

WASTEWATER DISCHARGE PERMIT REVISION

FOR: Lawrence Berkeley National Laboratories

Date: January 17, 2023



Routing

1. Adam Kern-email 1/17; revised 1/23
2. Alicia Chakrabarti – 1/23 *AC*
3. Amit Mutsuddy
4. John Roberts
5. Matilda Leong *ML*

Account Description: This is a permit revision for Lawrence Berkeley National Laboratory (LBNL), Permit No. 06600791. This permit regulates the LBNL campus except the groundwater discharges and the metal finishing operations in Building 77. The groundwater discharge is regulated under Permit No. 50347891. The metal finishing operations at Building 77 are subjected to 40 CFR 433 regulations and are regulated under Zero Discharge Permit No. 50238911. The BCC for this permit is 7300 – Laboratories.

Permit Revision: This permit is being revised with the following changes:

- Relocation of wastewater monitoring locations.

Pollutants of Concern and Permit Compliance History: Pollutants of concern are pH, metals, and Volatile Organic Compounds (VOCs). On April 8, 2022, LBNL had a malfunction with their fixed treatment unit and discharged wastewater above the hazardous waste limit of 12.5. LBNL received a stage-one violation and provided a follow-up report of findings within 5 days of EBMUD notice of violation.

Revenue Summary:

The BCC for this permit is 7300 – Laboratories. The percent discharge calculated is 60%. The diversions LBNL noted on the application are due to evaporation from the cooling towers and cooling water for the data center, and for irrigation.

Permit Year	FY2023 Estimate
Permit	\$3,130
Treatment	\$169,654
Total	\$172,784

DISTRIBUTION:

Permit Holder (electronic packet/originals):

Entire Permit
Permit Terms & Conditions

SCS (paper and electronic packet):

Routing Page (original)
Entire Permit (copy)
Permit Terms & Conditions (copy)



January 25, 2023

CERTIFIED MAIL
(Return Receipt Requested)

Mr. Jim Buehler
Lawrence Berkeley National Laboratory
One Cyclotron Road, MS75B0101
Berkeley, CA 94720

Re: Issuance of Wastewater Discharge Permit to Lawrence Berkeley National Laboratory by EBMUD, Permit No. 06600791

Dear Mr. Buehler:

The enclosed Wastewater Discharge Permit No. 06600791 covers wastewater discharges from One Cyclotron Road, Berkeley into the community sewer. This updated permit replaces the existing permit. The permit has been revised to incorporate changes to the wastewater monitoring locations. All wastewater discharges from Lawrence Berkeley National Laboratory (LBNL) actions and reports, shall be in accordance with the terms and conditions of this permit.

Enclosed with this wastewater discharge permit is a copy of the EBMUD's Standard Terms and Conditions. The current edition of the EBMUD's Wastewater Control Ordinance (Ordinance) is available at www.ebmud.com. As a permit holder you are legally responsible for complying with all requirements set forth in these documents.

If you have any questions regarding this permit, please contact John Roberts of the Wastewater Environmental Services Division at (510)287-1039.

Sincerely,

A handwritten signature in blue ink that reads 'Adam Kern'.

Adam Kern
Supervisor of Pretreatment and Pollution Prevention Programs

Enclosures:

- Wastewater Discharge Permit
- Permit Standard Terms and Conditions
- Summary of Fees and Charges

**EAST BAY MUNICIPAL UTILITY DISTRICT
WASTEWATER DISCHARGE PERMIT NO. 06600791**

In accordance with the provisions of East Bay Municipal Utility District's (EBMUD) Wastewater Control Ordinance (Ordinance) No. 358-13:

**Lawrence Berkeley National Laboratory (LBNL)
One Cyclotron Road
Berkeley, CA 94720**

is hereby authorized to discharge industrial wastewater from the above-identified facility to the community sewer in accordance with the effluent limitations, monitoring requirements and other conditions set forth herein. Compliance with this permit does not relieve **Lawrence Berkeley National Laboratory** of its obligations to comply with all applicable pretreatment regulations, standards, or requirements under local, state, and federal laws, including any such regulations, standards, requirements, or laws that might become effective during the term of this permit. Noncompliance with any term or condition of this permit shall constitute a violation of the Ordinance and this permit and could subject **Lawrence Berkeley National Laboratory** to enforcement action.

All reports and notifications required by this permit shall be made to:

East Bay Municipal Utility District
Environmental Services Division
375 11th Street, MS 702
Oakland, CA 94607-4240
(510) 287-1651 (business hours)
(866) 403-2683 (non-business hours)

Electronic submittals to john.roberts@ebmud.com (or alternatively Cleانبay@ebmud.com) are acceptable to meet a deadline, but a hardcopy with wet signature for all reports shall be mailed to the address above. This permit will become effective once issued, replacing the existing permit and will expire at midnight on **July 7, 2027**.

If **Lawrence Berkeley National Laboratory** wishes to continue to discharge after the expiration date of this permit, an application must be filed for a renewal permit in accordance with the requirements of Title IV, Section 3(a) of the Ordinance, a minimum of 60 days before this permit expires.

Sincerely,



Amit Mutsuddy, P.E.
Director of Wastewater

Issued January 23, 2023



WASTEWATER DISCHARGE PERMIT

Terms and Conditions

I. GENERAL CONDITIONS

1. LBNL shall comply with EBMUD Wastewater Control Ordinance, available at www.ebmud.com.
2. LBNL shall comply with EBMUD Wastewater Discharge Standard Terms and Conditions (STC), most recent edition, available at www.ebmud.com.

II. SIDE SEWER DESCRIPTION AND LOCATION

1. For the term of this permit, LBNL is authorized to discharge wastewater to the community sewer from the side sewer(s) described below.

Side Sewer No.	Description and Location
Side Sewer No.1 (SS#1)	Hearst monitoring station near Hearst Street and Highland Place. See attachment A.
Side Sewer No. 2 (SS#2)	Strawberry monitoring station at manhole off Centennial Drive, near the Strawberry Canyon Recreation swimming pools. See attachment A.

2. LBNL shall apply in writing to EBMUD for permission to discharge wastewater at any other side sewer than that indicated above. Reasons for the change as well as detailed plans and drawings of the proposed new side sewer must accompany the request.

III. MONITORING FACILITIES

1. LBNL shall maintain, at its own expense, monitoring facilities with safe access to allow the collection of composite and grab samples from the permitted monitoring location, **LBL 1**, and **LBL 2**. And **LBL 3**.
2. LBNL shall allow access for EBMUD employees to independently utilize these facilities to collect samples or take flow measurement readings.

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IV. DESCRIPTION OF MONITORING LOCATIONS

Monitoring Location ID	Description and Location
LBL 1	Sample box after fixed treatment unit (FTU4) outside Building 70A. 
LBL 2	The pH port of Tank 6 of the fixed treatment unit (FTU5) inside Building 2. 
LBL 3	Sample box after fixed treatment unit (FTU7) outside Building 67. 



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V. EFFLUENT LIMITATIONS

1. Effluent Limitation Requirements

LBNL shall not discharge wastewater into the community sewer if the strength of the wastewater exceeds the limits in the EBMUD Wastewater Control Ordinance, provided in the table below. The discharge from SS#1 and SS#2 must not exceed the effluent limitations listed below.

LOCAL LIMITATIONS

REGULATED PARAMETER	(LOCAL LIMITS) INSTANTANEOUS MAXIMUM (mg/L, unless noted)	(LOCAL LIMITS) DAILY MAXIMUM (mg/L)
Arsenic	-	2
Cadmium, total	-	1
Chlorinated Hydrocarbons (total identifiable) ¹	0.5	-
Chromium, total	-	2
Copper, total	-	5
Cyanide	5	-
Iron, total	-	100
Lead, total	-	2
Mercury	-	0.05
Nickel, total	-	5
Oil and Grease	100	-
pH (in S.U.) ²	not less than 5.5 ³	-
Phenolic compounds	100	-
Temperature ⁴	150F	-
Zinc, total	-	5

¹ Total Identifiable Chlorinated Hydrocarbons (TICH) – includes the following chlorinated hydrocarbons: Bromodichloromethane; Carbon tetrachloride; Chlorobenzene; Chloroethane; 2-Chloroethylvinyl ether; Chloroform; Chloromethane; Dibromochloromethane; 1,2-Dichlorobenzene; 1,3-Dichlorobenzene; 1,4-Dichlorobenzene; 1,1-Dichloroethane; 1,2-Dichloroethane; 1,1-Dichloroethene; trans-1,2 Dichloroethene; 1,2-Dichloropropane; cis-1,3-Dichloropropene; trans-1,3-Dichloropropene; Methylene chloride; 1,1,2,2-Tetrachloroethane; Tetrachloroethene; 1,1,1-Trichloroethane; 1,1,2-Trichloroethane; Trichloroethene; Trichlorofluoromethane; Vinyl chloride.

² S.U. – Standard Units

³ pH is treated as instantaneous maximum limit. LBNL shall not discharge wastewaters with pH less than or equal to 5.5 s.u. and greater than or equal to 12.5 s.u. (40 CFR 261.22(a)(1)).

⁴ 150F (65.5C), or any thermal discharge which as a result of temperature and/or volume causes the influent of the wastewater treatment plant to exceed 104F (40C).



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VI. SELF-MONITORING REQUIREMENTS

1. Sample Collection

- a. All samples shall be collected, preserved, and analyzed in accordance with the procedures established in 40 CFR Part 136, and amendments.
- b. Samples shall be collected only during operating hours and only while discharging during a representative day.
- c. If **LBNL** monitors at the monitoring location(s) outlined in this permit any pollutant more frequently than required by this permit, using test procedures prescribed in 40 CFR Part 136 or amendments thereto, or otherwise approved by the U.S. Environmental Protection Agency (EPA) or as specified in this permit, the results of such monitoring the results must be reported to EBMUD, and must be included in any calculations of actual daily maximum or monthly average pollutant discharge.
- d. With the exception of pH and cyanide, samples shall be collected using flow-proportional compositing.
- e. **LBNL** shall sample the wastewater discharge on one representative operating day at **LBL 1, LBL 2 and LBL 3** according to the following schedule:

Sampling Period	SMR Due Date
One representative day in September annually	Within 30 days, or by November 1, whichever is sooner.
One representative day in March annually	Within 30 days or by May 1, whichever is sooner.

2. Pollutant Parameters

LBNL must monitor **LBL 1, LBL 2 and LBL 3** for the following parameters, at the indicated frequency and method:

Sample Parameter	Collection Type	Method/Sample Type
pH	Grab ¹	SM 4500 H+B
Total Identifiable Chlorinated Hydrocarbons (TICH)	Grab ¹	EPA 624 or 8260B
Chemical Oxygen Demand, (COD)	Composite ²	EPA 410.4 or SM 5220D
Total Suspended Solids (TSS)	Composite ²	SM 2540D
Arsenic	Composite ²	EPA 200.7
Cadmium	Composite ²	EPA 200.7
Chromium	Composite ²	EPA 200.7
Copper	Composite ²	EPA 200.7



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Sample Parameter	Collection Type	Method/Sample Type
Lead	Composite ²	EPA 200.7
Nickel	Composite ²	EPA 200.7
Silver	Composite ²	EPA 200.7
Zinc	Composite ²	EPA 200.7

¹ The grab sample for pH shall be collected over period of time not exceeding 15 minutes.

² Each composite sample shall consist of a series of equal volume grab samples collected at a minimum of one sample per hour during all hours of discharge over a the 24-hour discharge period. The sample shall be stored in either a polyethylene or glass container. Each aliquot in an automated sampler shall be maintained at 4°C until compositing.

3. Automatic Resampling

If analytical results of a sample collected by **LBNL** indicate a violation of this permit, the **LBNL** shall do the following:

- inform EBMUD of the violation within 24 hours, and
- repeat the sampling and pollutant analysis and submit, in writing, the results of this second analysis within 30 days of becoming aware of the first violation.

VII. REPORTING REQUIREMENTS

1. Self-monitoring results shall be summarized and reported in an Industrial User Self-Monitoring Report (SMR). The Self-Monitoring Report shall:

- meet signatory requirements per 40 CFR 403.12(l)
- include the laboratory results indicating the nature and concentration of all parameters in the effluent for which sampling and analysis were performed during the reporting period
- include the chain-of-custody documentation

2. Spill or Slug Discharge Notification

LBNL shall immediately notify EBMUD Environmental Services Division at (510) 287-1651 during business hours or 866-403-2683 during non-business hours upon discovering any spill or slug discharge to the community sewer. **LBNL** shall submit to EBMUD within five days of the occurrence of a slug or spill a formal written notification describing:

- name of the facility
- location of the facility
- name of the caller
- duration of discharge including beginning and end times and dates
- location of the discharge
- estimated volume of discharge
- pollutants that may be present
- corrective actions to prevent reoccurrence
- whether discharge violates the terms and conditions of this permit



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3. Self-Reporting Violations

- a. **LBNL** shall notify EBMUD within 24 hours of becoming aware of any of the following violations:
 - i. discharges prohibited by EBMUD Ordinance, Title II, except where authorized by this permit
 - ii. exceedance of local discharge limitations
 - iii. bypass of any part of a required pretreatment system
- b. **LBNL** shall submit a written report to EBMUD within five days of becoming aware of a violation. The report shall include the following information:
 - i. the date and time of the violations
 - ii. the cause of the violation
 - iii. a description of the violation, including what was discharged
 - iv. the volume of the discharge
 - v. the duration of the discharge violation including start and end times and dates
 - vi. analytical result, if available, with chain of custody and other pertinent documentation
 - vii. measures taken to correct the violation
 - viii. measures taken to prevent reoccurrence

4. Anticipated Noncompliance

LBNL must give advance notice to EBMUD of any planned changes in the permitted facility or activity that could result in noncompliance with permit requirements.

5. Notification of bypass

If a bypass occurs, **LBNL** must notify EBMUD as follows:

- a. **Anticipated bypass.** If the Permit Holder knows in advance of the need for a bypass, it must submit prior written notice, at least 10 days before the date of the bypass, to EBMUD.
- b. **Unanticipated bypass.** The Permit Holder must notify EBMUD within 24 hours from the time it becomes aware of an unanticipated bypass and submit a written notice to the POTW within 5 days. This report must specify:
 - i. a description of the bypass, and its cause, including its duration with exact dates and times
 - ii. whether the bypass has been corrected and if the bypass has not been corrected, the anticipated time it is expected to continue
 - iii. the steps being taken or to be taken to reduce, eliminate, and prevent a reoccurrence of the bypass



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6. Planned Changes

LBNL must give notice to EBMUD 90 days before any facility expansion, production increase, or process modifications that result in new or substantially increased discharges or a change in the nature of the discharge.

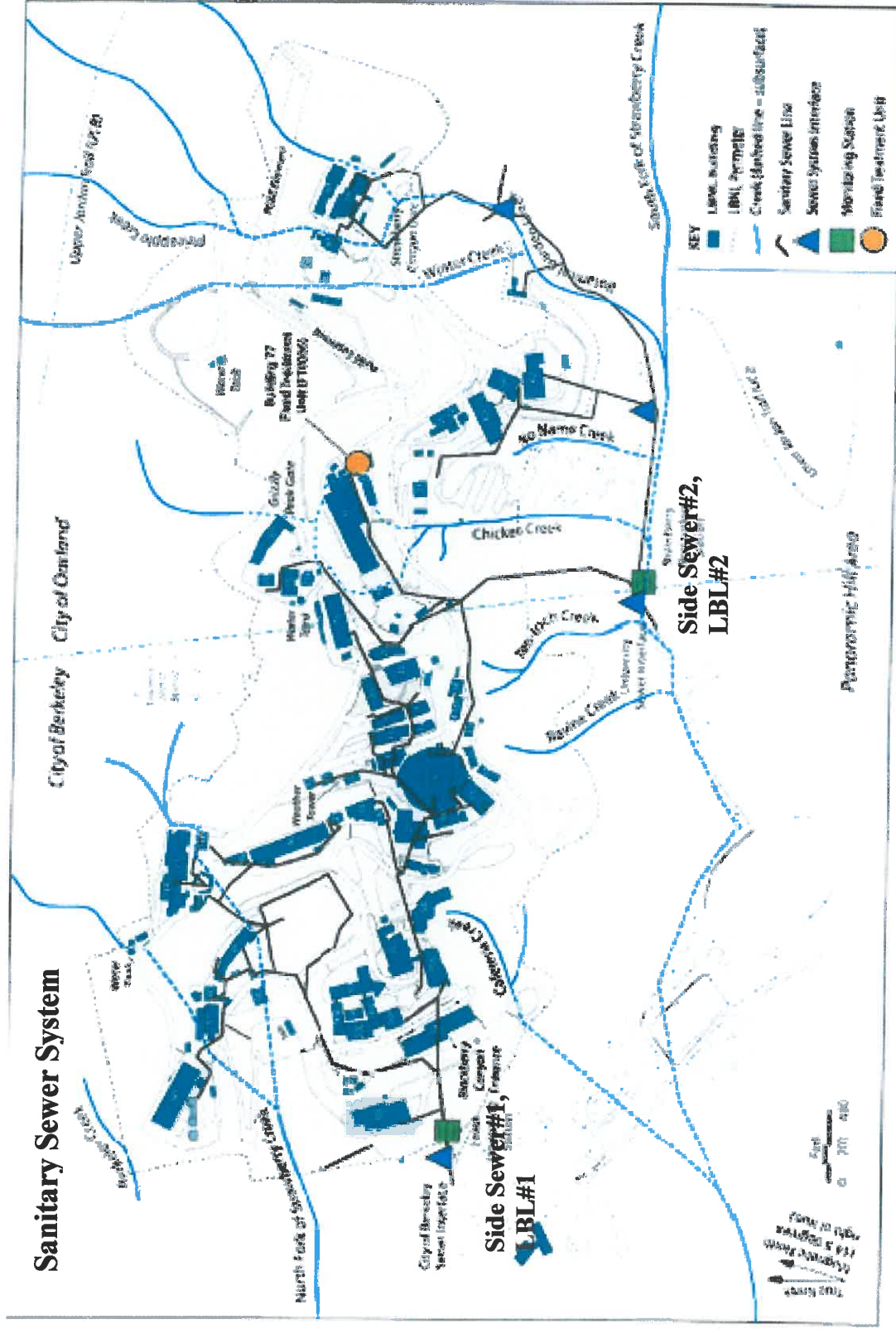
VIII. BEST MANAGEMENT PRACTICES

1. Pollution Prevention

- a. LBNL shall practice pollution prevention techniques to reduce or eliminate pollutants released from the facility. Wastes remaining should be recycled whenever possible.
- b. Documentation of the identified pollution prevention opportunities shall be maintained at the facility and updated periodically to reflect any actions implemented to minimize wastes. The documentation must be made available for review upon request. Documentation that has been required by another agency will be acceptable.



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SUMMARY OF CHARGES

The following fees and charges are due when billed by EBMUD. The fees and charges shown below are effective July 1, 2022 and are subject to change based on decisions of the EBMUD Board of Directors.

Annual Permit Fee: \$3,130.00
Inspection Monitoring Fee*: \$1,720.00
* Fee per inspection. One inspection per year is planned.

Laboratory Analysis Fees*:

Parameter	Tests per inspection	Charge per test	Total Charge per Sampling Event
pH	3	\$28.00	\$84.00
Volatile Organics	3	\$219.00	\$657.00
Chemical Oxygen Demand (COD)	3	\$60.00	\$180.00
Total Suspended Solids (TSS)	3	\$40.00	\$120.00
Arsenic, Cadmium, Chromium, Copper, Iron, Lead, Nickel, Silver, Zinc, & ICP Metals Scan	3	\$224.00	\$672.00

WASTEWATER TREATMENT RATE

Account Number	Meter Number	BCC Code	BCC Description	Percent Discharged	Fixed Volume CCf/Month	Meter Rate \$/Ccf
14863800001	00004710	7300	LABORATORIES	60.0	0	\$2.28
14863900001	70027448	7300	LABORATORIES	60.0	0	\$2.28