Demler Brothers, LLC

Manure Processing Facility Project

PDS2019-MUP-19-004

Project Description

Demler Brothers, LLC (Applicant) proposes to construct a 16,200 square foot (sq. ft.) building to house a manure processing system (proposed project) which would allow the existing on-site egg ranch to become more efficient and sustainable. The manure processing system would be capable of converting poultry manure into organic fertilizer pellets. Pelleting the manure on-site would lower storage and transportation costs, reduce dust and odors generated and allow the Applicant to sell a more valuable product. Manure would be transported from the hen houses to the processing facility via automated conveyor belts or on-site trucking.

The existing General Plan Regional Category for the subject site is Rural and the General Plan land use designation is Rural Lands (RL-40; 1 dwelling unit per 40 acres). The project is an allowed use under the current A72 (General Agriculture) zone that applies to the property with approval of a Major Use Permit (MUP) from the County of San Diego. The proposed MUP area comprises an approximate 6.0-acre portion of the overall 362.1-acre existing egg ranch property.

Project Location

The subject site is located in the Ramona Community Planning Area within unincorporated San Diego County. The project site is located at 25818 State Route 78 (SR 78) (also known as Julian Road) between Rancho Santa Teresa Drive and Casner Road. Access to the site from SR 78 is provided by a private driveway located approximately 1,000 feet west of Rancho Santa Teresa Drive (Figure 1, Vicinity Map). The overall property on which the existing egg ranch is located is approximately 362.1 acres and spans five contiguous parcels [County Assessor Parcels (APN) 286-030-21, 286-030-22, 286-030-09, 286-031-01, and 286-040-10]. The proposed project comprises an approximate 6.0-acres and would be located on portions of APN 286-031-01 of 286-030-22 (see MUP Plot Plan and Preliminary Grading Plan, available under separate cover).

Project Setting

The location for the proposed building has been selected because of its proximity to the existing farm operations on-site. The building will be placed on a graded pad that was previously used as a location for additional hen houses. The hen houses have since been removed and the site remains heavily disturbed. The project site is predominately barren landscape composed of previously-disturbed dirt surfaces and sparse vegetation due to historic and ongoing use by trucks and farming equipment traffic. Site topography is essentially flat open space that gradually slopes to the east and south beyond the development limits of the proposed improvements. A 200' setback from the area of inundation would be maintained by the proposed project.

Project Features

- Manure processing system
- 16,200 sq. ft building (approximately 28 ft in height) to house the manure processing system (MUP)
- Conveyor belt system and dryer equipment
- 6.0-acre Major Use Permit area

Existing Conditions

The existing Demler Brothers Egg Ranch currently houses roughly 2 million chickens that produce approximately 750 tons of manure per week. Henhouses on the ranch can accommodate up to 3 million chickens which could produce approximately 1,125 tons of manure per week. Therefore, for the purpose of the MUP application, it is assumed that the existing egg ranch would operate at a capacity of 3 million chickens; 1,125 tons of manure per week. The existing egg ranch, including the ancillary uses related to egg laying, number of chickens, henhouses, egg washing plant, agricultural office is a by-right use under current County zoning so its facilities and operations are not considered part of the proposed project and Major Use Permit application, but rather that which can occur under existing conditions without additional County approvals (see MUP Plot Plan). The egg ranch has been in operation and existence since 1974.

Currently, the egg ranch has one method for manure collection for both the older and newer hen houses on-site. Conveyor belts inside the hen houses transports the manure into semi-truck trailers, which then haul the manure off-site. However, manure from the older hen houses must be stored in on-site dry wells then transported to the loading area near the new houses by on-site trucks. The older hen houses (approximately 700,000 chickens) produce approximately 260 tons of manure per week, which requires approximately 26 internal truck trips (truck with a loading capacity of 10 tons). The unprocessed manure is loaded into large semi-trucks and trucked off-site.

With 3 million chickens the egg ranch would produce approximately 48 truckloads of manure per week. Trucks are currently loaded Monday through Saturday from 4:00 a.m. to 3:00 p.m. It typically takes approximately 2-3 hours to load one truck. The majority of the trucks leaving the site travel east to the Imperial Valley to deliver manure to fertilizer processing facilities.

Proposed Conditions

The Applicant proposes to construct an approximately 16,200 sq. ft. building to house a poultry manure pelleting system on their existing property instead of shipping unprocessed manure off-site. The purpose of the project is to improve the efficiency at the egg ranch while also creating a more valuable by-product from the poultry manure.

As part of the project, the Applicant would purchase three prefabricated 100 HP electric manure processing units. The entire pelleting process would run on electricity and require no fuel, besides for the trucking of materials (see **Operations Plan**). The units could be scaled in phases to accommodate future growth. The units would be shipped directly to the site and the Applicant would assemble the units inside of the proposed building within 2-3 weeks of delivery. Once the units are assembled, the proposed manure processing system would require limited maintenance and could operate automatically without supervision if necessary. However, the proposed project would have 3-5 full-time employees (3 employees currently employed on-site; 2 additional employees may be hired) who would monitor the equipment to ensure the system is operating properly and to assist with loading the pellets onto delivery trucks.

The proposed project would continue to use the existing manure collection methods within their hen houses. Currently, conveyor belts inside the hen houses transports the manure into semi-truck trailers, which then haul the manure off-site. Instead, manure would be collected and transported to the proposed pelleting system on-site. The newer hen houses, immediately adjacent to the proposed project, would have covered conveyor belts that would transport the manure from the hen houses to the proposed manure pelleting building (see **Figure 1** below for a representation of the covered conveyor belt). On the way to the pelleting building, the conveyor belts would pass through a drying system that is heated from hot air blown out from the existing fans of the henhouses. The conveyor belts would be self-automated and run on a set schedule. Manure from the older hen houses would first be collected in existing on-site dry wells then transported to the proposed manure processing facility via existing on-site trucks. The older hen houses would produce approximately 260 tons of manure per week which would require approximately 26 internal truck trips (truck with loading capacity of 10 tons).

Figure 1: Example of a Covered Conveyor Belt

Trucks would be loaded Monday through Saturday from 4:00 a.m. to 3:00 p.m. Loading time would be reduced from 2-3 hours to approximately 15 minutes per truck. It is anticipated that the manure pellets would be trucked east towards Imperial Valley. This would reduce the estimated truckloads generated per week from 48 to 30 (at full capacity; 3 million chickens) which would substantially cut down on traffic and emissions associated with the transport of manure from the site (see Table 1, Change in Total Manure Output). The proposed project would result in 2 daily vehicle trips or 14 fewer PCE trips when compared

to operations without the proposed project. Therefore, the proposed project is not expected to increase traffic along SR-78 (see Traffic Memo). Locally, the proposed project would be accessed via the existing entrance and 24-foot wide decomposed granite (d.g.) private driveway to the property from SR 78. The applicant may also use an existing 14-foot wide d.g. access drive, located approximately 0.5 mile to the east of the current entrance, to serve as secondary access. No improvements are required or proposed for either access drive.

Table 1: Change in Total Manure Site Output

	Final Output of Manure per Chicken per Week (lbs.)	Total Manure per Week (tons)	Truckloads per Week (25 tons per truck)	Truckloads per Day (Monday-Saturday)
Existing Conditions - Unprocessed Manure (2 million chickens)	***.75***	***750***	***30***	***5***
Existing Conditions - Unprocessed Manure (3 million chickens)	***.75***	***1,125***	***48***	***8***
Proposed Conditions – Pelleted Manure (3 million chickens)	***.5***[1]	***750***	***30***	***5***

[1] Proposed manure processing operations would reduce final manure volume by ~30%.

The manure drying system would also reduce the amount of ammonia and dust in the air which would improve odor and health conditions at the project site. Furthermore, as part of the drying and pelleting process the manure would be converted into organic fertilizer which is highly desirable to farmers due to the substantial levels of nitrogen, phosphorus and potassium. To produce a marketable and easily transportable product, the poultry manure would be pelleted on-site as part of the proposed project. All machinery for the proposed project, besides conveyor belts and dryer equipment, will be located within the proposed 16,200 sq. ft. building. See the **Operations Plan** for more information on the pelleting process.

Placement of the proposed project on the subject site would adhere to the required 1,000-foot setback from the nearest pool, tennis court, public playground or residential dwelling units, as outlined under San Diego County Zoning Ordinance Section 6902, Animal Waste Processing Setback. In addition to the setback, the MUP would limit operation of the proposed manure processing system to the hours of 6:00 a.m. to 10:00 p.m. (16 hours a day) every day of the year (with exception of holidays), thereby reducing potential noise effects on nearby residents.

The ranch currently has ten active groundwater wells on-site that produce between 10-100 gallons per minute. The current egg ranch is served by these wells. Existing water usage on the egg ranch is approximately 14,400,000 gallons of water per year.

The manure processing system requires a small amount of water to be used during the compression of the manure into pellets to bind the material. The annual water usage for the proposed project would be approximately 400,000 gallons. The proposed pelletizaion plant will not use groundwater. The proposed project would be served by trucked in water from an outlying water district. This equates to 100 trips/year or 2 truck trips per week. Since the project is also reducing truck trips with the pelletization plant, these additional truck trips associated with the trucked in water are less than the current egg ranch project, and therefore not an impact on the surrounding traffic. . See **Table 2** below for more information.

Table 2: Estimated Annual Water Usage

Use	Annual Gallons of Water
Existing Conditions (Groundwater Use)	
Animal Consumption	14,000,000
Egg Processing	200,000
Irrigation	200,000
Total	14,400,000
Proposed Conditions (Trucked Water)	
Manure Processing Facility	400,000[1]

[1] Approximately ten gallons of water (steam) per ton of manure

Construction

Schedule

The proposed project is anticipated to be built over an approximate 6-month timeframe starting in the Q4 of 2020. It is anticipated that the work would be completed in 8- to 10-hour shifts, with a total of five shifts per week (Monday-Friday). Overtime and weekend work would occur as necessary to meet scheduled milestones or accelerate the schedule and would comply with all applicable California labor laws.

Construction Activities

Since the subject site is fairly level, required grading is expected to be minor and would require approximately 3,000 cubic yards (c.y.) (balanced cut and fill). Grading would be accomplished with equipment such as scrapers, motor graders, water trucks, dozers, and compaction equipment. Building materials and equipment would be off-loaded and installed using small cranes, boom trucks, forklifts, rubber-tired loaders, rubber-tired backhoes and other small- to medium-sized construction equipment as needed. Construction equipment would be delivered to the site on “low bed” trucks unless the equipment can be driven to the site (e.g., boom trucks). Vegetation would be removed as needed.