Department of Conservation and Development

County Planning Commission

Wednesday, July 11, 2018 – 7:00 .P.M.

STAFF REPORT **Agenda Item #____**

Project Title:	Keller Canyon Landfill Land Use Permit Review
County File(s):	#LP89-2020
Applicant/Owner:	Keller Canyon Landfill Company (KCLC) / Republic Services
General Plan/Zoning:	Landfill (LF) / Heavy Agricultural (A-3)
Site Address/Location:	901 Bailey Road, Pittsburg – Bay Point area (APN: 094-060-008, 018, 019, 020 & 021)
California Environmental Quality Act (CEQA) Status:	Exempt. This action does not constitute a project since staff is not recommending any new or modified conditions of approval for the existing land use permit (LUP). This permit review and the preparation and proposed acceptance of the staff report are purely administrative in nature and not subject to CEQA per Section 15061(b)(3).
Project Planner:	David Brockbank, Senior Planner (925) 674-7794
Staff Recommendation:	ACCEPT the fourth staff report prepared for Keller Canyon Landfill's (KCL) third LUP review. CONSIDER continuing permit review hearing to first County Planning Commission (CPC) meeting in October (three months), to allow the completion of key physical improvements at the landfill (and the assessment of alleged disposal of potentially radioactive material from Hunters Point Naval Shipyard). Staff will determine if additional permit compliance is warranted that may include potential modification(s) to the conditions of approval.

I. BACKGROUND

The CPC continued KCL's third annual LUP review for a third time on January 10, 2018.

The first hearing, held on October 25, 2017, was continued to December 6, 2017, and continued a second time to January 10, 2018. The third continuation in January, to July 11, 2018, included a three month update on April 11, 2018. The first, as well as the second continuance was based on testimony from some of the residents living in the adjacent neighborhood that brought up various issues allegedly to be associated with the landfill, including odor, dust, noise, visual impacts, seagulls, and litter. It was determined at the October 2017 meeting that the CPC wanted more time to further review the issues and give staff time to prepare responses to questions from the CPC and the public. Staff's supplemental staff report in December addressed each of the concerns brought up by the local residents. At the December 2017 meeting, additional residents raised a number of similar neighborhood concerns potentially associated with the landfill. The operator also made a presentation about landfill operations and provided information specific to previous concerns from the public. The CPC Chair then closed the public hearing and the commissioners began deliberations. The item was continued a second time.

Due to the number of complaints about the landfill from the community, the CPC was not prepared to move the KCL permit review on to the Board of Supervisors (Board). The CPC continued the hearing a third time to the first meeting in July. Staff was also directed to prepare a three-month status update in April 2018, informing the CPC and other interested parties about the landfill's progress on a number of possible odor reducing projects including installation of methane gas wells, potentially moving to a new disposal cell one-half mile south, away from the residential neighborhoods. This report serves as the fourth staff report for KCL's third permit review.

II. STATUS UPDATE

Hunters Point Naval Shipyard (HPNS): On April 21, 2018, the San Francisco Chronicle published an article regarding material that may have been sent to KCL back in 2010-2011. The article alleges falsified documentation associated with radiological waste from HPNS that was sent to one or more landfills across the state, including KCL. Contra Costa Environmental Health (CCEH) acting as the Local Enforcement Agency (LEA), and the Department of Conservation and Development (DCD), are working with state and federal agencies in coordination with the landfill operator to investigate if any of the waste material in question was disposed at KCL. If radiological waste was sent to KCL, the investigation will examine if there are potential health concerns for employees and local residents and what, if any, remedial actions are necessary.

At the Board of Supervisor's (Board) direction, County staff prepared a brief report

related to the allegations printed in the newspaper on May 1, 2018. At the end of May, CCEH put out a Request for Qualifications / Proposal in order to contract with a consultant to recommend the most appropriate means of assessing the landfill and surrounding community to detect the presence of any potential radioactive material that may have been disposed at KCL. Staff is expected to return to the Board in early July with an updated report related to progress on hiring expert consultant(s), what additional research may be needed, and share feedback from the community meeting.

At the May 1, 2018 Board meeting, District V Supervisor's Office requested a community meeting be held for residents of Pittsburg and Bay Point, with representatives from applicable federal, state and local agencies on hand to discuss the on-going investigation and future potential testing for radioactive material. CCEH made a brief presentation at the Bay Point Municipal Advisory Council (MAC) meeting on May 1, 2018. CCEH also organized a community meeting held on June 21, 2018, at the Ambrose Community Center in Bay Point. Experts from the Radiologic Health Branch of the state Department of Public Health, US Navy, San Francisco Regional Water Quality Control Board (RWQCB), and other state and local agencies were in attendance to speak and/or answer questions.

Representatives of the Navy and Department of Public Health gave technically detailed presentations on the types of radiation and types of radioactive material found at the HPNS, as well as the detailed process for examining and transporting material offsite. After all the presentations, members of the audience that wrote down questions were answered by the appropriate agency. Once questions were answered, the time remaining was limited for residents to comment and share personal concerns with the landfill and its operations. Generally these comments were more emotional, explaining major concerns about public health and safety.

Odors: Conditions of Approval (COA) #20.2 addresses odor containment, which was specifically cited by the CPC at a previous KCL permit review hearing. However, only the first half of the initial sentence of this condition was quoted, "The landfill operator shall operate the landfill in a manner that prevents odors from being detected off-site," while the second half of the sentence, "...pursuant to Regulations 7-101 and 7-102 of the Bay Area Air Quality Management District (BAAQMD)" was omitted. Those regulations are attached as Exhibit B and refer to handling citizen complaints. The Odor Containment condition, nor the authors of the LUP envisioned a landfill without odors, but rather established a system and process for handling odor complaints. The operator would also use best management practices (BMPs) to minimize odors from migrating off-site, which is cited in the second paragraph of the COA.

The landfill operator has initiated several BMPs to address odors potentially migrating off-site. Again, those include contracting with odor experts, installing odor suppression devices, and monitoring/inspecting potential on-site sources like the leachate tanks, as well as conducting regular odor investigations on- and off-site. Several members of KCL's staff are on the list of recipients for all odor complaints submitted through the County website; because of this, the landfill operator is made aware of complaints as soon as they are submitted to the County. Since the last permit review status update presented on April 11, 2018, only three odor complaints were submitted through the County's on-line system with the following monthly breakdown:

April 2018: 2 complaints
May 2018: 1 complaints
June 2018: zero complaints

Odor complaints were less frequent in the prior 26 years of the landfill's existence, but the dramatic increase in complaints is likely due to the location of the disposal cell being the closest to the residential neighborhood(s) than ever before. This was compounded by the disposal of anaerobic material that came from West County in this close proximity to sensitive receptors, and creating the online complaint form made issuing complaints easier.

At the January 10 meeting, the CPC requested staff to research other landfills and solid waste facilities to determine what other facilities have used or are using to address odor issues. For the April CPC update, staff spoke with other regulatory agency inspectors and asked what other landfills, compost facilities, and transfer stations, used or implemented for odor issues. The reason staff turned to other regulatory agencies was that inspectors monitor multiple sites and multiple facilities, not just one landfill or transfer station. Inspectors review a range of facilities from large-scale operations similar to KCL, to smaller organics processing facilities, and more in between.

During the April permit review update, the CPC reiterated for staff to research the effectiveness of installing tree lines/breaks to mitigate odors, and look at industry associations such the Solid Waste Association of North America (SWANA). SWANA is a paid membership association, made up of primarily private industry (companies/facilities). Although the County is not a member, staff searched the site for odor mitigations and then specifically landfill odors, with limited access. Transfer stations can effectively control odor by closing their large bay doors. Landfills do not

operate inside enclosed buildings; landfills close at the end of the day by adding daily cover or alternative daily cover, which KCL is required to do for vector control, litter control and odor management, under the land use permit and Solid Waste Facility Permit (SWFP). Staff's limited research on the SWANA site provided access to descriptions, programs, and industry awards (pdf files) for solid waste processing facilities across the Country. The common effective tools for odor management include:

A. Landfill gas (LFG) extraction system, use of vertical LFG wells;
B. Converting or burning excess LFG through power plant or flares;
C. Using odor control / minimizing system (e.g. misters) at the active face; and
D. Application of Daily cover or Alternative Daily Cover. Staff has attached SWANA's T-9.2 Technical Policy about Daily Cover, specifically six-inches of compacted soil (Exhibit C).

The above common practices (A. – D.) utilized amongst landfills is what KCL is already using. Staff could not find any landfill odor BMPs that included the planting of trees. Staff reached out to several local arborists. The few that responded to staff's inquiry, none had experience working in a landfill setting, but they all provided similar feedback noting that certain trees in local climate zones could be used effectively as wind breaks. One example is the Italian Cypress tree, which has very dense foliage, but is also very narrow, and requires numerous trees to be effective over a long distance.

Without some conclusive evidence establishing that a tree break will solve the odor issue, staff is not prepared to recommend any tree break requirements be imposed at this time. Staff's research has reinforced the validity of previously suggested actions as the most likely effective odor mitigation and control strategy, which relies on proven methods, including relocating the disposal cell one half mile further from the nearest residences. Although KCL has not received written approval to construct Phase 2E, at the time this staff report was written, the Design Report is completed and being reviewed. Weather permitting, active disposal of waste should begin in the new cell by September at the latest, before the rainy season. Attachment A is an updated list of those projects that staff provided the CPC in April, with an associated timeline that includes start and completion dates.

Litter: Since late April to the end of June this year, five litter complaints were submitted to the Local Enforcement Agency (LEA) and/or DCD. Staff investigated the litter complaints and forwarded the complaints to the operator to address on-site clean-up.

Four of the complaints could not be confirmed, as no litter appeared to be blowing off site or through the neighborhood, as described by complainant. The June 11, 2018, complaint was evidenced through photos of several plastic bags stuck against the property line fence of the landfill and a local residence. Landfill personnel removed those bags along with others found at the terminus of Jacqueline Drive on June 13, 2018.

The operator regularly maintains a litter crew onsite to clear debris from the litter fences, but also collects litter from the buffer areas (open hillsides surrounding the disposal area). On windy days, the operator will increase the size of the litter crew as needed. It is known that this area of the County, especially near the landfill, experiences regular high winds. High wind speeds along with the transportation and disposal of municipal solid waste can make it challenging to control litter. The landfill operator is responsible for controlling and containing the litter so staff from the LEA and DCD will continue to work with the operator to best address the issue. When staff receives a litter complaint, we forward that complaint to the operator and the LEA follows up with the complainant as well.

Visual: The operator has moved up the scheduled construction of disposal cell Phase 2E, rather than waiting until the end of 2019 to move away from the current active disposal cell, Phase 3B1 cell. Staff also reported at the April permit status update, Phase 2E cell is approximately 0.5 miles south of Phase 3B1. This distance provides a larger buffer between active disposal activity and the closest residences. Relocating the disposal activity to Phase 2E will address three primary concerns: odor issues, excessive noise, and reduce visible landfill operations. Trucks entering and leaving the landfill may still be visible; this impact may be addressed with the design and construction of mitigation berms and further build-out of the Toe Berm. Once active disposal moves to Phase 2E, the operator can continue working to increase the height of the Toe Berm per design and start constructing mitigation berms. Building up the Toe Berm and installing new mitigation berms will also help to minimize future odor, noise, and visual impacts.

Noise: Staff has not received any noise complaints about the landfill since March 2018.

IV. CONCLUSION

Staff recommends that the CPC accept this fourth staff report on the third permit review for KCL's use permit, and continue the permit review to the first CPC meeting in October 2018, to review and assess alleged disposal of potentially radioactive material from Hunters Point Naval Shipyard.

Exhibit A: 2018/19 Timeline of Scheduled Improvements at KCL
Exhibit B: BAAQMD Regulation 7 of Odor Containment COA #20.2
Exhibit C: SWANA's T-9.2 Technical Policy

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EXHIBIT A

CPC – July 11, 2018

Milestone	Status	Targeted Start Date	Targeted Completion Date	Comments
Gas Collection & Control System	26 New Methane Gas Wells Installed	March 2018	May 2018	Newest extraction wells online and functioning per design.
Replacement Flare Station Upgrades	Design in Progress	Autumn 2018	Spring / Summer 2019	Electrical Upgrade Complete. Blower skid being fabricated and installed September 2018, providing greater landfill gas collection capacity. BAAQMD reviewing emission calculations.
Phase 2E Design	Design Complete and Report submitted, April 2018.	December 2017	April 2018	Awaiting confirmation of RWQCB Approval.
Phase 2E Construction	Grading Complete and Liner System installation is underway.	March 2018	August/September 2018	Construction period approximately 18 weeks, weather permitting.
Toe Berm / Mitigation Lift Level Berms Feasibility Study	Talking to consulting engineers, establishing parameters of feasibility study.	Autumn 2018	November / December 2018	Fiscal year resources dedicated to new Phase 2E construction. Study of Toe / Mitigation berms to follow.
Toe Berm / Mitigation Berm Construction	Studying construction of mitigation berms, increasing height of Toe Berm.	Spring 2019	Autumn 2019	Weather permitting.

REGULATION 7
ODOROUS SUBSTANCES

7-100 GENERAL

7-101 **Description:** This Regulation places general limitations on odorous substances and specific emission limitations on certain odorous compounds. A person must meet all limitations of this Regulation, but meeting such limitations shall not exempt such person from any other requirements of the District, state or federal law. See also Rule 1, Sulfur Dioxide and Rule 2, Hydrogen Sulfide, of Regulation 9, Inorganic Gaseous Pollutants.

7-102 **Citizen Complaints:** The limitations of this Regulation shall not be applicable until the APCO receives odor complaints from ten or more complainants within a 90-day period, alleging that a person has caused odors perceived at or beyond the property line of such person and deemed to be objectionable by the complainants in the normal course of their work, travel or residence. When the limits of this regulation become effective as a result of citizen complaints described above, the limits shall remain effective until such time as no citizen complaints have been received by the APCO for 1 year. The limits of this Regulation shall become applicable again when the APCO receives odor complaints from five or more complainants within a 90-day period. (Amended May 21, 1980)

Condition of Approval

20.2 Odor Containment. The Landfill operator shall operate the Landfill in a manner that prevents odors from being detected off-site, pursuant to Regulations 7-101 and 7-102 of the Bay Area Air Quality Management District. If odors are reported to Contra Costa Environmental Health, or reports are relayed from the Bay Area Air Quality Management District, the Department of Conservation and Development or Contra Costa Environmental Health may require additional physical improvements or management practices as necessary to alleviate the problem. Contra Costa Environmental Health shall have the authority to cease disposal at a particular area of the Landfill, to control odors. A small daily working face (3 acres or less) shall be maintained. The leachate treatment system shall be enclosed and properly maintained to control odors from leachate. The landfill gas collection system and flare shall utilize BACT to reduce landfill gas as a source of toxics and odor.

The Landfill operator shall implement Best Management Practices of the industry to minimize odors from operations and emissions from equipment. If the operator is contacted about odors being detected off-site, the date, time and description of the odor complaint shall be logged and investigated promptly to expedite implementation of any necessary corrective action by the landfill operator. The Landfill operator shall contact Contra Costa Environmental Health or the Bay Area Air Quality Management District at minimum of once per year to obtain any information possible about odor complaints received by each agency. Any odor complaints received by the Landfill operator, Contra Costa Environmental Health or the Bay Area Air Quality Management District shall be included in the annual Activities Report required under the Landfill's Franchise Agreement unless otherwise specified by the Director of Conservation and Development. The landfill operator shall provide a means for receiving after hours odor complaints. Complaints shall be promptly investigated (after hours investigations required if/when multiple after hours complaints received on the same day or on multiple consecutive days) to identify whether the source of the odor is on the landfill site, in which case the problem should be corrected in a timely manner. A response to the person lodging the complaint shall be made within 48 hours and copied to the Department of Conservation and Development, detailing the problem and remedial action taken.

T-9.2
SWANA TECHNICAL POLICY

ALTERNATIVE DAILY COVER MATERIALS FOR SANITARY LANDFILLS

I. POLICY

SWANA supports the appropriate use of field proven alternative daily cover materials (ADCs) for sanitary landfills. Such usage should be based on site-specific characteristics of each disposal site and applicable provincial, state or local government rules and regulations. The use of ADCs, as a substitute for compacted soil, should be based upon economic analysis, performance of the ADC material to provide protection of human health and environmental quality under specific site conditions and other complementary management practices which achieve comparable results similar to that of soil.

II. DISCUSSION

A. The Value of Daily Cover

In sanitary landfill design and operation, daily cover of six (6) inches [15 centimeters]* of compacted soil has been the standard of practice for well over 30 years. Soil cover continues to be used extensively today. The use of 6" of compacted soil as daily cover was adopted based on the understanding that six (6) inches of compacted soil cover represents the practical minimum depth that can be placed over solid waste to prevent the emergence of adult flies from the landfilled solid waste mass. When implemented properly, this practice achieves a basic objective of protection of human health. Albeit, six (6) inches of compacted soil daily cover also provides several other beneficial functions as follows:

1. **Additional vector control** - six (6) inches of compacted soil reduces available breeding sites for mosquitoes and discourages solid waste from serving as an attractant to domestic/feral and wild animals.

2. **Fire control** - six (6) inches of compacted soil reduces the potential for, and movement of, fires within a landfill.

3. **Litter control** - six (6) inches of compacted soil helps to control blowing litter.

4. **Odor control** - six (6) inches of compacted soil serves as an odor barrier/or filter for odors emanating from solid waste.

5. **Aesthetics** - six (6) inches of compacted soil covering at the end of each working day, or more frequently, improves the aesthetics for site users and neighbors. Further, daily cover reinforces the perception of a sanitary landfill as opposed to open dumps.

6. **Run-on/Run-off** - six (6) inches of compacted soils serves to reduce the infiltration of storm water run-on into the filled mass of solid waste and helps to increase run-off of precipitation.

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* Hereafter in the text, the use of the term *6 inches* is also meant to represent *15 centimeters*.

B. Further Considerations

Advancements in the field of solid waste management has led to the emergence of daily cover materials other than six (6) inches of compacted soil. These materials include composted green wastes, foam, tarps, shredded tires, shredded C&D wastes, and certain industrial materials to mention a few. The end result is that a wide range of products, materials and operational practices have been introduced as alternate daily cover (ADCs).

Locally available materials, local climatic conditions and site specific characteristics will guide what ADCs will and will not work at a particular site. It will take a significant amount of experience on the part of a landfill manager to determine whether a particular ADC will work at their specific site. Landfill managers should collect data, meet with regulators, talk with their peers, and pilot test the use of ADCs before deciding on its use in lieu of traditional compacted soil cover. SWANA will continue its efforts to provide to its Membership information and research results on suitable ADCs to landfill managers and others to make this decision process easier.

Other issues specific to ADCs include:

1. **Six inches of compacted soil uses up valuable space in a landfill:** Landfills are in the business of utilizing space. Efforts to maximize the use of space should be explored. Arguments are presented that the use of six (6) inches of compacted soil as daily cover consumes up to 20-25 percent of the space in a landfill. Whether this is the case or not is a site specific circumstance. Some suggest that six inches of compacted soil daily cover merely fills the voids in the solid waste mass, and when buried with sufficient amounts of solid waste does not significantly reduce the volume available for solid waste. However, solid waste that is adequately compacted to densities in excess of 1400 pounds per cubic yard [830 kilograms per cubic meter] may not have a significant volume of voids. SWANA believes further study may be worthwhile to determine the actual impact the use of six inches of compacted soil daily cover on landfill capacity.

2. **Soil can be very expensive:** When landfill owners/operators do not have sufficient soil on-site for daily cover and must purchase and import cover materials, it can represent significant increased operating costs. Hauling cover from off-site also increases traffic, road wear and tear, increased fuel consumption and increased air emissions. Alternate daily cover materials, which may be less expensive than importing soil to a site, could significantly reduce the overall operating costs for landfill operations.