrations for all analytes were below applicable RFLMA standards during all of calendar year (CY) 2019.

Turning to points of evaluation (POEs), George noted that the 12-month rolling average for plutonium concentrations at location SW027 were above the RFLMA standard of 0.15 picocuries per liter (pCi/L)—a reportable condition under the RFLMA—for January through April 2019 (note: see RFLMA Contact Record (CR) 2019-01). Due to the very small volumes of water monitored at SW027 in 2019, no new composite samples could be collected.

Concentrations at the Woman Creek point of compliance (WOMPOC), downstream of SW027, remained well below 0.15 pCi/L. No other RFLMA point of evaluation (POE) analyte concentrations were reportable during 2019.

Finally, George reported that no RFLMA point of compliance (POC) analyte concentrations were reportable during 2019.

Groundwater Monitoring – John Boylan

John first reviewed the RFLMA monitoring network, which includes:

- 10 Resource Conservation and Recovery Act (RCRA) wells (sampled quarterly to evaluate potential impacts from OLF and PLF)
- 9 Area of Concern (AOC) wells and one Surface Water Support location (sampled semiannually). These are located in drainages downstream of contaminant plumes and are evaluated for plumes discharging to surface water.
- 27 Sentinel wells (sampled semiannually). These are downgradient of treatment systems, edges of plumes, and in drainages, and are used to look for plumes migrating to surface water and treatment system problems.

- 42 evaluation wells (sampled biennially – will occur second quarter 2020). These are located within plumes, near source areas, and interior of Central Operable Unit (COU) and are used to evaluate whether monitoring of an area or plume can cease.
- 9 treatment system locations (seven are sampled semiannually, and two are quarterly)

During 2019, all sites were sampled, with the exception of the evaluation wells, and results were generally consistent with previous data. Several locations were dry when visited for sampling.

- Second and fourth quarters: two wells that are often or usually dry
- Fourth quarter: five other locations that are not usually dry
 - All in Walnut Creek drainages
 - May reflect lingering effects of recent dry years (2016 and 2018) and drier third quarter

As of fourth quarter, AOC well 10304 was no longer reportable for trichloroethene (TCE)

- See Consultation Posting 010819
- Concentration reported in fourth quarter sample: 2.1 ug/L, below TCE standard of 2.5 ug/L
- TCE was not detected in any of the samples collected from nearby Woman Creek location SW10200 (sampled in response to reportable condition)

Data are presented and evaluated in the 2019 annual report.

John also explained that during 2019 OLF and PLF data was used to perform statistical comparisons of downgradient water quality with upgradient water quality. Results were the same as in previous years for both landfills. They also looked at whether downgradient groundwater showed increasing concentration trends. Results were almost the same as in previous years. The only difference was at the PLF. Here they identified increasing trends in boron in all three downgradient wells (previously confirmed in one well). The highest concentration ever reported was 150 ug/L, well below RFLMA standard of 750 ug/L.

None of the constituents identified in these statistical evaluations were volatile organic compounds (VOCs) or semi-volatile organic compounds (SVOCs). During the year, they also identified decreasing trends in downgradient groundwater and increasing trends in upgradient groundwater.

DOE also performed statistical trending calculations for sentinel wells. As in other years, they were able to identify numerous concentration trends, both increasing and decreasing. The statistical evaluations followed two different approaches, as was done in the 2018 annual report. There were differences in how non-detects were treated.

- “Conventional” approach is the same as has been used since pre-closure era
- “Alternate” approach focuses on data collected starting in 2009, for constituents detected in at least 40% of the samples from a given well.

Results from both approaches are summarized in the text of the report and presented fully in an appendix.

John reported that the primary groundwater treatment systems continued to remove contaminants. The total flow at each system in 2019 was less than calculated annual average.

- East Trenches Plume Treatment System (ETPTS) - Met all treatment objectives for both collection/treatment systems (Mound and East Trenches)
- Solar Ponds Plume Treatment System (SPPTS) - Met nitrate treatment objectives except for a few instances in February and April
 - Removed approximately 35% of the uranium
 - Uranium treatment evaluation continued. Testing is based on in-situ tests being conducted at other Office of Legacy Management (LM) sites (e.g., Rifle, Shiprock). Plans for procuring design firm and associated work will be 2020-2021 focus).

John next spoke about the effort involving split sampling with Colorado Department of Public Health and Environment (CDPHE) during the fourth quarter of 2019. Six wells were selected for sampling (one RCRA well, four sentinel wells, and one AOC well). The CDPHE team accompanied the LM team during the project. They collected two sets of samples for RFLMA-required analytes at each location (one for LM, one for CDPHE). AOC well 10304 (reportable for TCE through second quarter) was included. They also included concurrent grab sampling in Woman Creek per Consultation Posting 010819 (represents a seventh sample location). The analytical results were comparable, with only minor differences consistent with typical environmental variability and laboratory uncertainty. See the Annual Report for additional details.

John concluded by presenting the big-picture results since the site closed:

- Overall groundwater quality has not changed dramatically
- Treatment systems are collecting and treating more contamination

Site Operations – Jody Nelson

Jody reviewed the Site Operations activities for 2019, beginning with RFLMA-required physical controls. Signs were inspected quarterly and reattached or replaced as needed.

Additional inspections and records confirmations included:

- Restrictive Notice (formerly the Environmental Covenant)
 - Confirmed in Administrative Record and on file in Jefferson County records (March 19, 2019)
- Annual site inspection was conducted on March 26, 2019
 - No evidence of violations of institutional or physical controls was observed
 - No adverse biological conditions were noted
- Former building areas (B371, B771, B881, and B991) were inspected as a Best Management Practice, in addition to their inclusion in the annual site inspection
 - Quarterly, and after significant precipitation events in March, May, and July (five total)
 - No issues observed, except at B881. Small depression (3 feet in diameter, 3 feet deep) found on B881 in fourth quarter inspection

Site operations also included the performance of quarterly and weather-related inspections of the PLF (six inspections in 2019). The landfill was found to be in good condition, with no significant issues

identified. PLF settlement monuments are also surveyed annually, and vertical settling at each monument was within design limits.

Monthly and weather-related inspections were performed at the OLF (13 in 2019). Eight settlement monuments were surveyed quarterly, and vertical settling at each monument was within design limits. An OLF Stabilization project was ongoing, as of April 23, 2020:

- 246 of 265 anchors were installed and locked off
- Interceptor collection trenches were installed
- Earthwork continued

At the North Walnut Creek Slump, visual observations were made weekly throughout the year, and slump monitoring points were surveyed monthly as a Best Management Practice. Visual observations and monitoring data showed slope creep, with greater movement during wetter periods. A slope stability evaluation and cost estimate was completed, but additional data is required for a final recommendation.

Jody completed his briefing by noting a few other miscellaneous Site Operations activities. Site roads were regraded, and dust suppressant applied to the primary routes (July through September), and a few other spots were repaired. Site erosion controls were monitored and maintained. He also noted that the U.S. Fish and Wildlife Service wildlife refuge surrounding COU was open.

Site Ecology – Jody Nelson

Jody reported on vegetation management activities:

- Herbicide applications (approximately 269 acres treated by broadcast and spot spraying in 2019)
- Interseeding and revegetation (approximately 1.9 acres were revegetated as part of a project in 2019)

Ecological monitoring included:

- Revegetation monitoring
 - 13 areas monitored
 - Eight continue to meet success criteria
 - Five were newer revegetation areas
- Preble’s meadow jumping mouse mitigation monitoring
 - Habitat continues to establish at mitigation locations
- Wetland mitigation monitoring
- Forb nursery monitoring
 - Wildflowers continue to establish and spread

Wildlife monitoring included:

- Prairie dog monitoring
 - No active prairie dog towns within the COU
- Nest boxes
 - 16 of 25 nest boxes were active in 2019 (tree swallows and house wrens)
- Raptor nests
 - One Swainson’s hawk nest observed in COU in 2019
- Elk

Following the presentations, Board members were given the opportunity to ask questions. David Allen asked George about reportable conditions for plutonium at SW027. In April 2019, the reportable condition ended. Three samples were able to be taken in March and April 2020. All individual results have been well below the standard.

David Allen referred to John's comment about nitrate levels at the SPPTS in February and April, and asked him how far off the levels were from what they expected. John said there were a few elevated samples, but the rest were non-detects. David asked Jody for the vertical settling design limits for monuments. DOE will follow up with an answer.

Board Roundtable

Jeannette Hillery noted the COVID effect on the 2020 Census, and said she hoped that the local communities were working to get good results.

Mark Lacis referred to an April 9 press release that pertained to research by Dr. Michael Ketterer on soil sampling near the former east gate of Rocky Flats. Mark said that Ketterer identified 40 respirable-sized hot particles. Mark wanted to hear what David Abelson and CDPHE thought about the press release. David said that it was important information, in that it confirmed that historic and current sampling results were in alignment. He said it also served to expand the historical timeframe of data collected. David noted that for years before Ketterer began his work, particles had been found both east and west of Indiana. David emphasized that, while Ketterer seemed to be saying that he had found new information, there was fortunately nothing new in his findings. David also explained that the pathway involving respirable particles was considered when the cleanup scenario was agreed upon. David also thought it was curious that Ketterer and his team performed digging in areas of known contamination without protective gear. Lindsay Masters with CDPHE said that they included the 'hot particle' theory in the analysis they will be publishing and will talk further about this over the next couple of months. She also said that CDPHE had reached out to Ketterer and has seen his data. She said it did not show any contamination above current standards. She agreed with David that there was nothing new in the dataset that was not already known. Mark asked Lindsay whether CDPHE was considering re-visiting the appropriateness of the 50 pCi/g plutonium cleanup standard. She said she did not know whether there were plans to make a statement on this.

Deven Shaff referred to information he saw about the Rocky Mountain Greenway trail being completed in spring of 2023 and said he had not heard about it before. He asked whether this had been discussed within the RFSC. David Abelson said it had been extensively discussed. He noted that the USFWS was in the process of changing the location of some trails, which is why they did some sampling. The Greenway Trail was being designed to connect three metro area National Wildlife Refuges (Rocky Mountain Arsenal, Two Ponds and Rocky Flats) with Rocky Mountain National Park. David that the Fish and Wildlife Service was getting ready to issue an Environmental Assessment for this project in next month or so. He said there would be a public comment period, but no details are known at this point. David added that six local governments have done independent sampling pertaining to the trail access points.

Big Picture/Additional Questions/Issue Identification

September 9, 2020

Potential Business Items

- Work plan budget

Potential Briefing Items

- DOE Quarterly Update
- CDPHE sampling

October 28, 2020

Potential Business Items

- New member interviews

Potential Briefing Items

- TBD

Issues to watch:

- Soil sampling results
- Dam Breach
- Uranium exceedances in surface water
- Trichloroethylene (TCE) exceedances in groundwater

The meeting was adjourned at 9:45 a.m.

Respectfully submitted by Erin Rogers.

Rocky Flats Stewardship Council
Check Detail 2020
May 14 through August 28, 2020

Type	Num	Date	Name	Account	Paid Amount	Original Amount
Check		05/28/2020		CASH-Wells Fargo-Operating		-3.50
				Admin Services-Misc Services	-3.50	3.50
TOTAL					-3.50	3.50
Check		06/30/2020		CASH-Wells Fargo-Operating		-3.50
				Admin Services-Misc Services	-3.50	3.50
TOTAL					-3.50	3.50
Check		07/31/2020		CASH-Wells Fargo-Operating		-3.50
				Admin Services-Misc Services	-3.50	3.50
TOTAL					-3.50	3.50
Check	2045	06/08/2020	Century Link	CASH-Wells Fargo-Operating		-27.05
				Telecommunications	-27.05	27.05
TOTAL					-27.05	27.05
Bill Pmt -Check	2046	06/08/2020	Crescent Strategies, LLC	CASH-Wells Fargo-Operating		-8,099.74
Bill	5/31/20 Billing	05/31/2020		Personnel - Contract	-7,750.00	7,750.00
				TRAVEL-Local	-18.40	18.40
				Postage	-15.99	15.99
				Telecommunications	-99.95	99.95
				Admin Services-Misc Services	-215.40	215.40
TOTAL					-8,099.74	8,099.74
Bill Pmt -Check	2047	06/08/2020	Energy Communities Alliance	CASH-Wells Fargo-Operating		-950.00
Bill	2020-2021	06/01/2020		Subscriptions/Memberships	-950.00	950.00
TOTAL					-950.00	950.00
Bill Pmt -Check	2048	06/08/2020	Jennifer A. Bohn	CASH-Wells Fargo-Operating		-266.00
Bill	20-38	05/31/2020		Accounting Fees	-266.00	266.00
TOTAL					-266.00	266.00
Bill Pmt -Check	2049	06/08/2020	Seter & Vander Wall, P.C.	CASH-Wells Fargo-Operating		-905.00
Bill	80407	04/30/2020		Attorney Fees	-301.75	301.75
Bill	80559	05/31/2020		Attorney Fees	-603.25	603.25
TOTAL					-905.00	905.00
Check	2050	07/12/2020	Century Link	CASH-Wells Fargo-Operating		-26.25
				Telecommunications	-26.25	26.25
TOTAL					-26.25	26.25
Bill Pmt -Check	2051	07/12/2020	Crescent Strategies, LLC	CASH-Wells Fargo-Operating		-7,884.34
Bill	6/30/20 Billing	06/30/2020		Personnel - Contract	-7,750.00	7,750.00
				TRAVEL-Local	-18.40	18.40
				Postage	-15.99	15.99
				Telecommunications	-99.95	99.95
TOTAL					-7,884.34	7,884.34
Bill Pmt -Check	2052	07/12/2020	Jennifer A. Bohn	CASH-Wells Fargo-Operating		-266.00
Bill	20-47	06/30/2020		Accounting Fees	-266.00	266.00
TOTAL					-266.00	266.00
Bill Pmt -Check	2053	07/12/2020	Seter & Vander Wall, P.C.	CASH-Wells Fargo-Operating		-745.45
Bill	80731	06/30/2020		Attorney Fees	-745.45	745.45
TOTAL					-745.45	745.45

9:37 AM
08/28/20

Rocky Flats Stewardship Council
Check Detail 2020
May 14 through August 28, 2020

Type	Num	Date	Name	Account	Paid Amount	Original Amount
Check	2054	08/09/2020	Century Link	CASH-Wells Fargo-Operating		-26.17
				Telecommunications	-26.17	26.17
TOTAL					-26.17	26.17
Bill Pmt -Check	2055	08/09/2020	Crescent Strategies, LLC	CASH-Wells Fargo-Operating		-7,884.34
Bill	7/31/20 Billing	07/31/2020		Personnel - Contract	-7,750.00	7,750.00
				TRAVEL-Local	-18.40	18.40
				Postage	-15.99	15.99
				Telecommunications	-99.95	99.95
TOTAL					-7,884.34	7,884.34
Bill Pmt -Check	2056	08/09/2020	Erin Rogers	CASH-Wells Fargo-Operating		-375.00
Bill	7/21/20 Billing	07/21/2020		Personnel - Contract	-375.00	375.00
TOTAL					-375.00	375.00
Bill Pmt -Check	2057	08/09/2020	Jennifer A. Bohn	CASH-Wells Fargo-Operating		-285.00
Bill	20-56	07/31/2020		Accounting Fees	-285.00	285.00
TOTAL					-285.00	285.00

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MEMORANDUM

TO: Stewardship Council Board of Directors
FROM: Melissa Weakley
SUBJECT: DOE's Quarterly Report (First Quarter 2020) Briefing
DATE: August 19, 2020

DOE will present an overview its Quarterly Report of Site Surveillance and Maintenance Activities for the First Quarter of 2020 (January–March). The report can be accessed here:

https://www.lm.doe.gov/Rocky_Flats/1Q20_RFS.pdf. This report includes information on the remedy-related surveillance, monitoring, and maintenance activities conducted during the quarter.

Quarterly Report highlights are included below.

- **COVID-19 Protocols:** On March 26, 2020, DOE initiated “Minimum Safe” (Min Safe) operational requirements and protocols in response to the coronavirus pandemic. Min Safe entails minimizing staff presence and activities at all Legacy Management sites, including Rocky Flats and the associated office building. Only the most critical site activities were performed. Min Safe protocols were followed through the balance of the first quarter of 2020.
- **Present Landfill (PLF):** The PLF quarterly inspection was conducted on March 3, 2020. No issues were observed.
- **Original Landfill (OLF):** The OLF monthly inspections were conducted on January 15, February 20, and March 18, 2020.
 - During the January inspection, a 5-foot-long and 3-inch-deep tension crack was noted (see attached figure). No immediate actions were taken, as these conditions were determined to be stable by the OLF lead engineer. The tension crack will be addressed in the later stages of the OLF Stabilization Project.
 - No deficiencies were found during the February and March inspections.
- **Groundwater Treatment Systems (East Trenches Plume Treatment System, Mound Site Plume Collection System, Solar Ponds Plume Treatment System, and Present Landfill Treatment System):** Routine maintenance of all four systems was performed. No issues were noted.
- **Groundwater Monitoring:** Ten monitoring locations were sampled this quarter (see attached figure). Results were generally consistent with previous data and will be evaluated as part of the annual report for 2020.
- **Surface Water Monitoring:** During the quarter, 36 flow-paced composite surface water samples, 13 surface water grab samples, and 13 treatment system grab samples were collected and analyzed (see attached figure).

- All analyte concentrations at RFLMA Point of Evaluation locations GS10, SW027, and SW093 remained below reportable condition levels throughout the quarter. [*NOTE: SW027 was reportable for plutonium from June 2018 to April 2019.*]
- All analyte concentrations at RFLMA Point of Compliance locations WALPOC and WOMPOC also remained below reportable condition levels throughout the quarter.

Attachments

First Quarter 2020 Report Cover Page, Table of Contents, and Abbreviations

Original Landfill Figure

Rocky Flats Site Water Monitoring Location Figure

Analytical Results for Water Sampling

**Rocky Flats Site, Colorado,
Quarterly Report of
Site Surveillance and
Maintenance Activities
First Quarter
Calendar Year 2020**

July 2020



U.S. DEPARTMENT OF
ENERGY

Legacy
Management

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Appendixes

- Appendix A Landfill Inspection Forms and Survey Data, First Quarter 2020
- Appendix B Analytical Results for Water Samples, First Quarter 2020

Abbreviations

Am	americium
AMP	Adaptive Management Plan
AOC	Area of Concern
BMP	best management practice
CAD/ROD	Corrective Action Decision/Record of Decision
COU	Central Operable Unit
CY	calendar year
DOE	U.S. Department of Energy
ESSD	East Subsurface Drain
ETPTS	East Trenches Plume Treatment System
IC	institutional control
LM	Office of Legacy Management
µg/L	micrograms per liter
mg/L	milligrams per liter
Min Safe	Minimum Safe
MSPCS	Mound Site Plume Collection System
MSPTS	Mound Site Plume Treatment System
N	nitrogen
NTP	Notice to Proceed
OLF	Original Landfill
pCi/L	picocuries per liter
PLF	Present Landfill
PLFTS	Present Landfill Treatment System
POC	point of compliance
POE	point of evaluation
Pu	plutonium
RCRA	Resource Conservation and Recovery Act
RFLMA	<i>Rocky Flats Legacy Management Agreement</i>
RFSOG	<i>Rocky Flats Site, Colorado, Site Operations Guide</i>
SPPTS	Solar Ponds Plume Treatment System

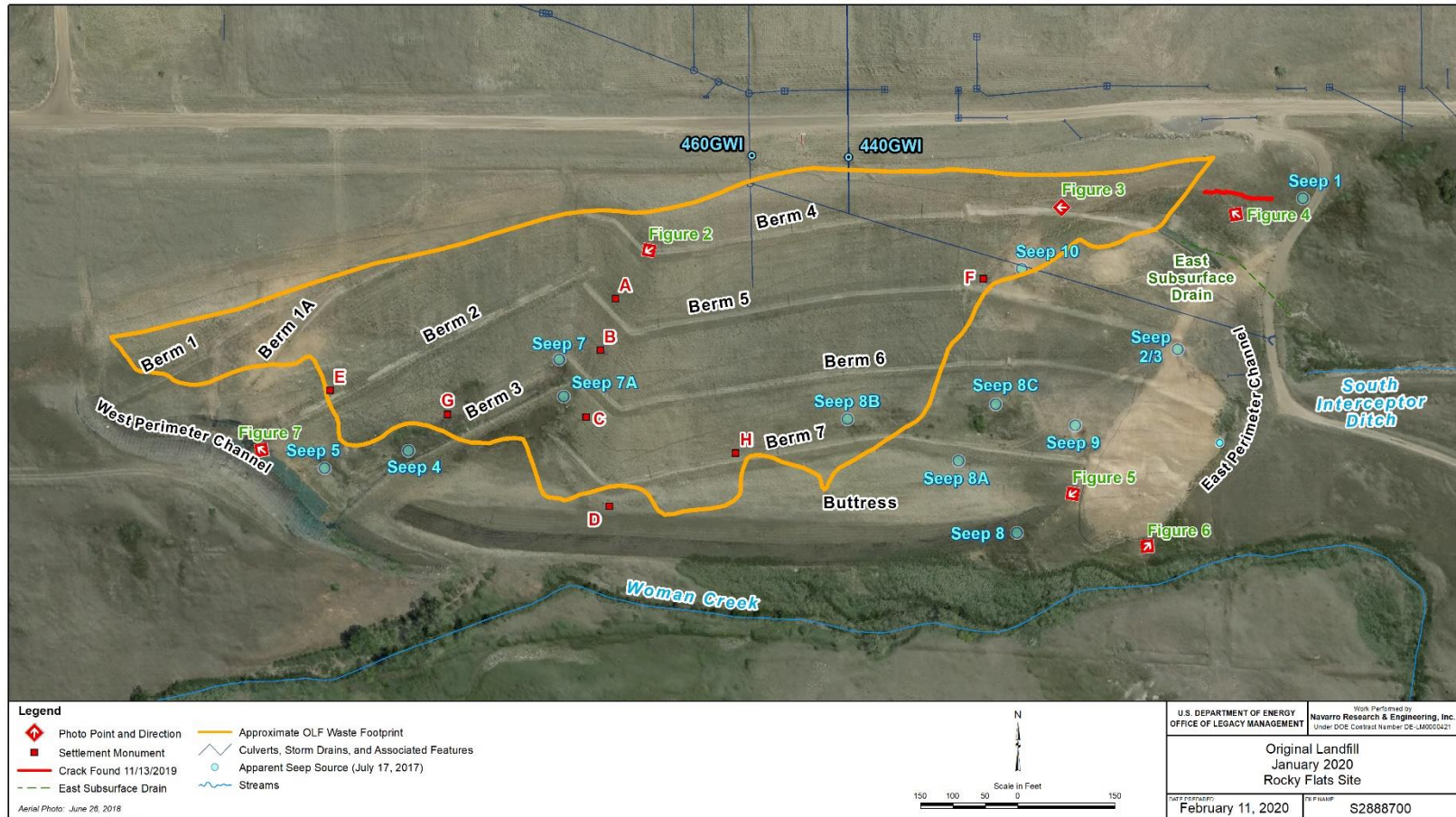


Figure 1. OLF Key Features and Locations, and Direction of Report Figure Photographs, Rocky Flats Site, Colorado

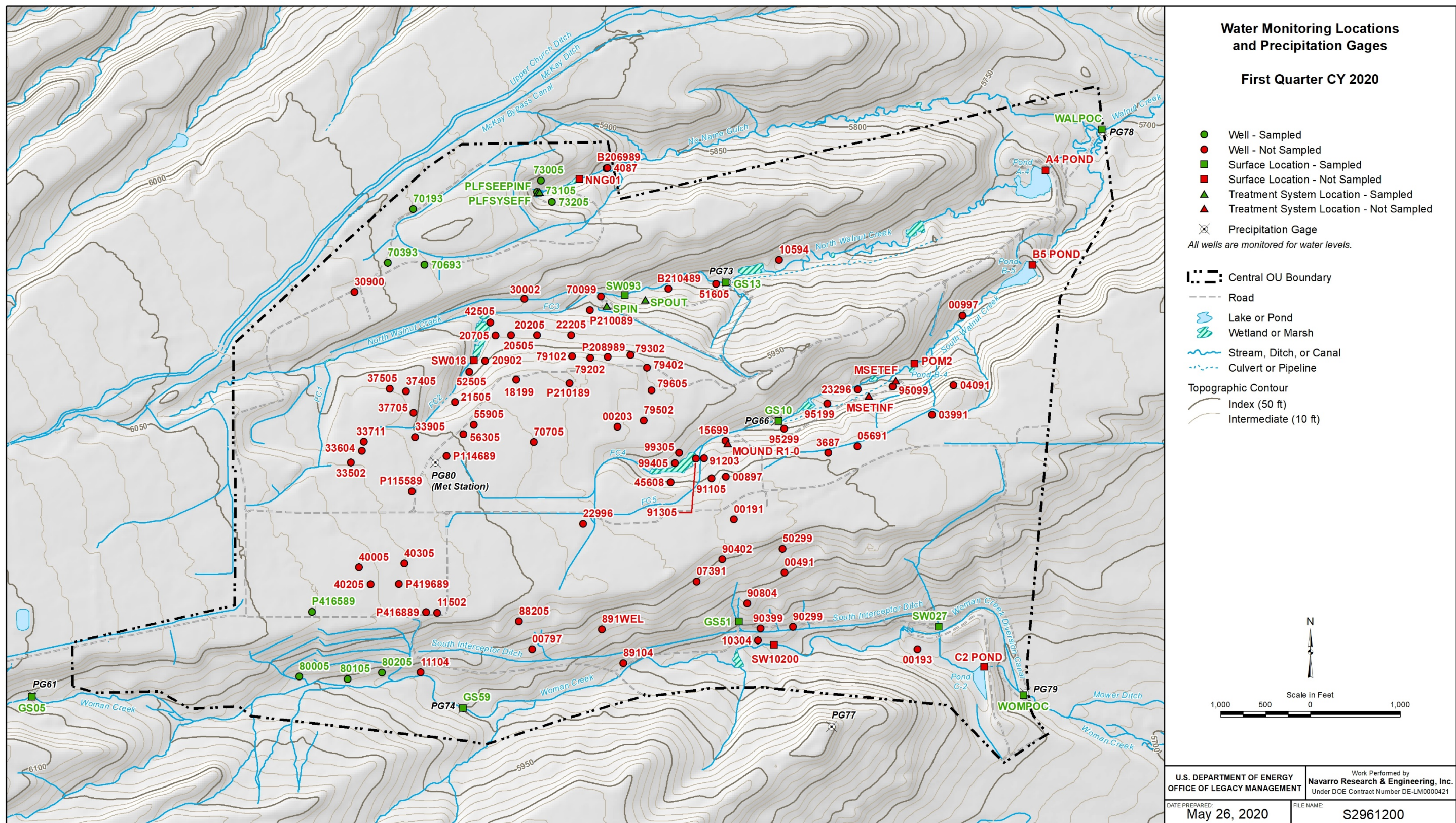


Figure 1. Rocky Flats Site Water Monitoring Locations and Precipitation Gages

Appendix B

**Analytical Results for Water Samples—
First Quarter CY 2020**

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Appendix B
Analytical Results for Water Samples—First Quarter CY 2020
RFLMA Data

LOCATION_CODE	LOCATION_TYPE	DATE SAMPLED	SAMPLE CODE	CAS	ANALYTE	FILTRATION STATUS	RESULT	UNITS	LAB QUALIFIERS	SAMPLE TYPE	DETECTION LIMIT	UNCERTAINTY	DATA VALIDATION QUALIFIERS	COLLECTION METHOD	LAB CODE
PLFSYSEFF	TS	1/8/2020	RFS01-02.2001022-006	7440-42-8	Boron	N	860	ug/L		F	4.4			G	STD
PLFSYSEFF	TS	1/8/2020	RFS01-02.2001022-005	75-25-2	Bromoform	N	0.46	ug/L	U	F	0.46			G	STD
PLFSYSEFF	TS	1/8/2020	RFS01-02.2001022-005	7440-43-9	Cadmium	Y	0.27	ug/L	U	F	0.27			G	STD
PLFSYSEFF	TS	1/8/2020	RFS01-02.2001022-005	56-23-5	Carbon tetrachloride	N	0.19	ug/L	U	F	0.19			G	STD
PLFSYSEFF	TS	1/8/2020	RFS01-02.2001022-005	108-90-7	Chlorobenzene	N	0.17	ug/L	U	F	0.17			G	STD
PLFSYSEFF	TS	1/8/2020	RFS01-02.2001022-005	67-66-3	Chloroform	N	0.16	ug/L	U	F	0.16			G	STD
PLFSYSEFF	TS	1/8/2020	RFS01-02.2001022-005	74-87-3	Chloromethane	N	0.3	ug/L	U	F	0.3			G	STD
PLFSYSEFF	TS	1/8/2020	RFS01-02.2001022-006	7440-47-3	Chromium	N	1.4	ug/L	J	F	0.5			G	STD
PLFSYSEFF	TS	1/8/2020	RFS01-02.2001022-005	218-01-9	Chrysene	N	0.51	ug/L	U	F	0.51			G	STD
PLFSYSEFF	TS	1/8/2020	RFS01-02.2001022-005	156-59-2	cis-1,2-Dichloroethene	N	0.15	ug/L	U	F	0.15			G	STD
PLFSYSEFF	TS	1/8/2020	RFS01-02.2001022-005	7440-50-8	Copper	Y	0.56	ug/L	U	F	0.56			G	STD
PLFSYSEFF	TS	1/8/2020	RFS01-02.2001022-005	53-70-3	Dibenz(a,h)anthracene	N	0.49	ug/L	U	F	0.49			G	STD
PLFSYSEFF	TS	1/8/2020	RFS01-02.2001022-005	84-66-2	Diethyl phthalate	N	0.36	ug/L	U	F	0.36			G	STD
PLFSYSEFF	TS	1/8/2020	RFS01-02.2001022-005	131-11-3	Dimethyl phthalate	N	0.2	ug/L	U	F	0.2			G	STD
PLFSYSEFF	TS	1/8/2020	RFS01-02.2001022-005	84-74-2	Di-n-butyl phthalate	N	1.1	ug/L	U	F	1.1			G	STD
PLFSYSEFF	TS	1/8/2020	RFS01-02.2001022-005	100-41-4	Ethylbenzene	N	0.16	ug/L	U	F	0.16			G	STD
PLFSYSEFF	TS	1/8/2020	RFS01-02.2001022-005	206-44-0	Fluoranthene	N	0.39	ug/L	J	F	0.19			G	STD
PLFSYSEFF	TS	1/8/2020	RFS01-02.2001022-005	86-73-7	Fluorene	N	1.4	ug/L	J	F	0.3			G	STD
PLFSYSEFF	TS	1/8/2020	RFS01-02.2001022-005	87-68-3	Hexachlorobutadiene	N	0.36	ug/L	U	F	0.36			G	STD
PLFSYSEFF	TS	1/8/2020	RFS01-02.2001022-005	87-68-3	Hexachlorobutadiene	N	3.1	ug/L	U	F	3.1			G	STD
PLFSYSEFF	TS	1/8/2020	RFS01-02.2001022-005	67-72-1	Hexachloroethane	N	0.94	ug/L	U	F	0.94			G	STD
PLFSYSEFF	TS	1/8/2020	RFS01-02.2001022-005	78-59-1	Isophorone	N	0.2	ug/L	U	F	0.2			G	STD
PLFSYSEFF	TS	1/8/2020	RFS01-02.2001022-005	7439-92-1	Lead	Y	0.18	ug/L	U	F	0.18			G	STD
PLFSYSEFF	TS	1/8/2020	RFS01-02.2001022-006	7439-97-6	Mercury	N	0.027	ug/L	U	F	0.027			G	STD
PLFSYSEFF	TS	1/8/2020	RFS01-02.2001022-005	75-09-2	Methylene chloride	N	0.94	ug/L	U	F	0.94			G	STD
PLFSYSEFF	TS	1/8/2020	RFS01-02.2001022-005	91-20-3	Naphthalene	N	0.98	ug/L	J	F	0.22			G	STD
PLFSYSEFF	TS	1/8/2020	RFS01-02.2001022-005	91-20-3	Naphthalene	N	0.62	ug/L	J	F	0.28			G	STD
PLFSYSEFF	TS	1/8/2020	RFS01-02.2001022-005	7440-02-0	Nickel	Y	4.6	ug/L		F	0.3			G	STD
PLFSYSEFF	TS	1/8/2020	RFS01-02.2001022-005	129-00-0	Pyrene	N	0.35	ug/L	U	F	0.35			G	STD
PLFSYSEFF	TS	1/8/2020	RFS01-02.2001022-006	7782-49-2	Selenium	N	0.37	ug/L	U	F	0.37			G	STD
PLFSYSEFF	TS	1/8/2020	RFS01-02.2001022-005	7440-22-4	Silver	Y	0.044	ug/L	J	F	0.033			G	STD
PLFSYSEFF	TS	1/8/2020	RFS01-02.2001022-005	100-42-5	Styrene	N	0.36	ug/L	U	F	0.36			G	STD
PLFSYSEFF	TS	1/8/2020	RFS01-02.2001022-005	127-18-4	Tetrachloroethene	N	0.2	ug/L	U	F	0.2			G	STD
PLFSYSEFF	TS	1/8/2020	RFS01-02.2001022-005	108-88-3	Toluene	N	0.17	ug/L	U	F	0.17			G	STD
PLFSYSEFF	TS	1/8/2020	RFS01-02.2001022-005	1330-20-7	Total Xylenes	N	0.24	ug/L	J	F	0.19			G	STD
PLFSYSEFF	TS	1/8/2020	RFS01-02.2001022-005	156-60-5	trans-1,2-Dichloroethene	N	0.15	ug/L	U	F	0.15			G	STD
PLFSYSEFF	TS	1/8/2020	RFS01-02.2001022-005	79-01-6	Trichloroethene	N	0.16	ug/L	U	F	0.16			G	STD
PLFSYSEFF	TS	1/8/2020	RFS01-02.2001022-006	7440-61-1	Uranium	N	1.6	ug/L		F	0.05			G	STD
PLFSYSEFF	TS	1/8/2020	RFS01-02.2001022-005	75-01-4	Vinyl chloride	N	0.1	ug/L	U	F	0.1			G	STD
PLFSYSEFF	TS	1/8/2020	RFS01-02.2001022-005	7440-66-6	Zinc	Y	38	ug/L		F	2			G	STD
PLFSYSEFF	TS	1/30/2020	RFS01-04.2002034-001	7440-38-2	Arsenic	N	4.8	ug/L		F	0.33			G	STD
SPIN	TS	1/15/2020	RFS01-04.2001032-005	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N	570	mg/L		F	1.9			G	STD
SPIN	TS	1/15/2020	RFS01-04.2001032-005	7440-61-1	Uranium	N	78	ug/L		F	0.05			G	STD
SPIN	TS	1/30/2020	RFS01-04.2001033-005	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N	530	mg/L		F	1.9			G	STD
SPIN	TS	1/30/2020	RFS01-04.2001033-005	7440-61-1	Uranium	N	72	ug/L		F	0.05			G	STD
SPIN	TS	2/13/2020	RFS01-04.2002035-005	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N	490	mg/L		F	1.9			G	STD
SPIN	TS	2/13/2020	RFS01-04.2002035-005	7440-61-1	Uranium	N	71	ug/L		F	0.05			G	STD
SPIN	TS	2/27/2020	RFS01-04.2002036-005	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N	560	mg/L		F	1.9			G	STD
SPIN	TS	2/27/2020	RFS01-04.2002036-005	7440-61-1	Uranium	N	82	ug/L		F	0.05			G	STD
SPIN	TS	3/16/2020	RFS01-04.2003037-005	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N	560	mg/L		F	1.9			G	STD
SPIN	TS	3/16/2020	RFS01-04.2003037-005	7440-61-1	Uranium	N	78	ug/L		F	0.05			G	STD
SPOUT	TS	1/15/2020	RFS01-04.2001032-005	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N	14	mg/L		F	0.038			G	STD
SPOUT	TS	1/15/2020	RFS01-04.2001032-006	7440-61-1	Uranium	N	66	ug/L		F	0.05			G	STD
SPOUT	TS	1/30/2020	RFS01-04.2001033-005	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N	52	mg/L		F	0.19			G	STD
SPOUT	TS	1/30/2020	RFS01-04.2001033-006	7440-61-1	Uranium	N	69	ug/L		F	0.05			G	STD
SPOUT	TS	2/13/2020	RFS01-04.2002035-006	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N	0.048	mg/L	J	F	0.019			G	STD
SPOUT	TS	2/13/2020	RFS01-04.2002035-006	7440-61-1	Uranium	N	56	ug/L		F	0.05			G	STD
SPOUT	TS	2/27/2020	RFS01-04.2002036-006	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N	0.67	mg/L		F	0.019			G	STD
SPOUT	TS	2/27/2020	RFS01-04.2002036-006	7440-61-1	Uranium	N	71	ug/L		F	0.05			G	STD
SPOUT	TS	3/16/2020	RFS01-04.2003037-006	NO3+NO2 AS N	Nitrate + Nitrite as Nitrogen	N	0.052	mg/L		F	0.019			G	STD
SPOUT	TS	3/16/2020	RFS01-04.2003037-006	7440-61-1	Uranium	N	65	ug/L		F	0.05			G	STD

**Appendix B
Analytical Results for Water Samples—First Quarter CY 2020
RFLMA Data**

LOCATION_CODE	LOCATION_TYPE	DATE SAMPLED	SAMPLE CODE	CAS	ANALYTE	FILTRATION STATUS	RESULT	UNITS	LAB QUALIFIERS	SAMPLE TYPE	DETECTION LIMIT	UNCERTAINTY	DATA VALIDATION QUALIFIERS	COLLECTION METHOD	LAB CODE
WOMPOC	SL	3/13/2020	RFS01-13.2003033-002	14596-10-2	Americium-241	N	0.00669	pCi/L	U	F		0.0135		C	GEN
WOMPOC	SL	3/13/2020	RFS01-13.2003033-002	PU-239,240	Plutonium-239, 240	N	0.00681	pCi/L	U	F		0.0104		C	GEN
WOMPOC	SL	3/13/2020	RFS01-13.2003033-002	7440-61-1	Uranium	N	2.08	ug/L		F	0.067			C	GEN
WOMPOC	SL	3/23/2020	RFS01-13.2003034-002	14596-10-2	Americium-241	N	0.00428	pCi/L	U	F		0.00891		C	GEN
WOMPOC	SL	3/23/2020	RFS01-13.2003034-002	PU-239,240	Plutonium-239, 240	N	-7.03E-10	pCi/L	U	F		0.00780		C	GEN
WOMPOC	SL	3/23/2020	RFS01-13.2003034-002	7440-61-1	Uranium	N	1.35	ug/L		F	0.067			C	GEN
WOMPOC	SL	3/26/2020	RFS01-13.2004035-002	14596-10-2	Americium-241	N	0.00187	pCi/L	U	F		0.0176		C	GEN
WOMPOC	SL	3/26/2020	RFS01-13.2004035-002	PU-239,240	Plutonium-239, 240	N	0.00533	pCi/L	U	F		0.00826		C	GEN
WOMPOC	SL	3/26/2020	RFS01-13.2004035-002	7440-61-1	Uranium	N	1.56	ug/L		F	0.067			C	GEN

EXPLANATION

FILTRATION STATUS

N = Sample was not filtered.
Y = Sample was filtered.

UNITS

mg/L: ppm = milligrams per liter
pCi/L = picocuries per liter
ug/L = micrograms per liter
C = degrees celsius
mS/cm = milliSiemens per centimeter
NTU = normal turbidity units
s.u. = standard pH units
uS/cm = microSiemens per centimeter
umhos/cm = microSiemens per centimeter

SAMPLE_TYPE

F = Field Sample
D = Duplicate

DATA_VALIDATION_QUALIFIERS

<NULL> No qualifiers
F Low flow sampling method used.
G Possible grout contamination, pH > 9.
J Estimated value.
L Less than 3 bore volumes purged prior to sampling.
Q Qualitative result due to sampling technique
R Unusable result.
U Parameter analyzed for but was not detected.
X Location is undefined.
999 Validation not complete

LAB_QUALIFIERS

* Replicate analysis not within control limits.
+ Correlation coefficient for MSA < 0.995.
> Result above upper detection limit.
A TIC is a suspected aldol-condensation product.
B Inorganic: Result is between the IDL and CRDL. Organic & Radiochemistry: Analyte also found in method blank.
C Pesticide result confirmed by GC-MS.
D Analyte determined in diluted sample.
E Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS.
H Holding time expired, value suspect.
I Increased detection limit due to required dilution.
J Estimated
M GFAA duplicate injection precision not met.
N Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compound (TIC).
P > 25% difference in detected pesticide or Arochlor concentrations between 2 columns.
S Result determined by method of standard addition (MSA).
U Analytical result below detection limit.
W Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance.
X Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
Y Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
Z Laboratory defined (USEPA CLP organic) qualifier, see case narrative.

LOCATION_TYPE

SL SURFACE LOCATION
TS TREATMENT SYSTEM
WL WELL

COLLECTION_METHOD

G Grab
C Composite

LAB_CODE

GEN Gel Laboratories LLC
STD Eurofins Test America

Appendix B
Analytical Results for Water Samples—First Quarter CY 2020
Information for RFLMA Composite Samples with Unavailable Data

Location	Sample Dates*	Status
None		

Draft 2021 Work Plan

- Cover memo
- Draft work plan

Draft 2021 Budget

- Cover memo
- Draft budget

ROCKY FLATS STEWARDSHIP COUNCIL

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Jefferson County ~ Boulder County ~ City and County of Broomfield ~ City of Arvada ~ City of Boulder
City of Golden ~ City of Northglenn ~ City of Thornton ~ City of Westminster ~ Town of Superior
League of Women Voters ~ Rocky Flats Cold War Museum ~ Rocky Flats Homesteaders
Kim Griffiths

MEMORANDUM

TO: Board
FROM: David Abelson & Melissa Weakley
SUBJECT: Draft 2021 Work Plan
DATE: September 1, 2020

The Board will begin reviewing its 2021 work plan (draft plan attached). The few changes we are proposing are noted using track changes. With one exception, we believe they are self-explanatory and we will be prepared to answer your questions at the meeting.

The one proposal requiring a brief explanation is removal of the reference to "Track soil sampling programs by local governments, Jefferson Public Parkway Highway Authority, USFWS and others." (See "DOE Management Responsibilities" deleted bullet #3). Those activities are completed so we deleted that bullet. Certainly, if another party conducts soil sampling, staff would review it and communicate with the Board and CDPHE, but at this time we do not know of any ongoing soil sampling activities.

Any changes to the draft plan as presented will be incorporated into a revised draft that will be reviewed, modified as necessary, and approved at the October 26th meeting.

ROCKY FLATS STEWARDSHIP COUNCIL

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Jefferson County ~ Boulder County ~ City and County of Broomfield ~ City of Arvada ~ City of Boulder
City of Golden ~ City of Northglenn ~ City of Thornton ~ City of Westminster ~ Town of Superior
League of Women Voters ~ Rocky Flats Cold War Museum ~ Rocky Flats Homesteaders
Kim Griffiths

2021 Work Plan

Draft #1, September 14, 2020

Mission:

The mission of the Rocky Flats Stewardship Council (Stewardship Council) is to provide continuing local engagement on activities occurring at the Rocky Flats site regarding long-term stewardship of residual contamination and refuge management; to provide a forum to track issues related to former site employees, including but not limited to long-term health benefits and pension programs; to provide an ongoing mechanism to help maintain public knowledge of Rocky Flats and the ongoing needs and responsibilities regarding contaminant management and refuge management; and to provide an ongoing forum to engage on all other issues pertinent to Rocky Flats, as determined by the Stewardship Council Board of Directors (Board).

Background:

The Stewardship Council occupies two roles: (1) serving as the Local Stakeholder Organization (LSO) for Rocky Flats, and (2) engaging the U.S. Fish & Wildlife Service (USFWS) on the management of the Rocky Flats National Wildlife Refuge (Refuge). To help ensure the Board and public understand when the Stewardship Council acts in its capacity as the Rocky Flats LSO and when it engages on issues beyond its scope as the LSO, the plan includes headers indicating “LSO” and “Non-LSO” activities.

Local Stakeholder Organization (LSO)

The Department of Energy (DOE) Office of Legacy Management (LM) approved the LSO Plan for Rocky Flats on December 21, 2005. That Plan identifies how the main responsibilities Congress identified in the legislation authorizing the creation of LSO (Section 3120 of the Fiscal Year 2005 Defense Authorization bill) are to be carried out at Rocky Flats. These responsibilities are summarized as follows:

- Solicit and encourage public participation in appropriate activities relating to the closure and post-closure operations of the site.
- Disseminate information on the closure and post-closure operations of the site to the State, local and Tribal governments in the vicinity of the site, as well as persons and entities having a stake in the closure or post-closure operations of the site.
- Transmit to appropriate officers and employees of DOE questions and concerns of governments, persons, and entities referred to in the preceding bullet.

In fulfilling these responsibilities, the Stewardship Council has been tasked with helping LM meet its public involvement obligations identified in the Legacy Management Public Involvement Plan (LMPIP) for Rocky Flats.

Rocky Flats National Wildlife Refuge (non-LSO activity)

“The Rocky Flats National Wildlife Refuge Act of 2001” established that Rocky Flats shall become a national wildlife refuge following U.S. Environmental Protection Agency (EPA) certification that the site has been cleaned to the agreed-upon regulatory standards. In July 2007, DOE conveyed jurisdictional responsibility of nearly 4,000 acres to the Department of the Interior for the Rocky Flats National Wildlife Refuge. Additional lands were conveyed in 2014.

USFWS opened the Refuge for guided tours in 2015 and for public recreation in 2018. Additional trails will open in the Refuge in the coming years.

Work Plan Elements

The Work Plan is divided into the following five sections:

1. DOE Management Responsibilities (LSO activity)
2. Former Rocky Flats Workforce (LSO activity)
3. Outreach (LSO activity with two exceptions noted)
4. Rocky Flats National Wildlife Refuge (non-LSO activity)
5. Business Operations (LSO activity)

DOE Management Responsibilities

LSO Activity

Overview:

One of the key roles of the Stewardship Council is to understand and engage the various issues regarding the cleanup and post-closure management of Rocky Flats, as well as to provide a forum to foster discussions among DOE, the regulatory agencies, and community members.

2021 Activities:

1. Review information regarding the long-term stewardship and management of the Rocky Flats site, including but not limited to the results of the operational and performance monitoring data of site operations and DOE status reports.
2. Continue to identify key questions about the cleanup and ongoing management, ~~and evaluate for track remedy the~~ effectiveness ~~of site remedies,~~ and ~~understand the~~ impacts to human and ecological receptors. For 2021, this effort includes being briefed on ~~past~~ analyses conducted by DOE, and the Colorado Department of Public Health and Environment (CDPHE) regarding of risk and the protectiveness of the cleanup remedy, ~~including CDPHE’s analysis.~~
- ~~3. Track soil sampling programs by local governments, Jefferson Public Parkway Highway Authority, USFWS, and others.~~
- ~~4.3.~~ Track the progress made in treating contaminated groundwater at the groundwater treatment systems, including the ongoing uranium treatment evaluation at the Solar Ponds Plume Treatment System (SPPTS).
- ~~5.4.~~ Track the ongoing investigation into the source(s) of elevated actinide levels found in surface water. Of particular note are the cyclic uranium levels in North Walnut Creek at point of compliance WALPOC, elevated levels of actinides at point of evaluation GS10 on South Walnut Creek, and elevated plutonium levels at point of evaluation SW027 in the Woman Creek drainage.

- ~~6.5.~~ Track ~~progress made in addressing slumping~~ the effectiveness of the remedy implemented to address slumping at the Original Landfill (OLF).
- ~~7.6.~~ Track issues related to slumping along North Walnut Creek.
- ~~8.7.~~ Understand the results of any additional sampling conducted off-site and in the Refuge. (Note: ~~While the analysis might be conducted by local governments and USFWS,~~ the issue is an LSO issue as it goes to the historic use of Rocky Flats as a weapons plant and associated residual contamination.)
- ~~9.8.~~ Continue to participate in Adaptive Management Plan (AMP) meetings, including technical evaluations of data; track implementation of AMP results, which could include breaching the terminal ponds on Woman and Walnut Creeks.
- ~~10.9.~~ Continue to track and evaluate DOE, CDPHE, and/or EPA assessment(s) of remedy operations and effectiveness.
- ~~11.10.~~ Work with DOE on implementing its LMPIP, including the meetings DOE identified in the LMPIP.
- ~~12.11.~~ Review DOE budgets for implementation of DOE responsibilities.
- ~~13.12.~~ Understand potential legal and regulatory issues regarding implementation of the Rocky Flats Legacy Management Agreement and related site documents; provide this information to the Stewardship Council and to the community.
- ~~14.13.~~ Work with DOE and the regulators to understand technical data regarding implementation and effectiveness of cleanup remedies and long-term controls; communicate this information to the Stewardship Council and to the community.
- ~~15.14.~~ Transmit to appropriate DOE officers and employees any questions and/or concerns of governments, persons, and entities regarding Rocky Flats.
- ~~16.15.~~ As opportunities allow, continue to work with DOE on the development of the visitor center.
- ~~17.16.~~ Support the ongoing efforts of the Rocky Flats Cold War Museum to educate successive generations about the history of Rocky Flats, particularly about residual contamination and continued need for long-term stewardship.
- ~~18.17.~~ Track the development of the Jefferson County Parkway as it relates to Rocky Flats.
- ~~19.18.~~ Track Congressional ~~actions/decisions affecting potential action on Rep. Neguse's CERCLA minerals development at Rocky Flats bill (H.R. 3747 "On or Under Act")~~ and engage as needed.

Former Rocky Flats Workforce
LSO Activity

Overview:

Many of the former site workers are the constituents of the Stewardship Council governments. Further, the Rocky Flats Homesteaders, which represents more than 1,800 former site workers, sits on the Board of the Stewardship Council. For these and other reasons, as noted in the Stewardship Council's Intergovernmental Agreement, worker issues will, as needed, continue to be an important component of the Stewardship Council's work. At this time, worker issues largely revolve around claims under the Energy Employee Occupational Illness Compensation Program Act (EEOICPA). Workers address claims on an individual basis.

2021 Activities:

1. Forward worker concerns, as necessary.

Outreach
LSO Activity (two exceptions noted)

Overview:

As the LSO for Rocky Flats, a core responsibility for the Stewardship Council is providing a forum to help engage people on Rocky Flats and the ongoing management needs. As part of this mission, it remains essential that the Stewardship Council maintain close communications with DOE, EPA, CDPHE, and Congress.

The local communities have developed over the period of many years a very good working relationship with the two primary regulatory agencies that oversee the site, EPA and CDPHE. It is imperative that the Stewardship Council continue this tradition of partnership with these agencies.

The Colorado congressional delegation likewise plays a critical role in addressing Rocky Flats issues. The Stewardship Council shall remain an important mechanism for addressing questions and concerns of the delegation, as well as providing ongoing interface with the delegation on site-specific issues and concerns.

2021 Activities:

1. Hold quarterly Board meetings and provide opportunity for comment and dialogue.
2. Communicate with other local officials, DOE, state and federal regulators, the Colorado congressional delegation, and other stakeholders about the Stewardship Council's mission and activities, as appropriate.
3. Take public comment on issues related to DOE and USFWS responsibilities at Rocky Flats.¹
4. Evaluate Congressional action affecting DOE and USFWS and administrative action that could affect Rocky Flats.²
5. Maintain communication with federal and state legislators, as appropriate, and track potentially impactful federal and state legislation as needed.
6. Provide opportunities at meetings and in between meetings for education on site-related issues and relevant feedback.
7. Work with DOE to disseminate information on the cleanup and post-closure operations of Rocky Flats.
8. Participate in local, regional and national forums.
9. Implement mechanisms for the Stewardship Council and the general public to be informed of the results of monitoring data and other relevant site-specific information, recognizing that not all communication between DOE and Rocky Flats constituencies will flow through the Stewardship Council.

Rocky Flats National Wildlife Refuge
Non-LSO Activity (one exception noted)

Overview:

One of the Stewardship Council's roles is to engage on issues related to the development and management of the Refuge. In September 2018, USFWS began allowing public recreation at the Refuge.

¹ Issues related to USFWS are a non-LSO activity.

² Issues related to USFWS are a non-LSO activity.

In addition, USFWS and DOE are discussing a partnership to develop a visitor's center. That center would be sited on refuge lands, with USFWS taking lead on the public engagement process. As the LSO for Rocky Flats, the Stewardship Council would work with DOE on that agency's role in developing the visitor center. (That work with DOE is an LSO activity.) USFWS would take lead on public engagement; Stewardship Council members may be involved in that process.

The items identified in this part of the work plan only concern USFWS.

2021 Activities:

1. Track agency and Congressional action affecting funding for USFWS and the Refuge. Engage as needed.
2. Track issues related to the development of the Rocky Flats visitor center.³ Engage as needed.
3. Be apprised of the Refuge site conservation plan, with an emphasis on the proposed trail plan.
4. Forward information regarding the Refuge to the Board and the public, as appropriate.
5. Track issues related to the development of a trail network connecting the Refuge, Rocky Mountain Arsenal National Wildlife Refuge, Two Ponds National Wildlife Refuge, and Rocky Mountain National Park.

Business Operations

LSO Activity

Overview:

Business Operations refers to organizational management responsibilities—conducting the annual audit, submitting financial reports to DOE, adopting the annual Work Plan and annual budget, etc.

2021 Activities:

1. Work with DOE to ensure the Stewardship Council continues to meet its responsibilities as the LSO for Rocky Flats.
2. Operate the Stewardship Council in compliance with state and federal regulations.
3. Conduct a financial audit.
4. Prepare and adopt the annual work plan and the annual budget.
5. Submit financial reports to DOE.
6. Review, and renew as necessary, consulting agreements.
7. Provide an annual report on activities.
8. [Appoint community members to the Board \(two seats\).](#)
- 8-9. [Finalize the triennial review.](#)

³ As noted above, as the LSO for Rocky Flats, the Stewardship Council will work with DOE on that agency's role in developing the visitor center. The item identified in this part of the work plan only concerns USFWS's role.

ROCKY FLATS STEWARDSHIP COUNCIL

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Jefferson County -- Boulder County -- City and County of Broomfield -- City of Arvada -- City of Boulder
City of Golden -- City of Northglenn -- City of Thornton -- City of Westminster -- Town of Superior
League of Women Voters -- Rocky Flats Cold War Museum -- Rocky Flats Homesteaders
Kim Griffiths

MEMORANDUM

TO: Board
FROM: David Abelson
SUBJECT: Initial review of 2021 budget
DATE: September 1, 2020

Attached for your review is the first draft of the Stewardship Council's fiscal year 2021 budget. As a unit of local government under the Colorado Constitution, the Stewardship Council must review the budget at this meeting and hold a budget hearing at a second meeting prior to adopting a final budget. The budget hearing will be held at the October 26th meeting, at which time the Board will adopt the budget.

Budget Overview

As is the case each year, the budget is for more than the anticipated costs (approximately 11% above projected costs). Over-budgeting provides the Board latitude in how it manages expenditures without requiring supplemental budgeting should expenditures increase. Over the past number of years, organizational costs have remained relatively level, though 2020 was a little below average due to Covid.

The 2021 budget is essentially the same budget that the Board approved for 2020.

Please let me know what questions you have.

ROCKY FLATS STEWARDSHIP COUNCIL

2021 Budget -- Draft #1, September 14, 2020

	2021 Budget Amounts	2021 Anticipated Expenditures	2020 Budget	2020 Actual/ Projected Expenses*	2020 Budget vs. 2020 Actual/Projected Expenses	2019 Expenses
A. Personnel	\$ 93,000.00	\$ 93,000.00	\$ 93,000.00	\$ 93,000.00	\$ -	\$ 94,150.00
Executive Director and Technical Advisor (\$7750/month)						
B. Fringe Benefits	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Staff are contractors						
C. Travel	\$ 7,300.00					
Out of State	\$ 6,100.00	\$ 6,100.00	\$ 6,100.00	\$ 449.80	\$ (5,650.20)	\$ 4,968.00
National DOE-related trips						
Local Travel	\$ 1,200.00	\$ 1,000.00	\$ 1,200.00	\$ 312.43	\$ (887.57)	\$ 873.00
\$100/month for 12 months						
D. Computer Equipment	\$ 500.00	\$ -	\$ 500.00	\$ -	\$ (500.00)	\$ -
Purchase misc. hardware, software						
E. Supplies	\$ 1,200.00	\$ 100.00	\$ 1,200.00	\$ 50.00	\$ (1,150.00)	\$ 343.00
Supplies (\$100/month)						
F. Contractual	\$ 39,500.00					
Attorney & Accounting Services						
Legal Services (\$1400/ month)	\$ 16,800.00	\$ 16,000.00	\$ 16,800.00	\$ 10,043.93	\$ (6,756.07)	\$ 11,925.00
Accounting (\$850/month)	\$ 10,200.00	\$ 5,800.00	\$ 10,200.00	\$ 4,473.00	\$ (5,727.00)	\$ 4,627.00
Audit Report	\$ 6,500.00	\$ 4,200.00	\$ 6,500.00	\$ 4,000.00	\$ (2,500.00)	\$ 4,000.00
Admin. Services						
Misc. Services: bank fees, etc.	\$ 1,000.00	\$ 100.00	\$ 1,000.00	\$ 257.40	\$ (742.60)	\$ 45.00
Minutes Preparation (5 meetings)	\$ 3,000.00	\$ 2,500.00	\$ 3,000.00	\$ 2,450.00	\$ (550.00)	\$ 2,750.00

Local Government Expenses	\$ 2,000.00	\$ 1,500.00	\$ 2,000.00	\$ 490.00	\$ (1,510.00)	\$ 2,306.00
Miscellaneous expenses not covered by DOE funds (includes meeting expenses and non-LSO activities)						
G. Construction	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
None						
H. Other	\$ 14,600.00					
Printing & Copy	\$ 2,000.00	\$ 250.00	\$ 2,000.00	\$ -	\$ (2,000.00)	\$ -
Postage	\$ 1,500.00	\$ 300.00	\$ 1,500.00	\$ 641.88	\$ (858.12)	\$ 648.00
\$125/month for 12 months						
Liability Insurance						
Property Contents/General Liability	\$ 500.00	\$ 500.00	\$ 500.00	\$ 500.00	\$ -	\$ 500.00
Board Members	\$ 3,500.00	\$ 3,500.00	\$ 3,500.00	\$ 2,973.61	\$ (526.39)	\$ 2,968.00
Telephone, email, etc.	\$ 2,700.00	\$ 2,400.00	\$ 2,700.00	\$ 1,487.52	\$ (1,212.48)	\$ 1,690.00
Website						
Hosting	\$ 500.00	\$ -	\$ 500.00	\$ -	\$ (500.00)	\$ -
Web master	\$ 1,500.00	\$ 500.00	\$ 1,500.00	\$ -	\$ (1,500.00)	\$ -
Subscriptions/Memberships						
ECA membership	\$ 950.00	\$ 950.00	\$ 950.00	\$ 950.00	\$ -	\$ 950.00
Conference registration fees	\$ 800.00	\$ 800.00	\$ 800.00	\$ 75.00	\$ (725.00)	\$ 425.00
Newspapers	\$ 650.00	\$ -	\$ 650.00	\$ -	\$ (650.00)	
J. Indirect Costs	\$ -		\$ -	\$ -	\$ -	\$ -
N/A						
TOTAL PROPOSED BUDGET	\$ 156,100.00	\$ 139,500.00	\$ 156,100.00	\$ 122,154.57	\$ (33,945.43)	\$ 133,168.00
REVENUE FOR 2021						
Local government contributions	\$ 10,000.00					
Department of Energy grant	\$ 139,000.00					

RFCLOG carry-over \$ 7,100.00

TOTAL \$ 156,100.00

*2020 Actual/Projected Expenses = actual January through July; projected September through December

Appendix

- Acronym List

Rocky Flats Acronym List
 Prepared for the Rocky Flats Stewardship Council
 Rev. 02/20

Acronym or Term	Means	Definition
Alpha radiation		A type of radiation that is not very penetrating and can be blocked by materials such as human skin or paper or one inch of air. Alpha radiation presents its greatest risk when it is inhaled or ingested. Plutonium, the radioactive material of greatest concern at Rocky Flats, produces this type of radiation.
Am	americium	A man-made radioactive element that is a byproduct of plutonium (Pu) production. Am emits gamma radiation, which can penetrate many types of protective shielding. During the production era at Rocky Flats, Am was chemically separated from Pu to reduce personnel exposures.
AME	Actinide Migration Evaluation	An exhaustive, years-long study by independent researchers who studied how actinides such as plutonium, americium, and uranium move through the soil and water at Rocky Flats.
AMP	Adaptive Management Plan	Additional water quality sampling and analysis that DOE is conducting, beyond the normal environmental assessments, to inform decisions regarding future breaches of remaining dams.
AOC well	Area of Concern well	A particular type of groundwater well.
B	boron	An inorganic compound that has been found in some surface water and groundwater samples at Rocky Flats.
Be	beryllium	A very strong and lightweight metal that was used at Rocky Flats in the manufacture of nuclear weapons. Exposure to beryllium is now known to cause respiratory disease in those persons sensitive to it.
Beta radiation		A type of radiation that is more penetrating than alpha (but less penetrating than gamma). Beta particles can be stopped after traveling through 10 feet of air or a thin layer of glass or metal. Some forms of uranium emit beta radiation.
BMP	Best Management Practices	A term used to describe actions taken by DOE that are not required by regulation but warrant action.
BZ	Buffer Zone	The portion of the Rocky Flats site that was added during production to provide a "buffer" between the neighboring communities and the industrial portion of Rocky Flats. The buffer zone covered approximately 6,100 acres. Most of the buffer zone lands now make up the Rocky Flats National Wildlife Refuge.
CAD/ROD	Corrective Action Decision/Record of Decision	The complete final plan for cleanup and closure for Rocky Flats. The Federal/State laws that governed the cleanup at Rocky Flats required a document of this sort.
CCP	Comprehensive Conservation Plan	The refuge plan adopted by the U.S. Fish and Wildlife Service in 2007.
CDPHE	Colorado Department of Public Health and Environment	The state agency that regulates Rocky Flats.

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Acronym or Term	Means	Definition
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act	Federal legislation that governs the Rocky Flats cleanup. Also known as the Superfund Act.
cfs	cubic feet per second	A volumetric measure of water flow.
COC	Contaminant of Concern	A hazardous or radioactive substance that is present at Rocky Flats.
COU	Central Operable Unit	A CERCLA term used to describe the DOE-retained lands (about 1,300 acres) at Rocky Flats. The COU overlays the former Industrial Area (where manufacturing activities took place) and contains all engineered elements of the remedy (two landfills and four groundwater treatment systems) and areas of residual subsurface contamination.
CR	Contact Record	A regulatory procedure where CDPHE reviews a proposed action by DOE and either approves the proposal as is or requires changes to the proposal before approval. CRs apply to a wide range of activities performed by DOE. After approval, the CR is posted on the DOE-Legacy Management (LM) website and the public is notified via email.
Cr	chromium	Potentially toxic metal used at Rocky Flats.
CRA	Comprehensive Risk Assessment	A series of analyses that assess human health risks and risks to the environment (flora and fauna).
D&D	decontamination and decommissioning	The process of cleaning up and tearing down buildings and other structures.
DG	Discharge Gallery	The location where the treated effluent of the Solar Ponds Plume Treatment System (defined below) empties into North Walnut Creek.
DOE	U.S. Department of Energy	The federal agency that manages portions of Rocky Flats. The site office is the Office of Legacy Management (LM).
EA	Environmental Assessment	A study required by NEPA (defined below) when a federal agency proposes an action that could impact the environment. The agency is responsible for conducting the analysis to determine what, if any, impacts to the environment might occur due to a proposed action.
EIS	Environmental Impact Statement	An evaluation that is undertaken by a government agency when it is determined, via the EA, that a proposed action by the agency may have significant impacts to the environment.
EPA	U.S. Environmental Protection Agency	The federal agency that regulates Rocky Flats activities.
EEOICPA	Energy Employees Occupational Illness Compensation Program Act	An act passed by Congress in 2000 to compensate sick nuclear weapons workers and certain survivors.

Rocky Flats Acronym List
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Acronym or Term	Means	Definition
ETPTS	East Trenches Plume Treatment System	The treatment system near the location of the East Waste Disposal Trenches. This system treats groundwater emanating from the trenches that is contaminated with organic solvents, as well as groundwater routed from the Mound Plume Site Collection System. Treated effluent flows into South Walnut Creek.
FC	functional channel	Man-made stream channels constructed during cleanup to help direct water flow.
FACA	Federal Advisory Committee Act	The federal law that regulates federal advisory boards. The law requires balanced membership and open meetings with published Federal Register meeting dates.
Gamma Radiation		The most penetrating type of radiation at Rocky Flats. Thick, dense shielding is necessary to protect against gamma rays. Americium (Am) is a strong gamma emitter.
GAO	Government Accountability Office	Congressional investigative office that reports to Congress.
g	gram	A metric unit of mass.
gpm	gallons per minute	A volumetric measure of water flow.
GWIS	Groundwater Intercept System	A below-ground system that directs contaminated groundwater toward the Solar Ponds Plume and East Trenches Plume Treatment Systems.
IA	Industrial Area	The central core of Rocky Flats where all manufacturing activities took place. The IA covered 385 of Rocky Flats's 6,500 acres.
IC	Institutional Control	Administrative and legal controls employed to protect the integrity of the remedies in place and minimize the potential for human exposure to residual contamination.
IGA	intergovernmental agreement	A cooperative agreement between local governments that establishes the framework of the Stewardship Council.
IHSS	Individual Hazardous Substance Site	A name given during cleanup to a discrete area of known or suspected contamination. There were formerly over two hundred IHSSs at Rocky Flats.
ITPH	interceptor trench pump house	The location where contaminated groundwater collected by the interceptor trench is pumped to either the Solar Ponds Plume Treatment System or the East Trenches Plume Treatment System.
L	liter	Metric measure of volume (slightly larger than a quart).
LANL	Los Alamos National Laboratory	One of the US government's premier research institutions located near Santa Fe, NM. LANL is continuing to conduct highly specialized water analysis for Rocky Flats. Using sophisticated techniques, LANL is able to determine the percentages of both naturally occurring and man-made uranium, which helps to inform water quality decisions.
LHSU	lower hydrostratigraphic unit	Hydrogeological term for deep unweathered bedrock that is hydraulically isolated from the upper hydrostratigraphic unit (see UHSU). Data show that site COCs have not contaminated the LHSU.

Rocky Flats Acronym List
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Acronym or Term	Means	Definition
LM	Legacy Management	DOE office responsible for overseeing activities at closed sites.
LMPIP	Legacy Management Public Involvement Plan	A plan that follows DOE and EPA guidance on public participation and outlines the methods of public involvement and communication used to inform the public of site conditions and activities. It was previously known as the Post-Closure Public Involvement Plan (PCPIP).
O&M/OM&M	Operations, monitoring, and maintenance	Term that describes ongoing activities at Rocky Flats.
MOU	Memorandum of Understanding	The formal agreement between EPA and CDPHE specifying that CDPHE is the lead post-closure regulatory agency with EPA providing assistance when needed.
MSPCS	Mound Site Plume Collection System	The system that collects groundwater and routes it to the ETPTS for treatment.
MSPTS	Mound Site Plume Treatment System	The remediation system formerly in place (reconfigured in 2016) to treat groundwater contaminated with organic solvents emanating from the Mound Site (a portion of Rocky Flats where waste barrels were buried).
NEPA	National Environmental Policy Act	Federal legislation that requires the federal government to perform analyses of environmental consequences of major projects or activities.
nitrates		Contaminant of concern originating from Solar Ponds wastes. Nitrates have been detected in the North Walnut Creek drainage. Nitrates are very soluble in water and move readily through the aquatic environment.
Np	neptunium	A man-made radioactive isotope that is a by-product of nuclear reactors and plutonium production.
NPL	National Priorities List	A list of Superfund sites. The refuge lands were de-listed from the NPL, while the DOE-retained lands are still on the NPL because of residual groundwater contamination and associated remediation activities.
NWCS	North Walnut Creek Slump	Slumping observed on the hillside east of the Solar Ponds Plume Treatment System.
OLF	Original Landfill	Hillside dumping area of about 20 acres that was used from 1951 to 1968. The OLF underwent remediation with the addition of a soil cap and groundwater monitoring locations.
OU	Operable Unit	A distinct area within a cleanup site. These areas may address geographic areas, specific problems, or medium (e.g., groundwater, soil) where a specific action is required.
PCE	perchloroethylene (a.k.a. tetrachloroethylene)	A volatile organic solvent used in past operations at Rocky Flats.
pCi/g	picocuries per gram	A unit of radioactivity in soil.
pCi/L	picocuries per liter	A unit of radioactivity in water. CDPHE's regulatory limit for Pu and Am in surface water at Rocky Flats is 0.15 pCi/L. This standard is 100 times stricter than the EPA's drinking water standard.

Rocky Flats Acronym List
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Acronym or Term	Means	Definition
PLF	Present Landfill	Landfill constructed in 1968 to replace the OLF. During site remediation, the PLF was closed under RCRA regulations with an extensive cap and monitoring system.
PMJM	Preble's Meadow Jumping Mouse	A species of mouse found along the Front Range that is on the endangered species list. There are several areas in the Refuge and COU that provide adequate habitat for the mouse, usually found in drainages. Any operations that are planned in potential mouse habitat are strictly controlled.
POC	Point of Compliance (surface water)	A surface water monitoring location at Rocky Flats where contaminant concentrations must be in compliance with federal and state standards for hazardous constituents. Violations of water quality standards at the points of compliance could result in DOE receiving financial penalties.
POE	Point of Evaluation (surface water)	A surface water monitoring location at Rocky Flats where water quality is monitored. There are no financial penalties associated with water quality exceedances at these locations, but DOE may be required to develop a plan of action to improve the water quality.
POU	Peripheral Operable Unit	A CERCLA term used to describe the 4,800-acre area surrounding the Central Operable Unit.
Pu	plutonium	A metallic substance that was fabricated to form the core, or "trigger", of a nuclear weapon. Formation of these triggers was the primary production mission of the Rocky Flats site. There are different forms of plutonium, called isotopes. Each isotope is known by a different number, such as plutonium 239 (Pu-239) and plutonium 241 (Pu-241). Pu-239 is the primary radioactive COC at Rocky Flats.
RCRA	Resource Conservation and Recovery Act	Federal law regulating hazardous waste. In Colorado, EPA delegates to CDPHE the authority to regulate hazardous wastes.
RFCA	Rocky Flats Cleanup Agreement	The regulatory agreement that governed cleanup activities. DOE, EPA, and CDPHE were signatories.
RFCAB	Rocky Flats Citizen Advisory Board	The group formed as part of DOE's site-specific advisory board network. The RFCAB provided community feedback to DOE on a wide variety of Rocky Flats issues from 1993 through regulatory closure in 2006.
RFCLOG	Rocky Flats Coalition of Local Governments	The predecessor organization of the Rocky Flats Stewardship Council.
RFETS	Rocky Flats Environmental Technology Site	The moniker for Rocky Flats during cleanup years.
RFLMA	Rocky Flats Legacy Management Agreement	The post-cleanup regulatory agreement between DOE, CDPHE, and EPA that governs site activities. The CDPHE has the lead regulatory role, with support from EPA as required.
RFNWR	Rocky Flats National Wildlife Refuge	The 4,000 acres of Rocky Flats where unrestricted use is allowed. This land is now a wildlife refuge.

Rocky Flats Acronym List
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Acronym or Term	Means	Definition
RFSOG	Rocky Flats Site Operations Guide	The nuts-and-bolt guide for post-closure site activities performed by DOE and its contractors.
RSAL	Radionuclide Soil Action Level	Concentration of radionuclide in soil above which remedial action should be considered so that people are not exposure to radiation doses above permitted levels.
SEP	Solar Evaporation Ponds	An area of Rocky Flats used in the 1950s to hold excess wastewater generated during manufacturing operations. Wastewater that could not be treated in the onsite treatment plant was sent to open-air holding ponds where solar energy was utilized to evaporate and concentrate the waste. The original SEPs were unlined, and substantial quantities of uranium and nitrates made their way into groundwater. As a result, the Solar Ponds Plume Treatment System was constructed to treat contaminated groundwater before it emerged as surface water in North Walnut Creek.
SID	South Interceptor Ditch	A water feature designed to intercept runoff from the southern portion of the COU. The SID flows from west to east into Pond C-2. Woman Creek water does not enter Pond C-2, but is diverted around Pond C-2 through the Woman Creek Diversion Canal.
SPPTS	Solar Ponds Plume Treatment System	Engineered system designed to treat groundwater contaminated with uranium and nitrates. The nitrates originate from the former solar evaporation ponds, which had high levels of nitric acid. The uranium is primarily naturally occurring. Effluent from the SPPTS flows into North Walnut Creek.
SVOCs	semi-volatile organic compounds	Organic compounds that are not as volatile as solvent-related VOCs. SVOCs are found in many environmental media at Rocky Flats. They are found in materials like oil, coal, asphalt, and tar.
TCE	trichloroethylene	A volatile organic compound used as a solvent in past site operations. TCE is also a degradation product of PCE.
U	uranium	Naturally occurring radioactive element. There were two primary isotopes of U used during production activities. The first was enriched U, which contained a very high percentage (>90%) of U-235 and was used in nuclear weapons. The second isotope was U-238, also known as depleted uranium. U-238 has low levels of radioactivity.
ug/L or µg/L	micrograms per liter	A unit of contaminant concentration in water.
UHSU	upper hydrostratigraphic unit	A hydrogeological term describing the surficial materials and weathered bedrock found at Rocky Flats. The UHSU is hydraulically isolated from the lower hydrostratigraphic unit (see LHSU). Groundwater in some UHSU areas of Rocky Flats is contaminated with site-related COCs, while groundwater in other UHSU areas is not impacted. All groundwater in the UHSU emerges to surface water before it leaves Rocky Flats.

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Acronym or Term	Means	Definition
USFWS	United States Fish & Wildlife Service	The agency within the US Department of the Interior that is responsible for maintaining the nation-wide system of wildlife refuges, among other duties. The regional office is responsible for the RFNWR.
UUUE	unlimited use and unrestricted exposure	A regulatory term used to describe residual risk remaining after a site has been remediated. In 2007, the Peripheral Operable Unit (POU) was found to be suitable for unlimited use and unrestricted exposure (based on risk calculations). EPA removed the POU (now largely the Rocky Flats National Wildlife Refuge) from the EPA's National Priorities List of CERCLA or "Superfund" sites.
VOC	volatile organic compound	These compounds include cleaning solvents that were used in the manufacturing operations at Rocky Flats. The VOCs used at Rocky Flats include carbon tetrachloride (often called carbon tet), trichloroethene (TCE), perchloroethylene (PCE), and methylene chloride.
WALPOC	Walnut Creek Point of Compliance	The surface water Point of Compliance on Walnut Creek, at the COU boundary.
WCRA (or "the Authority")	Woman Creek Reservoir Authority	The group composed the cities of Westminster, Northglenn, and Thornton. These cities use Standley Lake as part of their drinking water supply network. Surface water from Rocky Flats formerly flowed through Woman Creek to Standley Lake, but the Woman Creek Reservoir was constructed to sever that connection. The Authority has an operations agreement with DOE to manage the Woman Creek Reservoir.
WOMPOC	Woman Creek Point of Compliance	The surface water Point of Compliance on Woman Creek, at the COU boundary.
WQCC	Water Quality Control Commission	State board within CDPHE tasked with overseeing water quality issues throughout the state. DOE has petitioned the WQCC several times in the last few years regarding water quality issues.
WRW	Wildlife Refuge Worker	User scenario on which exposure risks are calculated.
ZVI	zero valent iron	A type of fine iron particles formerly used to treat VOCs in the ETPTS and MSPTS.