

BUSINESS OPERATIONAL STATEMENT
FOR THE
FRESNO RENEWABLE ENERGY STATION (FREES)

July 2020

WEST COAST WASTE CO., INC.
3077 South Golden State Frontage Road
Fresno, CA 93725

APPL. NO. P18-03189 EXHIBIT O DATE 08/26/2020
PLANNING REVIEW BY _____ DATE _____
TRAFFIC ENG. _____ DATE _____
APPROVED BY _____ DATE _____
CITY OF FRESNO DARM DEPT

PROJECT INFORMATION

Project Name: Fresno Renewable Energy Station (FREES)
Project Site Address: 3077 S. Golden State Frontage Road
Fresno, CA 93722
Assessor's Parcel Number: 330-060-49s and 330-040-42
Zone District: I-H (Heavy Industrial)
Planned Land Use: Heavy Industrial
Plan Area: Roosevelt Community Plan
C.U.P.: # C-15-030

PROJECT OVERVIEW

West Coast Waste Co, Inc. (WCW) was established in 2001 and granted a Conditional Use Permit (CUP) that year for clean and green materials, wood waste, and wood chipping for recycling purposes. In 2004, WCW modified their CUP to receive and process up to 500 tons per day (TPD) of clean green materials and untreated wood products. Subsequently, in July 2016, WCW received approval through a revised CUP and Mitigated Negative Declaration (MND) to increase their permitted daily tonnage to 1,500 TPD, and add new feedstock materials, a Material Recovery Facility (MRF), an Anaerobic Digestion (AD) System, and a GORE covered composting operation to the facility. The MRF, AD system, and composting operation have not yet been constructed.

WCW is now proposing to add the Fresno Renewable Energy Station (FREES) to facility operations. This biomass power plant will convert approximately 125 TPD of woodchips and other organic materials to renewable electricity via a fully-enclosed gasification/combustion process to create steam to run a turbine generator. The FREES facility would sell three Megawatts (MW) of this electricity to PG&E through an interconnection at the front of the site on South Golden State Frontage Road. Excess power, approximately 0.8 MW, will be used on site to power new electric grinders and screens. Excess heat from the turbine will be used to heat the previously, conditionally approved anaerobic digesters, when they are constructed in the future. The optional future addition of a third and possibly fourth gasifier would lead to the processing of an additional 62.5-125 TPD of woodchips and generate an additional 1.9-3.8 MW. This expansion would occur at a later date and is dependent on the needs of the facility and future PG&E programs.

The project also involves the addition of an optional pellet mill for producing 200-300 TPD of wood pellets from waste wood that is already delivered to the site. This equipment will be housed inside the MRF building. Finished pellets will be loaded in sea containers for shipment overseas.

PROJECT DESCRIPTION

West Coast Waste Co, Inc. (WCW) currently operates a green and wood waste chipping and grinding facility located at 3077 South Golden State Frontage Road in the City of Fresno, CA. **Figure 1**, Vicinity Map, shows the location of the facility.

This site is zoned I-H (Heavy Industrial) and is surrounded by compatible industrial land uses. See **Figure 2**, Radius Map (1,000 ft radius). The nearest residential land uses are over three-quarters of a mile away.

FIGURE 1
VICINITY MAP



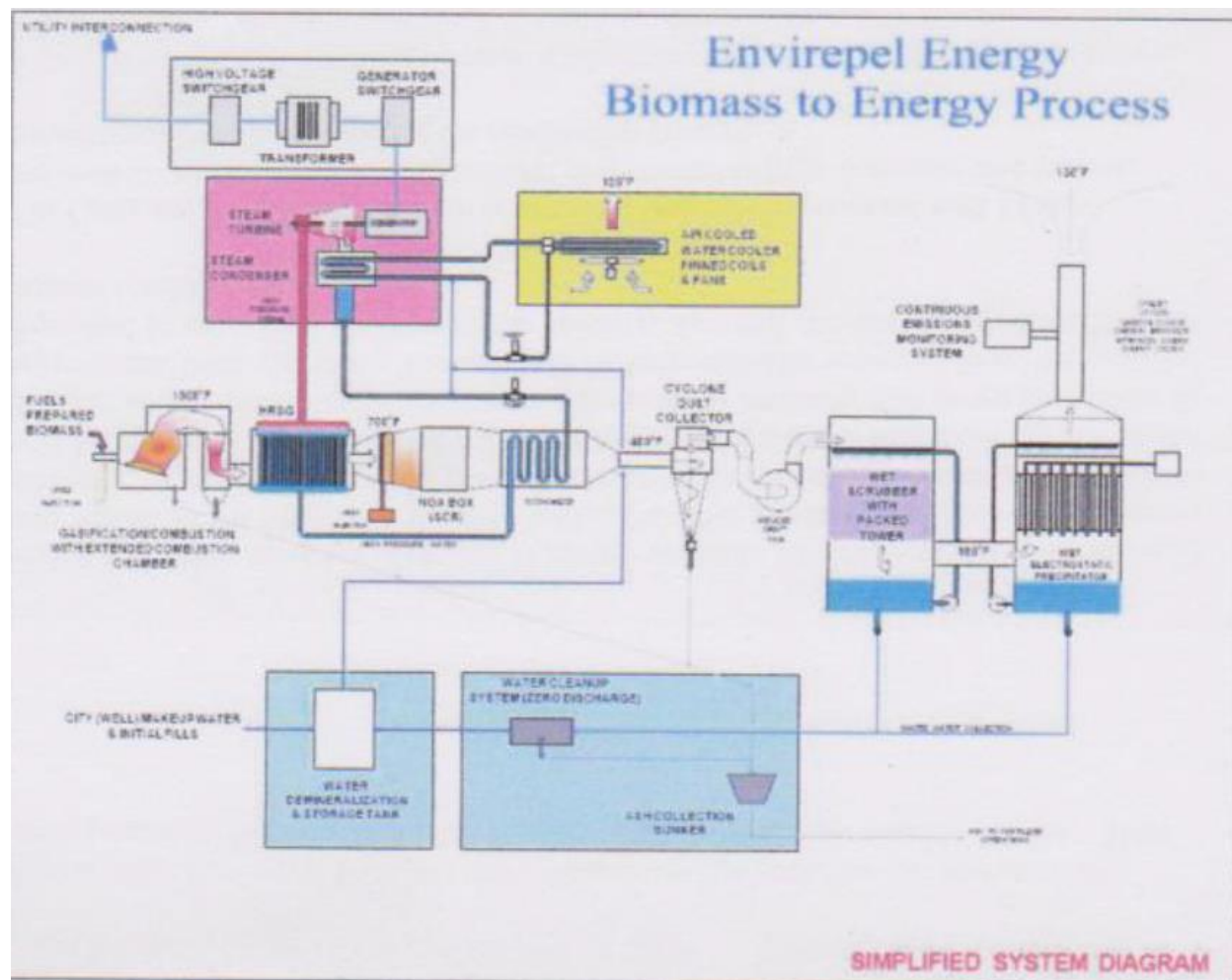
FIGURE 2
RADIUS MAP



BIOMASS POWER PLANT

The proposed biomass power plant will be provided by Envirepel or similar technology. **Figure 3** provides a schematic diagram and the following paragraphs a general description of the process.

FIGURE 3 – SCHEMATIC DIAGRAM



Feedstock Preparation

The approximately 40,000 tons per year of feedstocks will be comprised of agricultural wood, waste lumber, greenwaste and woody organic residues from the future Anaerobic Digestion and composting operations. These materials will be mixed, ground and screened to specification as feedstock for the gasifiers. A front loader will transfer this prepared material to a receiving bin, from which it will be moved by conveyor into the fully-enclosed building. This wood grinding/screening activity is already permitted and occurring on site.

Gasification/Starved Air Combustion

The feedstock is then metered into two fully-enclosed gasification chambers that convert it into a synthesis gas (Syngas). This syngas is then combusted to heat a standard steam boiler. This

process occurs in a three-chamber system to minimize air emissions and maximize energy production.

Power Generation

High pressure and temperature steam from the boiler is then injected into a steam turbine which drives a generator and produces the electricity. The exhaust steam from the turbine is then condensed, pre-heated and returned to the boiler in a closed loop system to minimize water usage and maximize energy efficiency.

Air Quality Control

A sophisticated and proven air pollution control system will treat the exhaust combustion gases from the boiler. This system includes the following standard industry equipment:

1. Selective Non-Catalytic Reduction (SNCR) and flue gas recirculation for removal of NO_x
2. Mechanical Cyclone Dust Collectors for removal of particulates 10 microns and larger (PM₁₀)
3. Wet Scrubber with cold pH 10 water injection to remove HCl and SO₄ acid gases
4. Wet Electrostatic Precipitator (ESP) for final particulate removal

Total air emissions from the project will be less than 50 lbs per day of any regulated air contaminant (NO_x, SO_x, HC, PM) and will meet all SJVAPCD (Air District) requirements. The project will obtain Authority to Construct (ATC) permits from the Air District prior to commencement of construction. Note that a nearly identical Envirepel plant has already successfully obtained similar ATC permits from the Mohave Desert AQMD for all major plant equipment for their Phelan Park project. Copies of these permits are included in **Appendix A**.

Solid Residues Handling

Residue slurries from the Scrubbers and Electrostatic Precipitators are treated by Reverse Osmosis (RO) with the solids from that process returned to the gasification process where they turn into ash.

The ash from each gasification unit is augured into a hopper and then transported offsite for beneficial reuse. The approx. 1.2 tons per day of ash produced by the plant is comprised of mineral oxides of calcium, silica, magnesium, and potassium. This ash is non-hazardous and in fact will be used as crop fertilizer for local farms, or as a concrete filler or road base. **Appendix B** provides a chemical analysis of the ash.

Water Consumption

Because the moisture in the feedstock is captured, treated and reused in the process, there is minimal potable water consumption by the plant. The small amount of water needed will be provided by the City water supply.

Figure 4, Overview Site Plan, shows the FREES plant located in the northwest corner of the 18-acre property, close to the electricity interconnection point with the PG&E grid. The plant and surrounding area covers roughly two acres. **Figure 5** shows the Floor Plan of the plant as it will be positioned on the site. **Figure 6** shows an Elevation Plan with structure heights.

HOURS OF OPERATION

The facility's hours of operation will remain the same. The following are the currently permitted hours of operation by activity:

Activity	Hours of Operation
Material Receiving	6:00 am to 7:00 pm M-Sat
Material Processing	24 hours a day, 7 days per week
Material Transfer	24 hours a day, 7 days per week
Visitors	By appointment, M-F

The power plant itself is expected to operate 24 hours a day for approximately 330-350 days per year. The remaining days will be set aside for routine maintenance.

NUMBER OF EMPLOYEES

The biomass power plant will be manned by a total of 12 employees working four shifts to cover the round-the-clock operations. The total number of 46 employees in the current C.U.P. will remain unchanged.

NEIGHBORHOOD

The site and surrounding land parcels are zoned I-H (Heavy Industrial). The present neighbors adjacent and/or within 1,000 feet of the site are industrial businesses. There is no residential land use in the vicinity. The closest residential areas are over three-quarters of a mile away and do not share any cross streets with the project site.

2025 FRESNO GENERAL PLAN

This project implements several policies in support of the 2025 Fresno General Plan including:

C-13-f

Land Use/Industrial C-13's objective is to, "Plan and support industrial development to promote job growth while enhancing Fresno's urban environment." C-13-f lists several policies specific to waste recycling operations and transfer stations. All of these policies have been adopted by WCW.

C-20-d

Image/Site and Building Design C-20's objective states "As part of the city's project review process, major emphasis will be given to site and building design in order to preserve functionality and community aesthetics". C-20-d specifically lists several policies to ensure appropriate site plans to provide sufficient space and access to support functions. The FREES site plan has been developed to achieve maximum efficiency in vehicular and feedstock flow, as well as improve visual aesthetics from the frontage road.

FIGURE 4 - OVERVIEW SITE PLAN

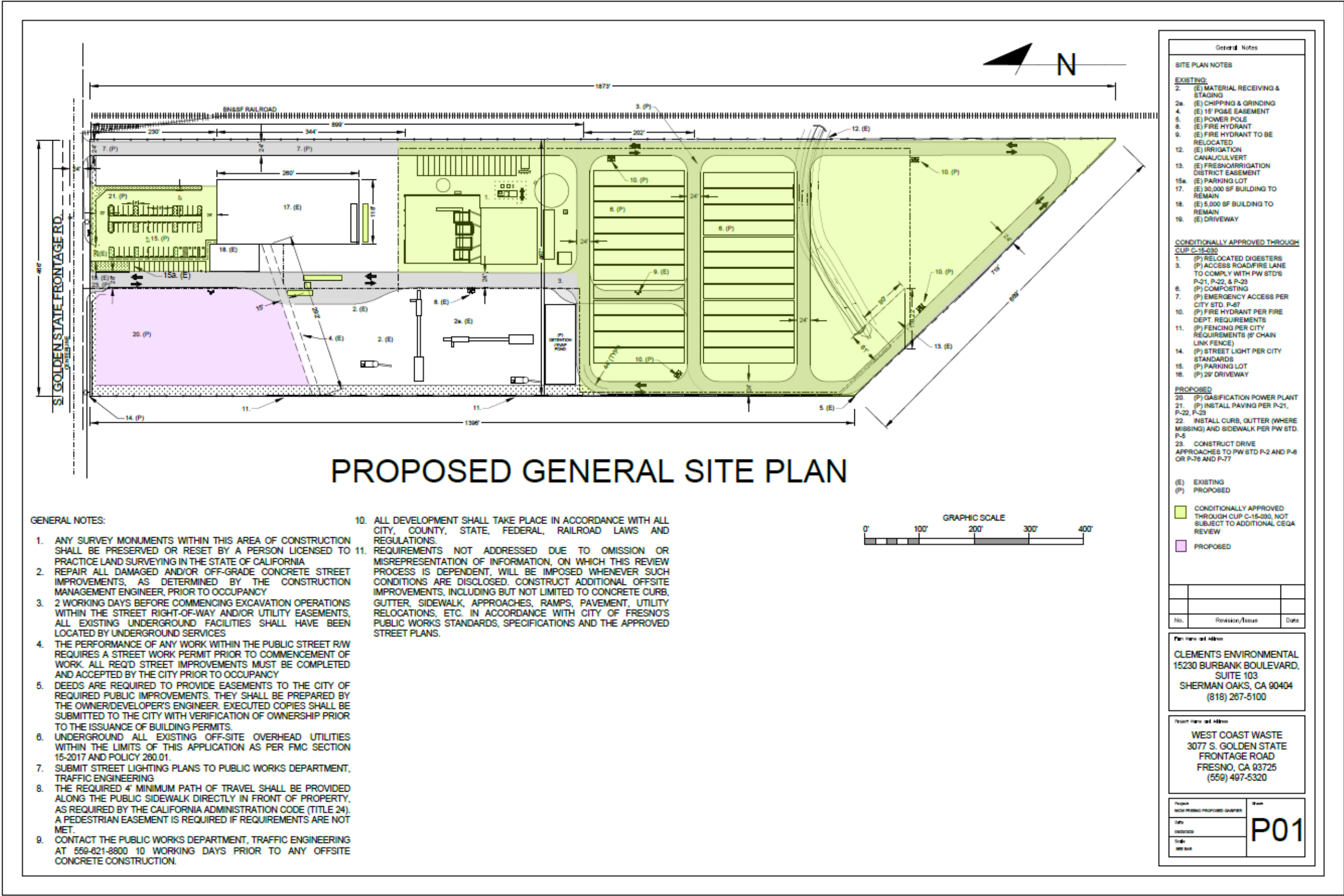


FIGURE 5 – FLOOR PLAN

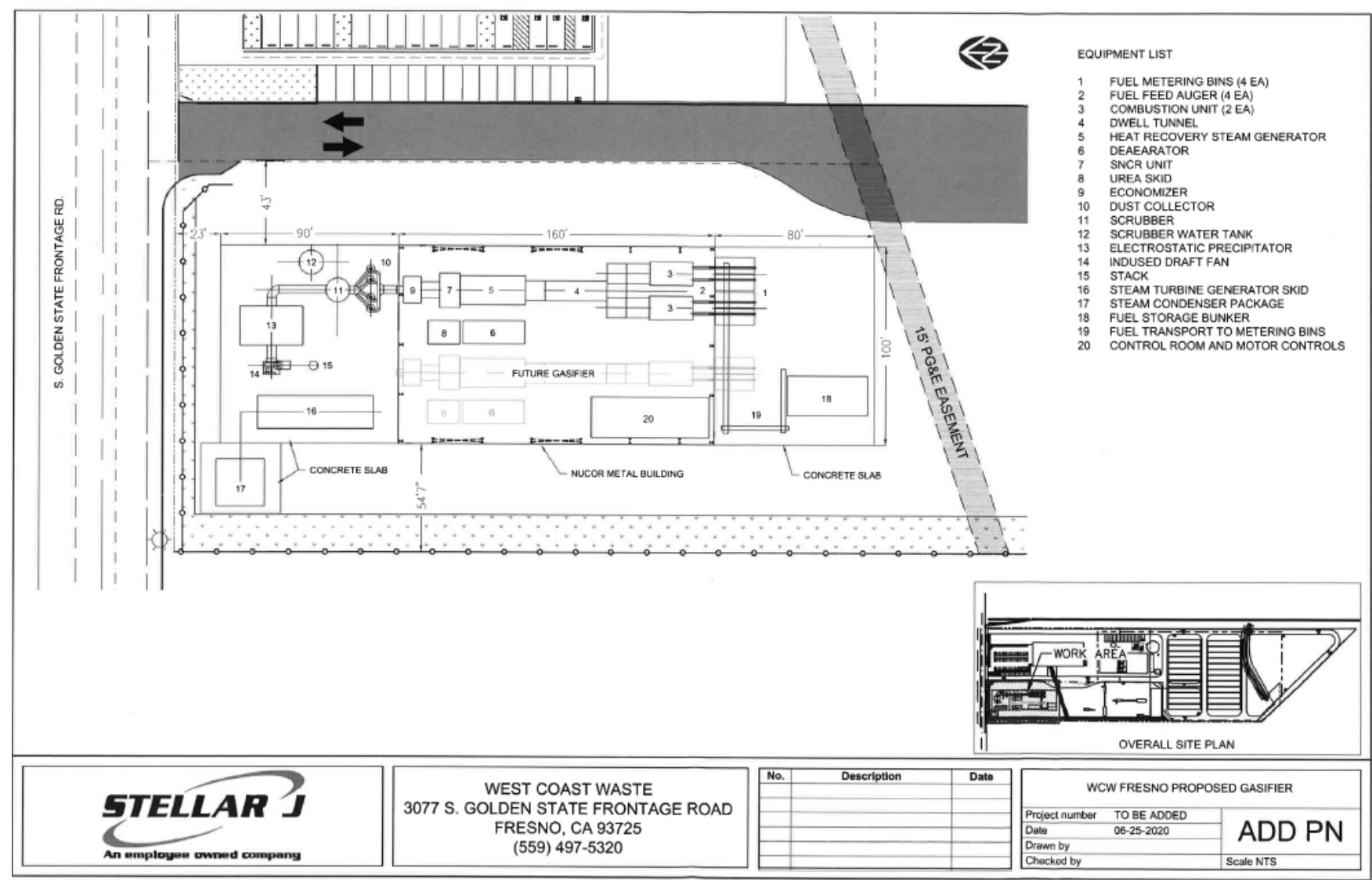
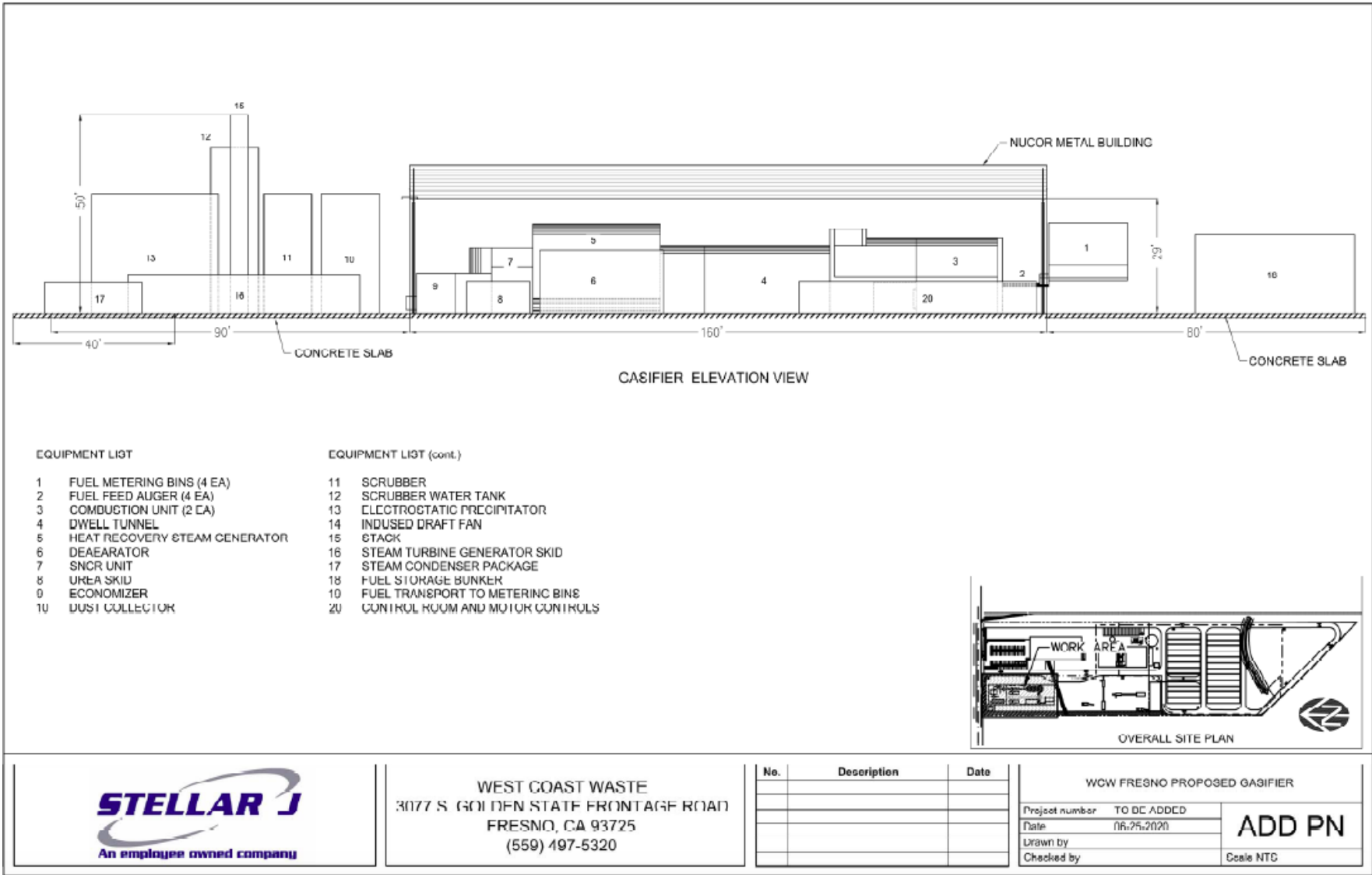


FIGURE 6 – ELEVATION PLAN



SECURITY MEASURES

The site is completely enclosed with fencing and locked gates. Landscaping along the frontage and western property lines provides visual screening. All property line fences without landscaping will be slatted. The adjacent railroad and industrial businesses block the site's view and access. WCW operation managers will be onsite to handle any situations which arise during regular business hours. WCW has an emergency contact number for after hours, along with emergency protocols.

CONSTRUCTION/OPERATION IMPACT

WCW will use standard, accepted practices during construction to minimize potential impacts to neighbors and Highway 99. Construction is expected to last for 12 months.

OPERATIONS IMPACT

During operation, the following controls will be used to minimize dust, odor, litter, and other potential impacts.

AIR QUALITY

West Coast Waste will work with the San Joaquin Valley Air Pollution Control District (SJVAPCD) to comply with all applicable rules.

Prior to construction, WCW will obtain an Authority to Construct and any other necessary permits from the Air District. This may include compliance with Rule 2201 – New and Modified Station Source Review. Approximately six months after the commencement of operations, West Coast Waste will perform a source test on the stack exhaust and obtain a Permit to Operate from the SJVAPCD. The timeline and requirements of the source test is dependent on SJVAPCD's Authority to Construct permit.

The biomass power plant is a heavy industrial use less than 100,000 square feet in size, and therefore is not subject to Rule 9510 - Indirect Source Review.

DUST / ODOR

Speed limits for trucks driving on site are set at 5 MPH to minimize dust. The front portion of the site will be paved as well as the FREES area. The remaining truck travel lanes where the woody biomass will be processed will be surfaced with crushed rock to control dust during the dry season and mud during the winter. A tire shaker may be installed to knock the mud and dirt off the truck tires as the exiting trucks pull on to the paved area of the site.

No additional odor is anticipated from the project as the feedstock biomass is already being received and processed without issue.

LITTER

No litter is expected from the biomass feedstock. However, a litter crew will police the site once per day, picking up any litter from the site perimeter, driveways, and along the frontage.

HAZARDOUS WASTE

No hazardous waste will be generated by the FREES project. Solid residues from the plant (ash) will be put to beneficial reuse either as fertilizer, concrete filler or road base.

TRUCK TRAFFIC

The proposed project will generate no additional truck traffic as the trucks that will deliver the wood for feedstock for the power plant are already delivering the same feedstock to the WCW facility. In fact, because the power plant will be converting up to 125 TPD of woodchips into electricity, the six trucks a day that would have hauled out this material as mulch and soil conditioners will be eliminated, so overall truck traffic from the WCW site will actually be reduced. In addition, the wood pelletizing operation will generate no new truck trips as this material is already being received in and shipped out from the site as mulch.

VECTOR, BIRD, AND ANIMAL CONTROL

A pest control company will visit the site as needed to set rodent traps and inspect the facility. Periodic spraying for flies and insect control will be conducted, as needed. The woody biomass feedstock does not attract vectors as historical operating experience has shown.

LIGHT / GLARE

All new lighting will be shielded and directed toward the interior of the site.

NOISE

Noise for the project will be controlled below the regulatory limits at the property line for industrially-zoned projects. Much of the plant equipment will be located within a full-enclosed building which will attenuate noise.

HEIGHT

The maximum height of structures at the FREES plant is approximately 50 feet, which is well within the maximum allowable height in the industrial zone of 60 feet.

VISUAL ASPECTS

Figure 7 shows a rendering of the plant with all the equipment visible (transparent roof and walls), while **Figure 8** shows what the plant will look like with the fully-enclosed building. **Figure 9** provides a rendering of the view from the street and **Figure 10** shows the view of the plant from the WCW office in the interior of the site.

FIGURE 7 – FREES RENDERING
(with transparent roof and walls to show interior equipment)

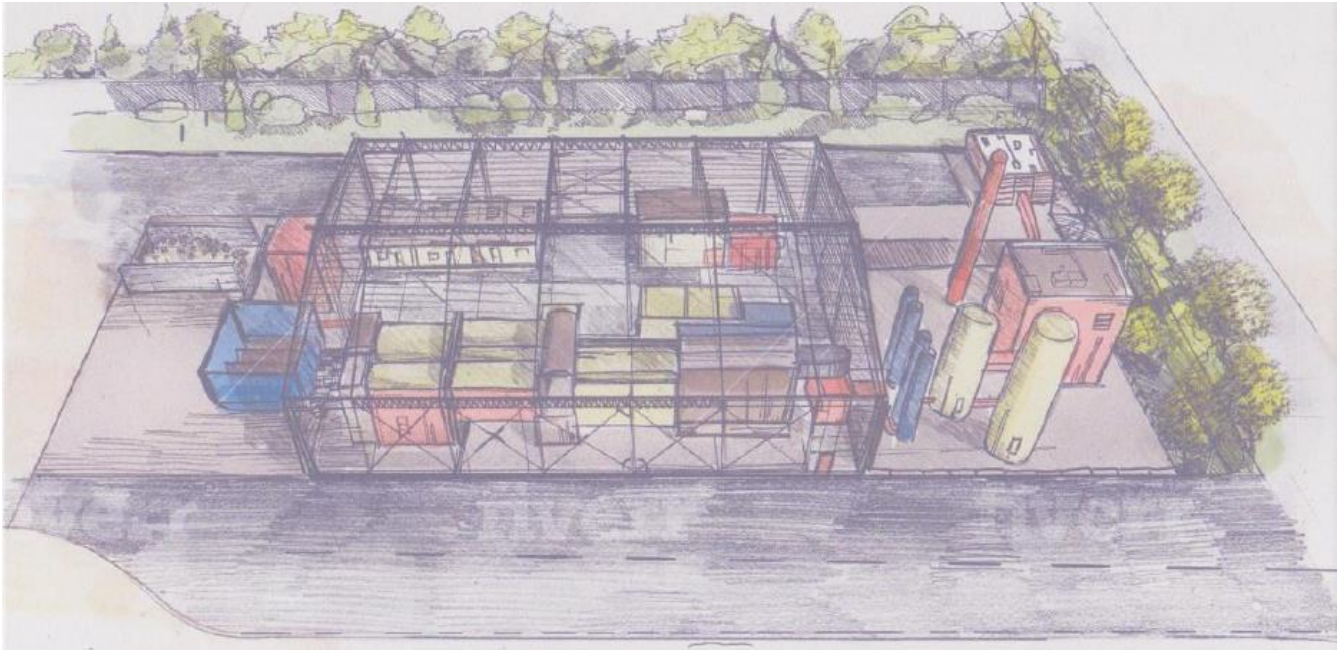


FIGURE 8 – FREES RENDERING
(as seen with actual fully-enclosed building)

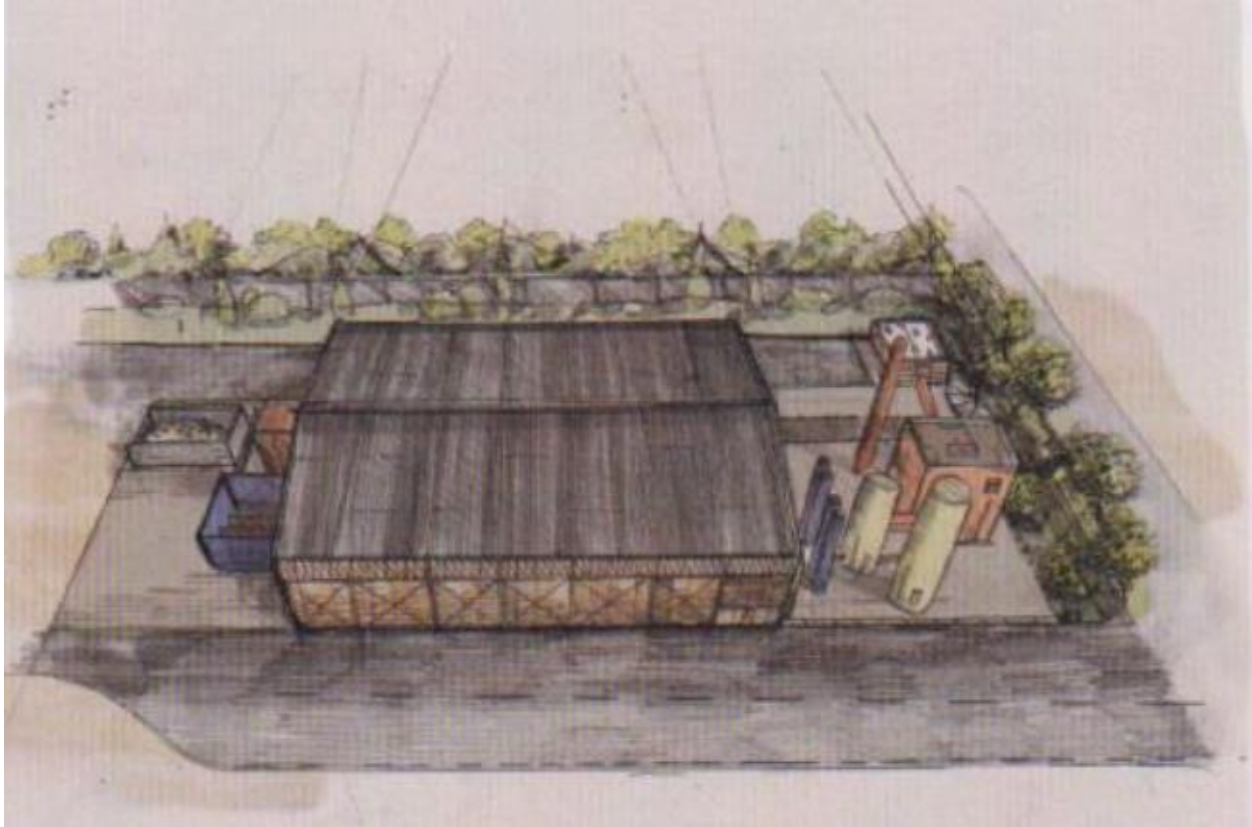
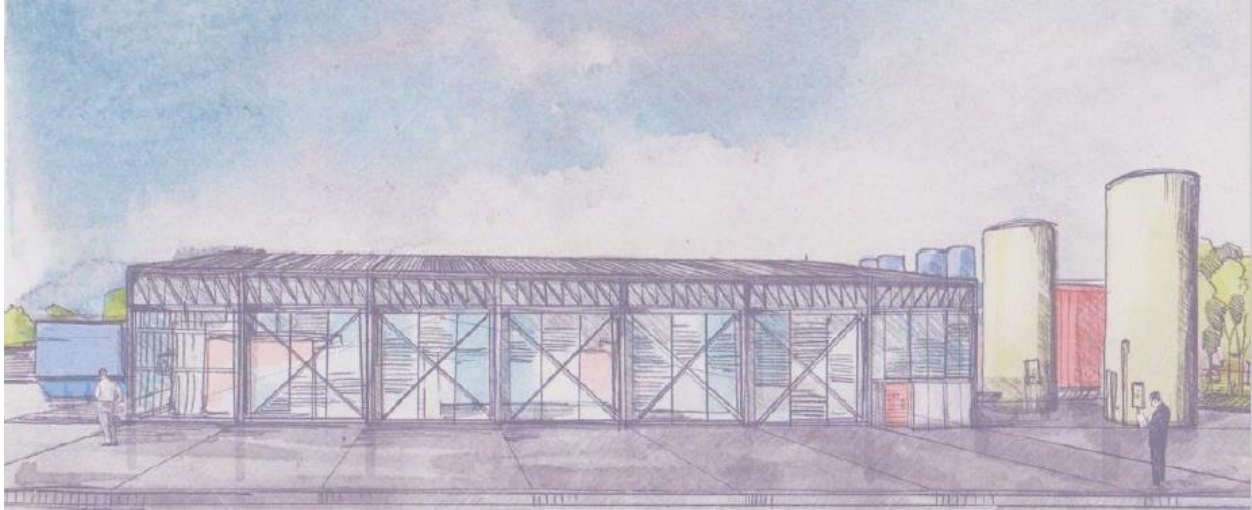


FIGURE 9 – FREES RENDERING
(as seen from the street)



FIGURE 10 – FREES RENDERING
(as seen from WCW office, site interior)



APPENDIX A
AUTHORITY TO CONSTRUCT PERMITS
PHELAN PARK
ENVIREPEL PLANT

**MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT**

14306 Park Avenue, Victorville, CA 92392-2310
760.245.1661 -- 800.635.4617 -- FAX 760.245.2022

AUTHORITY TO CONSTRUCTC013178

If construction is not completed by the expiration date of this permit, it may be renewed for one additional year upon payment of applicable fees. Any additional extension will require the written approval of the Air Pollution Control Officer. This Authority to Construct may serve as a temporary Permit to Operate provided the APCO is given prior notice of intent to operate and the Permit to Operate is not specifically denied.

EXPIRES LAST DAY OF: JUNE 2019**OWNER OR OPERATOR (Co. #2415)**

Envirepel Energy Inc.
219 Rancho Bonito Road
Fallbrook, CA 92028

EQUIPMENT LOCATION (Fac. #3807)

Phelan Park Renewable Energy Facility
18101 Sheep Creek Road
Adelanto, CA 92301

Description:

CATALYTIC CONVERTER, COMBUSTION LINE #1 consisting of: A SINOx model catalytic converter system manufactured by Johnson-Matthey with a custom manufactured urea injection system installed in the Heat Recovery Steam Generator (HRSG) exhaust stream prior to reaching the converter. Maximum exhaust gas flow rate into the catalyst is approximately 4538 scfm and the exhaust temperature at the point of urea injection is approximately 500 degrees Fahrenheit. The catalyst bed is approximately three feet long and the calculated urea resonance time is approximately 1.2 seconds.

CONDITIONS:

1. This catalytic converter system shall be installed, operated and maintained in strict accordance with those recommendations of the manufacturer/supplier and/or sound engineering principles which produce the minimum emissions of contaminants. Unless otherwise noted, this equipment shall also be operated in accordance with all data and specifications submitted with the application for this permit.
[District Rules 204 and 1302]

2. This equipment shall be operating and fully functional whenever the combustion equipment identified in District Permit B013149 is operating.
[District Rules 1303 and 1320]

3. A temperature sensor shall be installed at the inlet of the catalytic converter housing to measure the inlet temperature. This sensor shall be checked at least once each minute and the results shall be logged at least hourly. Furthermore, the inlet temperature shall be maintained within 10 percent of the value determined during source testing.

Fee Schedule: 7 (h)

Rating: 1 device

SIC: 4953

SCC: 10101207

Location/Coordinates:
+34.57575, -117.57975

This permit does not authorize the emission of air contaminants in excess of those allowed by law, including Division 26 of the Health and Safety Code of the State of California and the Rules and Regulations of the District. This permit cannot be construed as permission to violate existing laws, ordinances, statutes or regulations of this or other governmental agencies. This permit must be renewed by the expiration date above. If billing for renewal fee required by Rule 301(c) is not received by expiration date above, please contact the District.

Envirepel Energy Inc.
219 Rancho Bonito Road
Fallbrook, CA 92028

By: 
Brad Poiriez
Air Pollution Control Officer

Page 1 of 2

Permit: C013178

Issue Date: 08/23/2018


MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT

 14306 Park Avenue, Victorville, CA 92392-2310
 760.245.1661 -- 800.635.4617 -- FAX 760.245.2022

AUTHORITY TO CONSTRUCT
B013185

If construction is not completed by the expiration date of this permit, it may be renewed for one additional year upon payment of applicable fees. Any additional extension will require the written approval of the Air Pollution Control Officer. This Authority to Construct may serve as a temporary Permit to Operate provided the APCO is given prior notice of intent to operate and the Permit to Operate is not specifically denied.

EXPIRES LAST DAY OF: JUNE 2019
OWNER OR OPERATOR (Co. #2415)

 Envirepel Energy Inc.
 219 Rancho Bonito Road
 Fallbrook, CA 92028

EQUIPMENT LOCATION (Fac. #3807)

 Phelan Park Renewable Energy Facility
 18101 Sheep Creek Road
 Adelanto, CA 92301

Description:

ASH HANDLING SYSTEM, COMBUSTION LINE # 1 consisting of: Equipment used to remove bottom ash from the Incinerator, transfer it to temporary storage, and then transfer it again to trucks for offsite disposal.

EQUIPMENT

Capacity	Equipment Description
5	Ash removal auger
6	Ash transfer augers (2 at 3 hp each)
2	Ash transfer rotary air locks
3	Dust collector ash transfer auger
3	Ash hopper distribution auger

CONDITIONS:

1. This ash handling system shall be installed, operated and maintained in strict accordance with those recommendations of the manufacturer/supplier and/or sound engineering principles which produce the minimum emissions of contaminants. Unless otherwise noted, this equipment shall also be operated in accordance with all data and specifications submitted with the application for this permit.

[District Rules 204 and 1302]

2. This equipment shall be operating and fully functional whenever the equipment identified in District Permit B013149 is operating.

Fee Schedule: 1 (a)

Rating: 19 bhp

SIC: 4953

SCC: 10200905

 Location/Coordinates:
 +34.57597, -117.58181

This permit does not authorize the emission of air contaminants in excess of those allowed by law, including Division 26 of the Health and Safety Code of the State of California and the Rules and Regulations of the District. This permit cannot be construed as permission to violate existing laws, ordinances, statutes or regulations of this or other governmental agencies. This permit must be renewed by the expiration date above. If billing for renewal fee required by Rule 301(c) is not received by expiration date above, please contact the District.

 Envirepel Energy Inc.
 219 Rancho Bonito Road
 Fallbrook, CA 92028

By:

Brad Poiriez

Air Pollution Control Officer



MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT

14306 Park Avenue, Victorville, CA 92392-2310
760.245.1661 -- 800.635.4617 -- FAX 760.245.2022

AUTHORITY TO CONSTRUCT

B013149

If construction is not completed by the expiration date of this permit, it may be renewed for one additional year upon payment of applicable fees. Any additional extension will require the written approval of the Air Pollution Control Officer. This Authority to Construct may serve as a temporary Permit to Operate provided the APCO is given prior notice of intent to operate and the Permit to Operate is not specifically denied.

EXPIRES LAST DAY OF: JUNE 2019

OWNER OR OPERATOR (Co. #2415)

Envirepel Energy Inc.
219 Rancho Bonito Road
Fallbrook, CA 92028

EQUIPMENT LOCATION (Fac. #3807)

Phelan Park Renewable Energy Facility
18101 Sheep Creek Road
Adelanto, CA 92301

Description:

GROUND GREEN WASTE/CLEAN WOOD WASTE COMBUSTION PROCESS LINE #1 consisting of: A custom manufactured modular starved air combustor (MSAC) and a custom-manufactured thermal oxidizer/dwell tunnel. The MSAC has a 28.0 MMBtu/hour maximum heat input rating, fueled by ground green waste and clean wood waste at a maximum rate of 2.5 tons per hour. The hot gases from the MSAC flow into the custom manufactured thermal oxidizer with a designed 57,900 lbs/hour maximum mass flow rate at an average temperature of 1950 degrees Fahrenheit and an expected residence time of 3.1 seconds. The exhaust from this thermal oxidizer exhaust is then fed through a modified Cleaver-Brooks steam generator with a maximum steam flow rate of approximately 60,000 lbs per hour used to turn a 3.3 MW electrical generator. Emissions from the exhaust gases are controlled with a non-selective catalytic converter, a dual-cyclone dust collector, a scrubber, and a wet Electrostatic Precipitator (ESP). Exhaust flow is approximately 10112 acfm at 80 degrees Fahrenheit through a 45 foot tall by 5.2 inch diameter stack.

EQUIPMENT

Capacity	Equipment Description
28	Modular Starved Air Combustor (MSAC) Serial # 001. Capacity in MMBtu/hr
0	Heat Recovery Steam Generator (HRSG), a modified Cleaver-Brooks boiler to use exhaust gases from MSAC to produce a maximum of 60,000 lbs of steam per hour used to spin the electrical generator.
0	Electrical Generator, 3.3 MW maximum output. Uses steam produced in modified Cleaver-Brooks boiler.

CONDITIONS:

1. This equipment shall be installed, operated and maintained in strict accordance with those recommendations of the manufacturer/supplier and/or sound engineering principles which produce the minimum emissions of contaminants. Unless

Fee Schedule: 2 (e)

Rating: 28000000 Btu

SIC: 4953

SCC: 10101207

Location/Coordinates:
+34.5755, -117.57975

This permit does not authorize the emission of air contaminants in excess of those allowed by law, including Division 26 of the Health and Safety Code of the State of California and the Rules and Regulations of the District. This permit cannot be construed as permission to violate existing laws, ordinances, statutes or regulations of this or other governmental agencies. This permit must be renewed by the expiration date above. If billing for renewal fee required by Rule 301(c) is not received by expiration date above, please contact the District.

Envirepel Energy Inc.
219 Rancho Bonito Road
Fallbrook, CA 92028

By:

Brad Poiriez

Air Pollution Control Officer

Page 1 of 4

Permit: B013149

Issue Date: 08/23/2018

**MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT**

14306 Park Avenue, Victorville, CA 92392-2310
760.245.1661 -- 800.635.4617 -- FAX 760.245.2022

AUTHORITY TO CONSTRUCTC013051

If construction is not completed by the expiration date of this permit, it may be renewed for one additional year upon payment of applicable fees. Any additional extension will require the written approval of the Air Pollution Control Officer. This Authority to Construct may serve as a temporary Permit to Operate provided the APCO is given prior notice of intent to operate and the Permit to Operate is not specifically denied.

EXPIRES LAST DAY OF: JUNE 2019**OWNER OR OPERATOR (Co. #2415)**

Envirepel Energy Inc.
219 Rancho Bonito Road
Fallbrook, CA 92028

EQUIPMENT LOCATION (Fac. #3807)

Phelan Park Renewable Energy Facility
18101 Sheep Creek Road
Adelanto, CA 92301

Description:

WET SCRUBBER, COMBUSTION LINE #1 consisting of: A custom built concurrent-flow scrubber designed to reduce HCl, SO₂, and PM from the exhaust flow of combustion unit #1. The contact area measures 96 inches in length by 20.7 inches in cross-sectional area with an approximate gas flow rate of 29,869 acfm at 250 degrees Fahrenheit. The aqueous NaOH scrubbant flow rate is approximately 56 gallons per minute through 56 nozzles (1 gpm per minute per nozzle) at a nominal operating pressure of 20 psig.

CONDITIONS:

1. This concurrent flow wet scrubber equipment shall be installed, operated and maintained in strict accordance with those recommendations of the manufacturer/supplier and/or sound engineering principles which produce the minimum emissions of contaminants. Unless otherwise noted, this equipment shall also be operated in accordance with all data and specifications submitted with the application for this permit.
[District Rules 204 and 1302]

2. This equipment shall be operating and fully functional whenever the equipment identified in District Permit B013149 is operating.
[District Rules 1303 and 1320]

3. A flow meter shall be installed and maintained on this unit to indicate the scrubbant flow rate through this unit. This gauge shall be checked at least once each day and the results shall be logged. In the event that the flow rate is less than fifty (50) gallons per hour (gph), repairs and/or adjustments shall be made as necessary to regain at least a 50 gph flow rate.

Fee Schedule: 7 (h)

Rating: 1 device

SIC: 4953

SCC: 10200905

Location/Coordinates:
+34.57597, -117.58181

This permit does not authorize the emission of air contaminants in excess of those allowed by law, including Division 26 of the Health and Safety Code of the State of California and the Rules and Regulations of the District. This permit cannot be construed as permission to violate existing laws, ordinances, statutes or regulations of this or other governmental agencies. This permit must be renewed by the expiration date above. If billing for renewal fee required by Rule 301(c) is not received by expiration date above, please contact the District.

Envirepel Energy Inc.
219 Rancho Bonito Road
Fallbrook, CA 92028

By:

A handwritten signature in black ink, appearing to read "Brad Poiriez".
Brad Poiriez

Air Pollution Control Officer

Page 1 of 2

Permit: C013051

Issue Date: 08/22/2018



MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT

14306 Park Avenue, Victorville, CA 92392-2310
760.245.1661 -- 800.635.4617 -- FAX 760.245.2022

AUTHORITY TO CONSTRUCT

B013184

If construction is not completed by the expiration date of this permit, it may be renewed for one additional year upon payment of applicable fees. Any additional extension will require the written approval of the Air Pollution Control Officer. This Authority to Construct may serve as a temporary Permit to Operate provided the APCO is given prior notice of intent to operate and the Permit to Operate is not specifically denied.

EXPIRES LAST DAY OF: JUNE 2019

OWNER OR OPERATOR (Co. #2415)

Envirepel Energy Inc.
219 Rancho Bonito Road
Fallbrook, CA 92028

EQUIPMENT LOCATION (Fac. #3807)

Phelan Park Renewable Energy Facility
18101 Sheep Creek Road
Adelanto, CA 92301

Description:

FUEL DELIVERY, GRINDING/SIZING, STORAGE, AND TRANSFER EQUIPMENT, COMBUSTION LINES #1 AND #2 consisting of: Equipment used to receive ground green waste and clean wood waste, grind and screen it to proper size, transfer it to storage, and then transfer it from storage to either combustion line #1 or #2:

EQUIPMENT

Capacity	Equipment Description
15	Truck unloading augers (3 augers at 5 hp each)
20	Fuel transfer augers (2 augers at 7.5 hp each and 1 auger at 5 hp)
10	Fuel sizing screen
3	Fines transfer auger
10	Oversize Fuel transfer conveyor
5	Accepted Fuel transfer conveyor
75	Fuel Grinder
30	Ground Fuel transfer augers (2 at 7.5 hp and 1 at 15 hp)
6	Ground Fuel storage shuttle belt and positioner
50	Fuel Storage Bunker hydraulic power units (2 units at 25 hp each)
22.5	Storage to meter bin transfer augers (1 at 7.5 hp and 1 at 15 hp)
8	Fuel distribution augers (1 at 2 hp and 2 at 3 hp)
8	Bypass fuel transfer augers (1 at 3 hp and 1 at 5 hp)

Fee Schedule: 1 (C)

Rating: 262 bhp

SIC: 4953

SCC: 10200905

Location/Coordinates:
+34.57597, -117.58181

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Envirepel Energy Inc.
219 Rancho Bonito Road
Fallbrook, CA 92028

By:

Brad Poiriez

Air Pollution Control Officer

Page 1 of 3

Permit: B013184

Issue Date: 08/22/2018

**MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT**

14306 Park Avenue, Victorville, CA 92392-2310
760.245.1661 -- 800.635.4617 -- FAX 760.245.2022

AUTHORITY TO CONSTRUCT

C013045

If construction is not completed by the expiration date of this permit, it may be renewed for one additional year upon payment of applicable fees. Any additional extension will require the written approval of the Air Pollution Control Officer. This Authority to Construct may serve as a temporary Permit to Operate provided the APCO is given prior notice of intent to operate and the Permit to Operate is not specifically denied.

EXPIRES LAST DAY OF: JUNE 2019**OWNER OR OPERATOR (Co. #2415)**

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219 Rancho Bonito Road
Fallbrook, CA 92028

EQUIPMENT LOCATION (Fac. #3807)

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18101 Sheep Creek Road
Adelanto, CA 92301

Description:

DUAL CYCLONE DUST COLLECTOR, COMBUSTION LINE #1 consisting of: Two identical Model T2122S cyclone dust collectors manufactured by Aircon, Inc., operated in parallel. Each cyclone is designed to flow approximately 6092 scfm (6561 acfm at 185 F) and has a designed minimum control efficiency of 95% when operated at a nominal pressure differential of 2 inches water column across the unit.

EQUIPMENT

Capacity	Equipment Description
0	Two Model T2122S cyclone dust collectors manufactured by Aircon, Inc.

CONDITIONS:

1. This parallel operation dual cyclone dust collection equipment shall be installed, operated and maintained in strict accordance with those recommendations of the manufacturer/supplier and/or sound engineering principles which produce the minimum emissions of contaminants. Unless otherwise noted, this equipment shall also be operated in accordance with all data and specifications submitted with the application for this permit.

[District Rules 204 and 1302]

2. This equipment shall be operating and fully functional whenever the equipment identified in District Permit B013149 is operating.

[District Rules 1303 and 1320]

Fee Schedule: 7 (h)

Rating: 1 device

SIC: 4953

SCC: 10200905

Location/Coordinates:
+34.57600, -117.58181

This permit does not authorize the emission of air contaminants in excess of those allowed by law, including Division 26 of the Health and Safety Code of the State of California and the Rules and Regulations of the District. This permit cannot be construed as permission to violate existing laws, ordinances, statutes or regulations of this or other governmental agencies. This permit must be renewed by the expiration date above. If billing for renewal fee required by Rule 301(c) is not received by expiration date above, please contact the District.

Envirepel Energy Inc.
219 Rancho Bonito Road
Fallbrook, CA 92028

By:

Brad Poiriez

Air Pollution Control Officer

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Permit: C013045

Issue Date: 08/22/2018

APPENDIX B
ASH CHEMICAL ANALYSIS
ENVIREPEL PLANT

Gasification Fuel/Ash Analysis									
Sample		A	A	B	B	C	C	D	D
Material		Wood Wet	Wood Dry	Wood Char	Wood Char	Ash 1	Ash 1	Ash 2	Ash 2
% Ash	%	5.81	8.4	69.45	70.04	98.93	100	99.71	100
Gross Calorific Value	BTU/#	5192	7507	4269	4306	na	na	na	na
% Carbon	%	30.71	44.4	28.85	29.1	1.07	0	0.29	0
Ash Analysis		Ash		Ash		Ash		Ash	
Loss on Ignition									
Silicon Dioxide	%	53.76		67.98		51.20		57.67	
Aluminium Oxide	%	12.72		11.60		13.30		13.99	
Titanium Dioxide	%	0.57		0.49		0.67		0.63	
Iron Oxide	%	4.03		3.93		7.40		7.48	
Calcium Oxide	%	11.31		6.28		11.42		9.18	
Magnesium Oxide	%	2.74		1.61		2.98		3.01	
Potassium Oxide	%	5.68		3.78		4.56		4.59	
Sodium Oxide	%	4.93		3.06		4.02		4.08	
Sulfur Trioxide	%	2.44		0.41		1.89		1.91	
Phosphorus Pentoxide	%	1.23		0.66		1.05		1.06	
Strontium Oxide	%	0.07		0.04		0.08		0.08	
Barium Oxide	%	0.19		0.11		0.13		0.13	
Manganese Oxide	%	0.33		0.15		0.25		0.25	
Totals		100.00		100.00		100.00		100.00	
Ash Fusion Temperature	F	2379		2719 (high carbon)		2340		2473	
Silica Value	%	74.83		85.19		70.14		77.68	

ASH FORMED FROM GASIFICATION PROCESS OF GROUND WOOD

GROUND WOOD PREPARED FOR GASIFICATION PROCESS