REPORT TO THE PLANNING COMMISSION

DATE: July 14, 2020

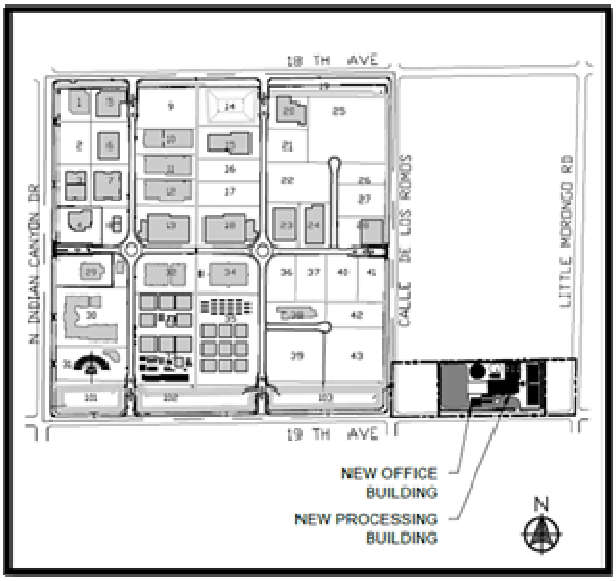
TITLE: Development Permit No. 20-9; An application to develop a Anaerobic Digester facility on a 9.76 acre parcel.

Prepared by: Patricia Villagomez, Assistant Planner
Reviewed by: Rebecca Deming, Community Development Director

RECOMMENDATION

1) Staff Report
2) Entertain questions of Staff from the Planning Commission;
3) Open Public Hearing;
4) Take testimony from Applicant;
5) Take public testimony for those in favor;
6) Take public testimony from those opposed;
7) Take public testimony from those in a neutral position;
8) Opportunity for Applicant rebuttal;
9) Close the Public Hearing
10) Planning Commission discussion and questions to Staff; and
11) Recommendation for approval of 1) Adoption of a Mitigated Negative Declaration 2) Development Permit No. 20-9 to develop a Anaerobic Digestor Facility on a 9.76 acre parcel.

EXECUTIVE SUMMARY



The applicant, Coachillin Holdings, has filed an application to develop an Anaerobic Digester on a 9.76-acre parcel to process waste and turn into biomethane gas. The project is located north of 19th Avenue and east of Calle De Los Romos in the I-L (Light Industrial) District.

Renewable Organics Management Group uses anaerobic digestion to sustainably create renewble natural gas from unused food sources and yard trimmings. Over the past 15 years, they have installed over a dozens systems throughtout the United States, Canada, and South America. The ROM Group has a great track record of safe, clean and efficient operations. This inlcudeds on site and remote monitoring of all aspects of system, as well as the ability to improve and augment the system for optimal performance.

BACKGROUND

Anaerobic disgestion is the biological decomposition of organic matter with little or no oxygen, producing a biogas composed primarily of carbon dioxide (CO2) and methane. Anaerobic decomposition (not digestion) yielding methane occurs naturally in marshes, wetlands, landfills, ruminants, and certain insects. There are a variety of controlled systems where AD technology is currently used in the United States, including wastewater treatment facilties and dairy manure digesters and co-disgesters. In other countries (primarily in Europe), AD technology is used to process and treat the organic protion of municipal solid waste to recover energy and to reduce

the overall volume of solid waste in landfills (CalRecycle 2011).

The benefits of an anaerobic digestion include a reduction in the mass of organic waste in landfills, reduced fugitive methane emissions from landfills, generation of soil amendments (fertilizers), reduction in odor, generation of renewable energy, and stabilization of organic material prior to disposal, which reduces enviromental impacts to air and water quality (CalRecycle 2011).

FEEDSTOCKS

The organic waste feedstocks that would be handled by the AD include food waste and green waste. Food waste includes food processing waste and fats, oils, and greases. Green material includes urban, agricultural, crop residues, and other green material. Unprocessed animal tissue (carcasses), biosolids, untreated septage, dairy manure, or hazardous waste are not included as part of the feedstock for the proposed AD.

For the proposed AD, feedstocks would be received in the Organic Waste Material Receiving Building located on the southern end of the parcel. The feedstocks would be delivered by truck to one of two weigh bridges. Access to the Materials Receiving Building would be from 19th Avenue. The facility would take in between 50 and 495 tons of feedstock; the intake would be phased over a 10-year period as described in the “Operational Phasing” section, below.

OPERATION:

The proposed AD has three main operational stages: pre-processing, digestions, and post-processing. The stages are described below:

Pre-Processing – includes the activities necessary to prepare the feedstocks for delivery into the AD vessel. Pre-processing activities include feedstock receiving, storage of feedstock, all processing steps required to prepare the feedstock for the digester (such as sorting, screening, grinding, and wetting) and the process of feedstock delivery to the digester. For the proposed project, all pre-processing will occur in the materials receiving area.

Waste will be placed on a conveyer which travels over a screen to remove large objects. The output of the screen is sent to a manual separation picking line. Metal material is separated using a magnetic separator. Plastics, metals, glass, rubber, paper and cardboard, and textiles that are separated are recycled or sold.

After the material is separated, it is sent through a shredder and macerator to reduce the particle size. After shredding and maceration, water is added in a mixing tank. Approximately 6,600 gallons of water per day will be required for the first two months of operation, then approximately 2,600 gallons of water per day for the third and fourth months of operation. After the fourth month of operation, water will be generated from the system and will be recycled to provide process water.

Digestion. Through the AD process, the biomass (organic residues from the food waste and green waste) that is left after pre-processing is converted to biogas through the digestion process. Digestion will occur in five multi-stage AD tanks located behind (north of) the Materials Receiving Building. Not all of the digester tanks may be used at once, depending on the amount of organic waste received at the facility at any one time. Production of biogas from organic matter involves a number of microbiological activities that convert solid or semi-solid materials into gaseous form in the absence of oxygen. The generated biogas is the metabolic product of bacteria. Biogas is an energy-rich mixture of CH_4 (50-70 percent) and CO_2 (30-50 percent) with traces of other gases.

The digestion is carried out by mixed cultures of micro-organisms in a moist environment. The proposed AD uses a four-stage process in which different micro-organisms at different stages

break down the feedstock into the final biogas components. The proposed AD would use a two-phase process. The biogas would be collected after the first two stages to optimize it for acidification and fermentation of organic materials, allowing for more consistent methane production.

The emerging biogas escapes into the freeboard room at the top of the AD tank ceiling. Produced biogas would be collected by a common gas pipeline. The biogas will pass through a scrubber installed on each tank to remove hydrogen sulfide and a condenser will be used to remove moisture. Following this, the biogas will pass through a gravel filter, which serves as a flame retardant. Finally, the biogas will be collected in a biogas storage balloon on each digester tank. An online sampling port is included on each tank for biogas analysis and monitoring. The biogas will be moved via pipeline to the gas conditioning and power generation building (see description below) for power generation activities.

Post-Processing. Biogas generated through the anaerobic digestion process would be captured and used for energy generation by gas turbine engines in the 10,138-square-foot gas conditioning and power generation building, located on the northern edge of the parcel. Up to 137.5 megawatts (MW) of energy would be generated per day. Biomethane is a product almost equivalent to natural gas, which typically contains more than 95 percent methane.

Through the anaerobic digestion process, biomass in the waste stream is reduced through conversion to biogas and the nutrients are concentrated in the remaining output, consisting of liquids, remaining biomass, and inorganic solids. Liquid and solid digestate will be stored in tanks and an aeration and conditioning bunker. The liquid and solid digestate would be sold for a soil amendment for agricultural crops. Trucks carrying the soil amendment would enter and exit from 19th Avenue.

SETTING
The Zoning, General Plan Land-Use designations, and current land uses for surrounding properties are as follows:

Table 1: Surrounding Land Uses

	Zoning & General Plan Designations	**Current Land-Use**
North	Light Industrial (I-L)	Vacant
West	Light Industrial (I-L)	Coachillin Holdings, LLC (Under Construction)
South	Light Industrial (I-L)	Vacant
East	Light Industrial (I-L)	Vacant

DEVELOPMENT PERMIT ANALYSIS

ARCHITECTURE
The proposed facilities of the proposed facilities are shown in the Exhibits. The proposed Anaerobic Digester facility would include a 22,900 square-foot administrative and control building to act as a control and monitoring center for the facility as well as a 3,000 square feet

administration facility to direct the operations receiving, material handling and processing through production, shipping and sales. The administrative and control facility will track the materials process and monitor both facility operations as well as site personnel.

The Anaerobic Digester facility is currently being proposed at the height of 54' which exceed the max allowed height in the I-L (Light Industrial) District of 50'. *Per Section 17.16. 030 Land Use District Development Standards* Planning Commission may find that additional height is necessary for the proposed industrial use. In this case it is required due to clearance of the equipment height and to be able to properly run all machinery properly.

LANDSCAPING
Landscape is proposed along the street frontage area and throughout the project site. The proposed landscape will be a combination of trees, small shrubs, desert accent plants, groundcover which include gray rubble and desert gold crushed rock. The desert friendly plants consist of Texas Ebony, Hybrid Mesquite, Blue Bells, Desert Ironwood to name a few. The proposed landscaping throughout the project site will help enhance the visual character of the streetscape in a manner that is compatible with the local desert environment.

PHASING PLAN
The proposed projects operations will be phased over approximately 10 years to allow for start-up and growth in organic waste recycling demand. The 5 phases proposed for the proposed projects operations are summarized in the table below:

Phasing Plan			
Phase (Years)	**Employees**	**Material Receiving Trucks/Amount**	**Fertilizer Shipping Trucks/Amount**
1 (June 2019 – January 2021)	Shift 1: 10 Shift 2: 5 Shift 3: 4	5 - 7 Trucks 50 – 100 Tons	2 – 6 Trucks 20 – 85 Tons
2 (January 2021 – June 2022)	Shift 1: 12 Shift 2: 6 Shift 3: 5	10 - 14 Trucks 100 – 200 Tons	5 – 7 Trucks 50 – 100 Tons
3 (June 2022 – January 2024)	Shift 1: 14 Shift 2: 7 Shift 3: 6	15 - 21 Trucks 150 – 295 Tons	7 – 10 Trucks 70 – 140 Tons
4 (January 2024 – June 2025)	Shift 1: 14 Shift 2: 7 Shift 3: 6	20 - 28 Trucks 200 – 395 Tons	10 – 14 Trucks 100 – 200 Tons
5 (full capacity starting June 2025)	Shift 1: 14 Shift 2: 7 Shift 3: 6	25 - 35 Trucks 250 – 490 Tons	12 – 17 Trucks 120 – 195 Tons

PARKING
The Administration and Control facility includes a 30-space parking lot to accommodate visitors, employees and management personnel.

FENCING PLAN
The site will be fenced for security and will be accessed by 19th Avenue, which will be paved from the site to Indian Canyon Drive as part of the Proposed Project. Calle de los Romos will also be paved to a half-width accommodate traffic from 18th Avenue via Indian Canyon Drive as part of the adjacent Coachillin Specific Plan. The AD facility will incorporate drought tolerant landscaping across the 19th Avenue frontage as required by the City.

Required Findings

Development Permit Findings

1. ***That the proposed use is permitted within the subject land use district and complies with all of the applicable provisions of this Zoning Ordinance, including prescribed development standards and design guidelines;***

   The development permit is for the development of an Anaerobic Digester facility which are identified in Section 17.12 of the City of Desert Hot Springs Zoning Ordinance as permitted within any Industrial District which includes the I-L (Light Industrial) zone, subject to approval of a Development Permit. Conditions of Approval have been prepared and are recommended to assure the proposed use will comply with applicable Zoning Ordinance provisions. Staff recommends this finding.

2. ***That the subject site is physically suitable for the type and intensity of the land use being proposed;***

   The proposed application is for the development of an Anaerobic Digester facility, office building, and the associated equipment. City staff has evaluated the subject site which is currently vacant and determined that the development is appropriate with the recommended conditions of approval. The site is well situated for the type of development being proposed and will be consistent with the City's Zoning Code and General Plan. Staff recommends this finding.

3. ***That the proposed development would be compatible with existing and future developments within the land use district and general area;***

   The proposed application is for the development of an Anaerobic Digester facility, office building, and the associated equipment. City staff has evaluated the subject site which is currently vacant and determined that the development is appropriate with the recommended conditions of approval. The site is well situated for the type of development being proposed and will be consistent with the City's Zoning Code and General Plan. Staff recommends this finding.

4. ***That there are adequate provisions for water, sanitation, and public utilities and services to ensure that the proposed use is not detrimental to public health and safety;***

   The project has been conditioned by City staff, the County Fire Department and by Mission Springs Water Districts to provide potable water, access to sewer line, adequate provisions for water, sanitation, and public utilities and services. This will ensure that project remains well-maintained and does not become detrimental to public health and safety. Staff recommends this finding.

5. ***That there is adequate public access and roadway capacity to serve the subject proposal;***

   The current project has been conditioned to ensure that adequate public access and roadway capacity to serve the proposed project site. Staff recommends this finding.

6. ***That there are no significant harmful effects upon environmental quality and natural resources;***

The proposed project, to develop an Anaerobic Digester facility, does not introduce any hazardous materials or create any harmful effects to the environment or to the quality of natural resources. Therefore, the City has determined that the proposed project will not have or cause significant harmful effects upon environmental quality and natural resources. Staff recommends this finding.

7. That any negative impacts of the proposed use can and shall be mitigated;

The proposed development of an Anaerobic Digester has been assessed for environmental impacts. Mitigation measures are proposed for adoption included in the MND. The proposed project will be required to adhere to the mitigation measures in the MND and has been conditioned by the Fire, Engineering and Planning Department's to comply with current standards. The Building Department will review the plans upon submittal of the plan check to ensure the projects compliance with the California Building Code. Staff recommends this finding.

8. That the proposed use is consistent with the General Plan; and

The proposed project is located within the Light Industrial (I-L) land use designation which is currently vacant and was previously subdivided (TPM 37606). The proposed development of an Anaerobic Digester is consistent with the City's General Plan. Staff has evaluated the consistency of the proposed project with the City's General Plan Goals & Polices and has not identified any inconsistencies. The proposed project will also be subject to the implementation of Conditions of Approval and will be required to comply the mitigation measures outlined in the MND. Staff recommends this finding.

9. That the proposed location, size, design, and operational characteristics of the planned use are not detrimental to the public interest, health, safety, convenience, or welfare of the City.

The proposed project is for the development of an Anaerobic Digester. The proposed development of the facility is consistent with the approved Tentative Parcel Map and the DHSMC permitted uses and development standards and will not be a determent to the public interest, public health safety convenience or the welfare of the City. Staff recommends this finding.

NOTICING REQUIREMENT

The project was noticed to neighboring property owners within a 300-foot radius of the project site July 2nd, 2020 and was advertised in the Desert Star on Friday, July 3rd, 2020 per noticing requirements. No public comments have been received as of this writing.

ENVIRONMENTAL ANALYSIS

In accordance with the provisions of the California Environmental Quality Act ("CEQA"), a Mitigated Negative Declaration has been prepared which has determined that development of the proposed Anaerobic Digester would not have a significant impact on the environment, with the implementation of mitigation measures.

FISCAL IMPACT

The applicant has paid all required fees for the review and entitlement process and will be subject to all Building Permit fees.

RECOMMENDATION

Recommendation for approval of 1) Adoption of the Mitigated Negative Declaration 2) Development Permit No. 20-9 for the development of an 22,900 square foot Anaerobic Digester facility with a 3,000 square foot office building on 9.76-acre parcel. APN 666-360-015

EXHIBIT(S)

1) Draft Conditions of Approval
2) Proposed Site Plan
3) Office Building Elevations
4) Anaerobic Digester Building Elevations
5) Anaerobic Digester Building Elevations 2
6) Office Floor Plan
7) Anerobic Digester Floor Plan
8) Landscape Plan
9) Photometric Plan
10) Draft Mitigated Negative Declaration