NOTICE OF PREPARATION

To:	State Clearinghouse PO Box 3044/ 1400 Tenth St Sacramento, CA 95814	From:	County of Tulare – RMA 5961 S Mooney Blvd Visalia CA 93277

Date: February 2, 2020

Subject: Notice of Preparation (NOP) of a Draft Focused Environmental Impact Report (EIR) and Scoping Meeting

Project Title: Visalia Landfill – Compost and Biomass Conversion Facility

Project Applicant: County of Tulare

Project Location: Physical Address: 8614 Avenue 328, Visalia, CA 93291;
Assessor Parcel Number (APN): 119-010-039;
Section/Township/Range: Sec. 4, T. 19 S., R. 24 E, MDB&M
Latitude/Longitude: 36° 23' 10.64" N, 119° 22' 13" W

Tulare County Resource Management Agency (RMA) will be the Lead Agency and will prepare a focused environmental impact report for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit(s) or other approval(s) for the project. In addition, please provide us with contact information of the person(s) in your agency that we may contact during the CEQA process.

The project description, location, and the potential environmental effects are contained in the attached materials. The NOP is also available on the County website at:
https://tularecounty.ca.gov/rma/index.cfm/planning-building/environmental-planning/environmental-impact-reports/visalia-landfill-compost-and-biomass-conversion-facility/

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice.

A scoping meeting is scheduled for **Thursday, February 18, 2021, at 1:30 P.M.** in the Main Conference Room of the Tulare County Resource Management Agency at the address shown above. You can also participate via Zoon at: Join Zoom Meeting
https://tularecounty-ca.zoom.us/j/96654431762?pwd=ejJoK3NjZUtNTWZhQytvNS95aE1zQT09;
Meeting ID: 966 5443 1762; Passcode: 39516; One tap mobile at +16699009128,,96654431762# US (San Jose); or Dial by your location at +1 669 900 9128 US (San Jose).

Please direct your response to Hector Guerra, Chief Environmental Planner at the address shown above. He may be contacted by e-mail at hguerra@co.tulare.ca.us or by telephone at 559-624-7121.

Signature: _____ Date: 2/2/21
Hector Guerra
Title: Chief Environmental Planner

Signature: _____ Date: 2/2/21
Reed Schenke, P.E.
Title: RMA Director / Environmental Assessment Officer

PROJECT DESCRIPTION: The full Project description, location, and identification of potential environmental effects are contained in the attached materials. In accordance with the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.), the County of Tulare Resource Management Agency (RMA) will be preparing a Focused Environmental Impact Report (EIR) to evaluate the environmental effects associated with the development of an Compost and Biomass Conversion Facility (Project) on the existing Visalia Landfill site an approximately 36.0 acre site located at the northeast corner of Avenue 328 and Road 80 approximately six miles northwest of the City of Visalia. The site is currently zoned as AE-40. See Figures 1, 2a, and 2b for site plans illustrating the facility's location and features.

Compost Facility

The County intends to develop and operate a covered aerated static pile (CASP) compost facility to comply with the upcoming SB 1383 regulations. The compost facility will be located on the County's Visalia Landfill property that encompasses approximately 634 acres, of which the compost facility will occupy 36 acres, located in a soil borrow recessed approximately 20 feet below grade. The compost facility will be designed to accept up to 200,000 tons per year (TPY) in increments of 50,000 TPY technology modules and can store up to 200,000 cubic yards on-site of organic material that would have otherwise been landfilled. The compost facility would include installing processing and composting equipment, a 50,000 square foot processing building, compacted compost pads, and a lined pond. When operational, the proposed Project is proposing to operate Monday-Friday between 6:00 a.m. to 4:00 p.m., and 7:00 a.m. to 12:00 p.m. (noon) on Saturdays. Depending upon demand, summer hours may begin earlier than 6:00 a.m. A majority of the trips will occur between 7:00 a.m. and 9:00 a.m., and between 4:00 and 6:00 p.m. The Project would utilize approximately 15-20 employees and include an approximate 1,000 square foot office.

Biomass Facility

Tulare County Public Works is proposing to amend their CUP application to add a 2.0 mega-watt (MW) biomass conversion facility at their landfill. The facility will produce electricity, heat and biochar using wood fuel that will be provided by local activities to reduce landfill disposal to meet the mandates of SB 1383 to reduce 75% of all organic, which includes wood waste, from landfill disposal by 2025. The facility will utilize approximately 18,000 bone dry tons (BDT) of wood chips per year or 25,000 tons of per year of wet recovered wood waste and produce approximately a net amount (after parasitic load) 2.0 MW of electrical energy per hour. In addition to this the facility will also produce approximately 20-30 MM BTU of waste heat and approximately 300-600 pounds of biochar per hour. The facility is planned to operate 24/7, however given there will be maintenance requirements for the equipment it is anticipated that the gas production equipment and the GE Jenbacher internal combustion engine generator sets ("gensets") will likely only operate between 7,000 and 8,000 hours per year, or approximately 80-90% capacity.

Figures included in this Notice:

Figure 1 – Regional and Vicinity Location
Figures 2a and 2b – Site Maps

Potential Approvals Required:

The following agencies may have jurisdiction/interests concerning the proposed Project:

California Department of Resources and Recycling and Recovery (Cal Recycle)
City of Visalia
County of Tulare Health and Human Services Agency
County of Tulare Resource Management Agencies (Fire, Flood, Public Works)
Regional Water Quality Control Board
San Joaquin Valley Unified Air Pollution Control District

The following interested persons/parties are also included in this notification:

Evan Edgar: evan@edgarinc.org

If you require additional information related to this notice, please contact:

Hector Guerra, Chief Environmental Planner at:
E-mail: hguerra@co.tulare.ca.us; or
Phone: (559) 624-7121

Figure 1 - Vicinity Map

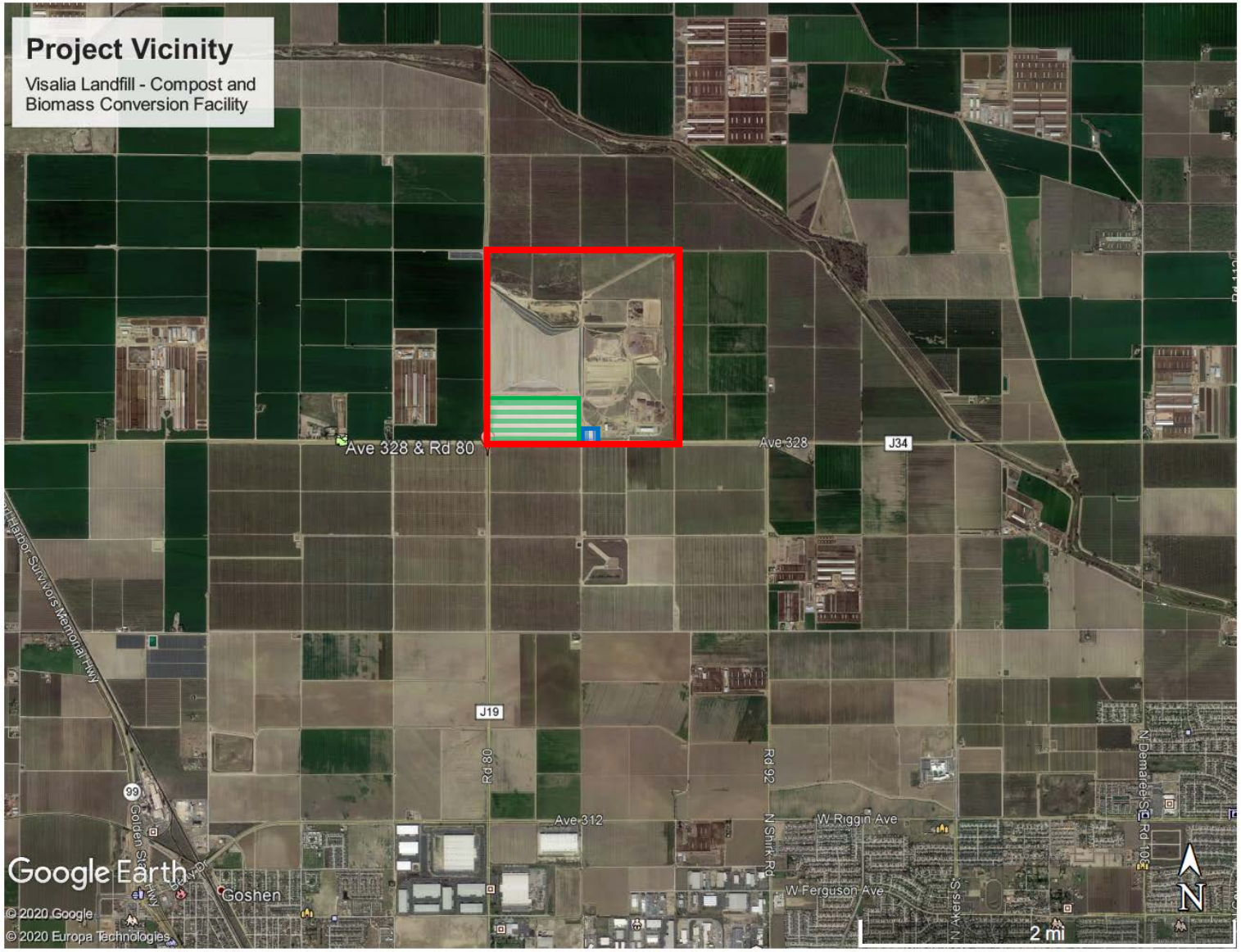


Figure 2a – Entire Visalia Landfill Site Plan

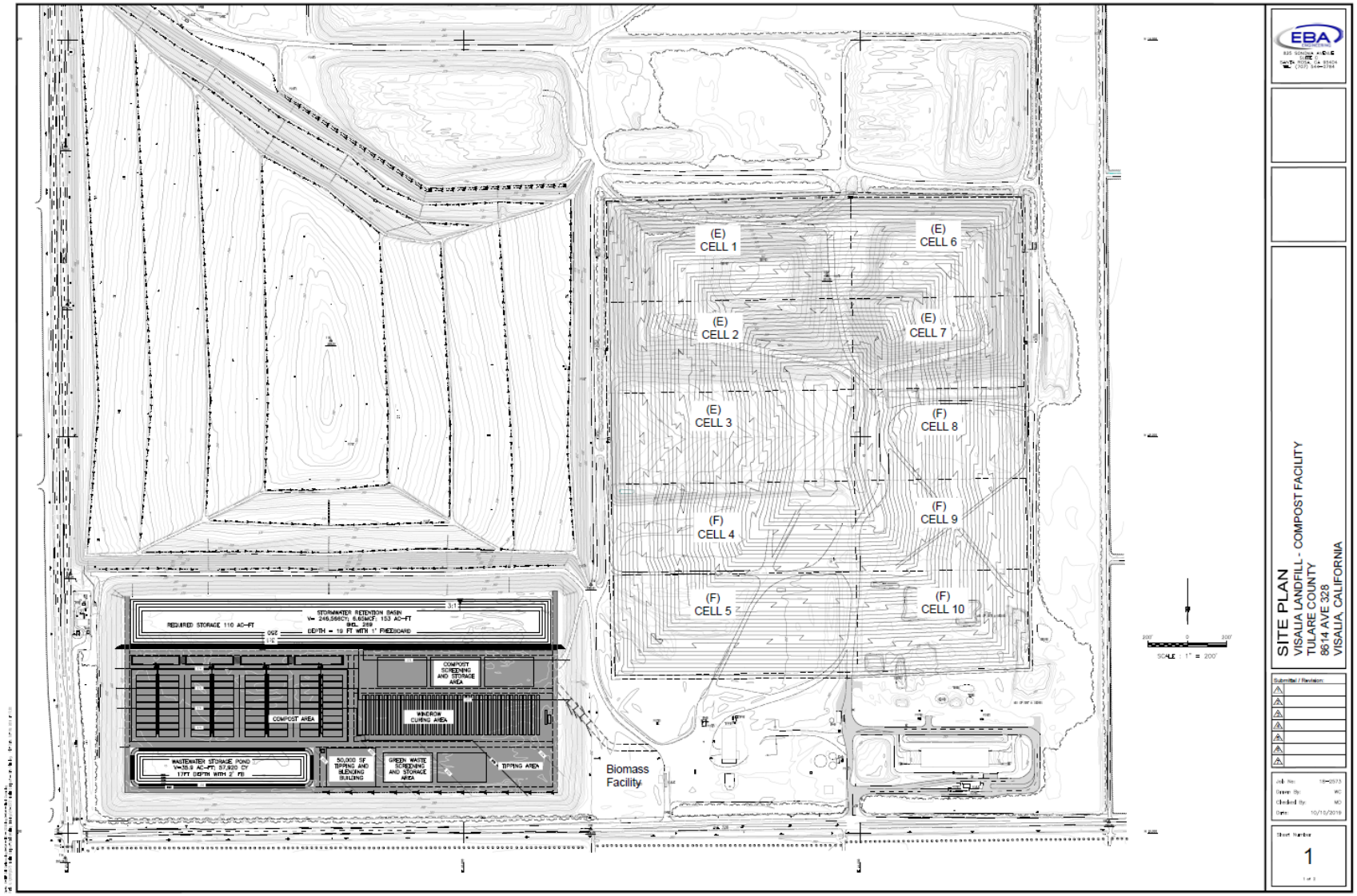
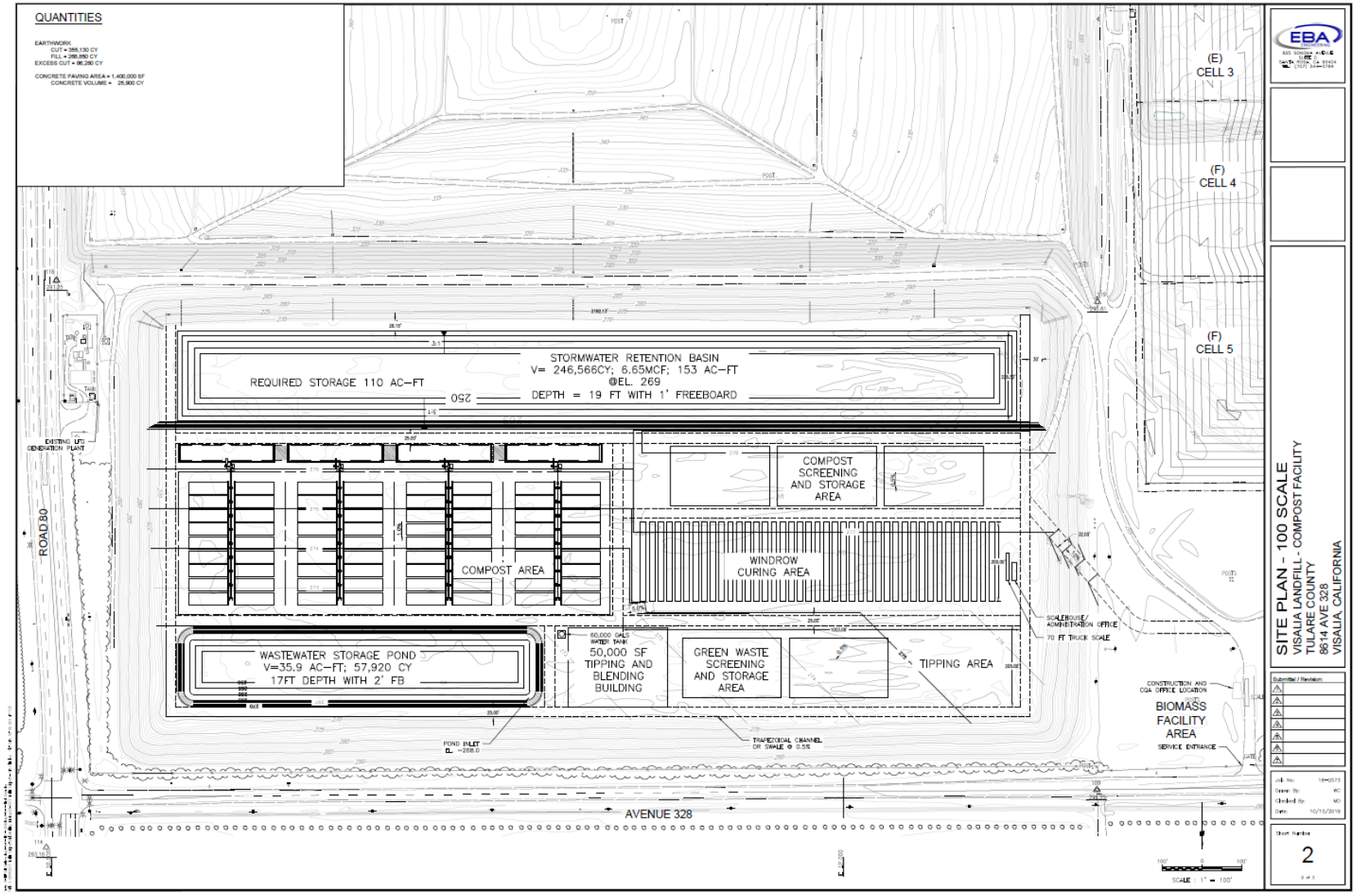


Figure 2b – Visalia Landfill Site Plan Showing Composting and Biomass Facilities



PROJECT LOCATION AND SETTING

As noted earlier, the proposed Project will be located on the existing Visalia Landfill site on an approximately 36.0-acre portion of the site located at the northeast corner of Avenue 328 and Road 80 approximately six miles northwest of the City of Visalia. The Visalia Landfill site (634 acres) is located entirely within an unincorporated area of Tulare County. Specifically, the proposed Project is located on APN: 119-010-039 with a physical address of 7763 Avenue 280, Visalia, California.

The proposed Project is located with the Visalia Urban Area Boundary. State Route 99 is proximate to the site thereby providing regional access to the proposed Project site: State Route 198 is located approximately two miles north of the site and could be accessed via SR 99, (see Figure 1).

The site is flat with minimal slope and is currently used as the Visalia landfill. The site is zoned as AE-40 (Exclusive Agriculture-40 Acre minimum) and is proposed to remain as such pending approval of a Special Use Permit, which is the subject matter of this NOP and forthcoming Focused EIR. No expansion of the existing footprint is being proposed. The site is surrounded by intensive agricultural operations. A walnut orchard is located north of the landfill property, while row crops are immediately to the east and south. A dairy is located immediately to the west.

DESCRIPTION OF PROPOSED FACILITIES

As indicated earlier, the proposed Project will be entirely within the existing Visalia Landfill. The compost facility will be designed to accept up to 200,000 tons per year (TPY) in increments of 50,000 TPY technology modules and can store up to 200,000 cubic yards on-site of organic material that would have otherwise been landfilled. The compost facility would include installing processing and composting equipment, a 50,000 square foot processing building, compacted compost pads, and a lined pond. See Sheets 1 and 2 (attached) for site plans illustrating the facility's location and features.

The proposed 2.0 mega-watt (MW) biomass conversion facility will produce electricity, heat and biochar using wood waste as fuel. The facility will utilize approximately 18,000 bone dry tons (BDT) of wood chips per year or 25,000 tons of per year of wet recovered wood waste. The facility is anticipated to produce approximately 20-30 MM BTU of waste heat and approximately 300-600 pounds of biochar per hour and operate 24/7. However; as noted earlier, due to maintenance requirements for the equipment it is anticipated that the gas production equipment and internal combustion engine "gensets" will likely operate between 80-90% capacity (or approximately 7,000 and 8,000 hours per year).

More detail is provided in the Project Descriptions in Attachments "A" and "B".

POTENTIAL ENVIRONMENTAL EFFECTS

The EIR will evaluate, among other things, the probable direct and cumulative environmental impacts associated with expansion of uses within Visalia Landfill and operation of the Project. Mitigation measures will be recommended, where feasible, to mitigate potentially significant impacts. The proposed Project will be evaluated on its own merits, resource specific facts, and determinations; therefore, a project specific environmental document will be prepared. The following resources will not be impacted by the proposed Project and will not be discussed in the Focused EIR: Aesthetics, Agriculture and Forestry Resources, Hazards and Hazardous Materials, Land Use/Planning, Mineral Resources, Noise, Population/Housing, Public Services, Recreation, Utilities/Service Systems, and Wildfire.

The following resources are proposed for analysis in the Focused EIR:

Air Quality/Energy/ Greenhouse Gas Emissions

The EIR will describe regional and local air quality in the vicinity of the proposed Project site and evaluate impacts to air quality associated with the construction, expansion, and continued operation of the Project. It is anticipated that an air quality study will be prepared to establish baseline, project, and cumulative impacts. The proposed Project's estimated air emissions will be compared to emissions thresholds of the San Joaquin Valley Air Pollution Control District (SJVAPCD). The EIR will describe existing air quality conditions within the San Joaquin Valley Air Basin and will evaluate the proposed Project's potential air quality impacts. Potential air quality emissions impacts include odor, dust, pathogens, and construction related activities; however, the Project will be required to comply with applicable rules, regulations, permits, health risk assessment, etc.

Biological Resources

Although unlikely, construction of some proposed Project features may modify biotic habitats used by sensitive plant and wildlife species. As such, site development may be regulated by state or federal agencies, subject to provisions of the California Environmental Quality Act (CEQA), and/or covered by policies and ordinances of Tulare County. A biological report will be prepared to address issues related to: 1) sensitive biotic resources occurring on the project site; 2) the federal, state, and local laws regulating such resources; and 3) mitigation measures that may be required to reduce the magnitude of anticipated impacts and/or comply with permit requirements of state and federal resource agencies. The proposed Project's potential to affect biological resources will be analyzed in the EIR.

Cultural and Tribal Cultural Resources

There are no visibly identifiable or recognizable cultural resources within the proposed Project expansion areas. Native American tribes will be consulted consistent with AB 52; a Sacred Lands File Search will be requested from the California Native American Commission (NACH). A cultural resources records search will be requested of The California Historical Resources Information System/Southern San Joaquin Valley

Information Center (SSJVIC). The results will be incorporated into the Focused EIR. As such, this DEIR will include an analysis of the proposed Project's potential to affect cultural and tribal cultural resources.

Energy

Electrical Service would be extended to the site and an electrical utility pole would be constructed on-site to provide power to run compost equipment, processing equipment, blowers, and an electric grinder. It is not anticipated that energy usage (e.g., gas, gasoline/diesel fuels, electricity) will substantially increase. Rather, as the biomass facility will generate electricity, this energy resource will likely result in a net benefit. The EIR will include an analysis of the energy resource.

Geology/Soils

Construction and operation of the proposed Project facilities on the project site could result in impacts related to geotechnical hazards, including seismicity of the area, potential for liquefaction and subsidence, potential for soil erosion, soil stability characteristics, and shrink/swell potential of site soils, as applicable. According to the USDA Natural Resources Conservation Service Soil Resource Report for Western Tulare County, the site contains approximately 99% Calgro-Calgro, saline-sodic complex, 0-2% slopes; and Crosscreek-Kai association, loam, 0-2% slopes. As noted in the Visalia Landfill EIR, Initial Study (page 14), "The soil beneath the site consists of coarse-grained sand, silty sand, and silty clay units." It is currently unknown whether the proposed Project site soils have the potential to contain paleontological resources. If such resources exist on the site, construction, expansion, and continued operational activities could result in potentially significant impacts. The EIR for the proposed Project will evaluate potential site-specific impacts related to geology, soils, and paleontological resources.

Greenhouse Gas Emissions

Implementation of the proposed Project would result in beneficial impacts resulting from project-related greenhouse gases. The EIR will include a discussion of greenhouse gas emissions and the proposed Project's contribution to potential cumulative impacts on global climate. The proposed Project's estimated greenhouse gas emissions will be evaluated for consistency with the Tulare County 2030 General Plan, the Tulare County Climate Action Plan, and the State's 2017 Scoping Plan. The EIR will include a discussion of greenhouse gas emissions and the proposed Project's contribution to potential cumulative impacts on global climate.

Hydrology/Water Quality

FEMA FIRM maps indicate that the proposed Project area site is located in Flood Zone B (the 500-year flood boundary) and outside the 100-year flood hazards area. and is also located outside of a Dam Failure Inundation Area. Water is supplied through existing on-site wells for use in landfill operations (e.g., dust control), the future composting operations, a

minor amount for the office facility. The EIR will describe the proposed Project's effect, both directly and cumulatively on the hydrology, water quality, and water supply resources. The EIR will analyze the proposed Project's effect on the hydrology, water quality, and water supply resources.

Transportation/Traffic

The EIR will evaluate the Project's impact on regional and local transportation facilities based on a transportation analysis that will assess construction-related impacts (heavy truck trips and construction worker trips), as well as operational impacts (employee trips, incoming and outgoing materials heavy-duty truck transport, access, and parking). Site access will be provided via one main driveway connecting to the north side of Avenue 328. There would be no increase in the current tons traffic permit limits stated in the Solid Waste Facility Permit for the landfill, as the current green waste and wood waste is being diverted now, and the new organic wastes tons would be diverted directly to the compost facility instead of to the landfill. The EIR will analyze outgoing vehicle trips delivering finished compost and other potential traffic impacts.

Tribal Cultural Resources

See earlier discussion at Cultural and Tribal Cultural Resources.

GROWTH INDUCEMENT

The EIR will evaluate the proposed Project's potential for growth inducement resulting from expansion or extension of infrastructure improvements, as well as new demand for housing, and goods and services. The effect of primary and secondary increases in employment and economic activity will be discussed.

CUMULATIVE IMPACTS

The EIR will discuss the incremental contribution of the proposed Project to cumulative effects of other past, current, and planned and reasonably foreseeable Projects in the vicinity. The summary of projects method will be used where applicable. Also, to the extent feasible, the Cumulative Impacts section will quantify the degree of severity of any cumulative impact.

ALTERNATIVES EVALUATED IN THE EIR

In accordance with the CEQA Guidelines Section 15126.6, the EIR will describe a reasonable range of alternatives to the proposed Project that are capable of meeting most of the proposed Project's objectives, but would avoid or substantially lessen any of the significant effects of the proposed Project. The EIR will also identify any alternatives that were considered but rejected by the Lead Agency as infeasible and briefly explain the reasons why. The EIR will also provide an analysis of the No Project Alternative.

OPPORTUNITY FOR PUBLIC COMMENT

Interested individuals, groups, and agencies may provide to the County of Tulare Resource Management Agency, Planning Branch, written comments on topics to be addressed in the EIR for the proposed Project. Because of time limits mandated by state law, comments should be provided no later than ***5:00 p.m. March 5, 2021***. Agencies that will need to use the EIR when considering permits or other approvals for the proposed Project should provide the name of a staff contact person. Please send all comments to:

Hector Guerra, Chief Environmental Planner
Tulare County Resource Management Agency
Economic Development and Planning Branch
5961 South Mooney Boulevard
Visalia, CA 93277-9394
E-mail at: HGuerra@co.tulare.ca.us;
Phone: (559) 624-7121

Attachment A

Project Description – Biomass Facility

2MW Biomass Facility

I. Project Overview

Tulare County Public Works is proposing to amend their CUP application to add a 2.0 mega-watt (MW) biomass conversion facility at their landfill. The facility will produce electricity, heat and biochar using wood fuel that will be provided by local activities to reduce landfill disposal to meet the mandates of SB 1383 to reduce 75% of all organic, which includes wood waste, from landfill disposal by 2025.

The facility will utilize approximately 18,000 bone dry tons (BDT) of wood chips per year or 25,000 tons of per year of wet recovered wood waste and produce approximately a net amount (after parasitic load) 2.0 MW of electrical energy per hour. In addition to this the facility will also produce approximately 20-30 MM BTU of waste heat and approximately 300-600 pounds of biochar per hour.

The facility is planned to operate 24/7, however given there will be maintenance requirements for the equipment it is anticipated that the gas production equipment and the GE Jenbacher internal combustion engine generator sets ("gensets") will likely only operate between 7,000 and 8,000 hours per year, or approximately 80-90% capacity.

II. Process Overview

Phoenix Energy system is the proposed vendor technology, or equivalent, which converts woody biomass into a synthesis gas ("syngas") through the process of thermo-chemical conversion. Essentially the process "bakes" the biomass in an oxygen-starved environment. By depriving the fuel of sufficient oxygen, the biomass does not convert to combustion products and pollutants, but rather gives off a hydrogen rich syngas. As the biomass gives off the syngas, it is transformed into biochar of approximately 6-9% of the weight of biomass fuel. The syngas is then captured, cleaned and conditioned before being sent as fuel to the genset to produce electricity. The gensets that have been selected for this project are two new *GE Jenbacher Model J-612* (see Internal Combustion Engine Supplemental Form in Appendix B). The process is summarized in Figure 1.

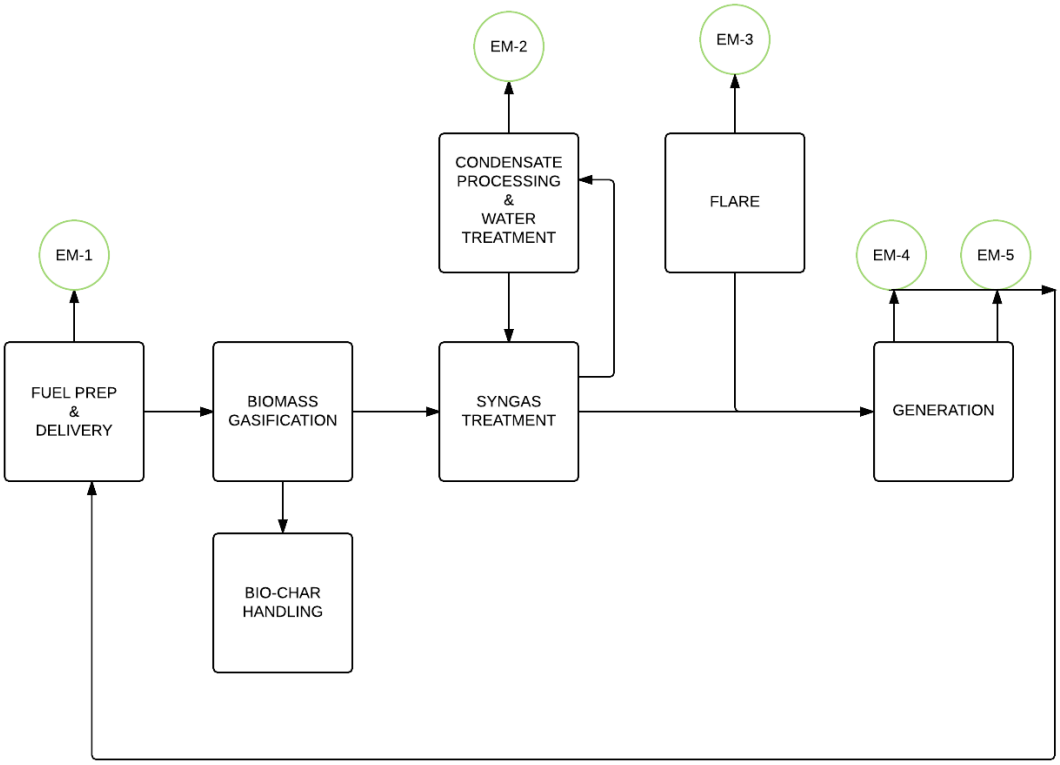


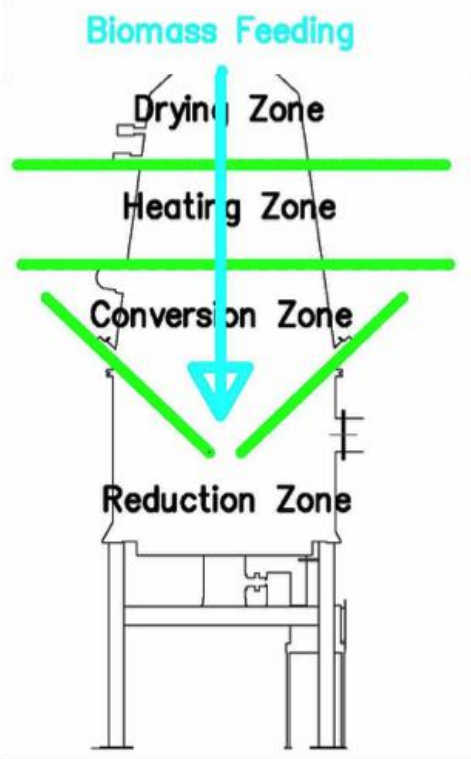
Figure 1: Tulare County 2MW Process Flow Diagram

Fuel Preparation and Delivery

Fuel will be procured in accordance with the fuel eligibility criteria for the BioMAT tariff under SB1122 for urban-sourced fuel, or through the Marin Clean Energy Program. Deliveries to the facility will be generate from on-site MSS wood recovery and processing activity.

As the source for the fuel is either recovered from urban sources or from the forest-source biomass material to mitigate forest fires. it is anticipated that the in-bound fuel will arrive and could contain up to 50% moisture. Depending on final equipment selection, it is anticipated drying this material to approximately 10% moisture content through the use of a rotary drum dryer with a cyclone that will be powered by the waste heat from the system.

Biomass Conversion



The biomass conversion chamber is essentially a chemical reactor where various complex thermo-chemical processes take place. As it flows through the reactor, the biomass gets dried, heated, converted into gas and reduced into bio-char.

Although there is a considerable overlap, each process can be considered to be occupying a separate zone, in which fundamentally different chemical and thermal reactions take place. The fuel must pass through all of these zones to be completely converted.

For this project, Phoenix Energy will utilize a downdraft gasifier. The essential characteristic of the downdraft design is that the tars given off in the heating zone are drawn through the conversion zone, where they will be broken down or oxidized. When this happens, the energy they contain is usefully recovered and the mixture of gases in the exit stream can be recovered for fuel use. The exit stream gas is moved through the gasifies to downstream treatment processes in an enclosed system and the only emission point for the gas stream prior to engine utilization is the emergency and maintenance process flare described as EM-3 in the process flow diagram (see Appendix D for the Flare Supplemental Form).

Bio-char handling

Biochar produced during this process is conveyed from the bottom of the gasifier in an enclosed water-cooled auger to a hopper from which it is packaged into 2 cubic yard supersacks.

Syngas Treatment

After the syngas has been extracted from the conversion chamber it is cleaned by a series of cyclones, scrubbers, and filters. First the gas passes through a series of scrubbers, which removes particulates and condensibles. Then the gas is passed through a series of filters to be conditioned for fuel use in the Jenbacher gensets.

Power Generation

Phoenix systems are based on a spark-ignited engine genset. In this case Phoenix will be using two new GE Jenbacher model J-612 that have been customized by the manufacturer for syngas fuel. The engines will be equipped with emissions control system to control air pollutants to meet SJVAPCD requirements. In case of engine shutdown or process upset, an emergency flare will be utilized for the syngas, until syngas generation is safely shutdown. Phoenix does not expect use of the flare to exceed 250 hours at 100% capacity. Phoenix Energy will provide standard paralleling switchgear for electrical output.

The two GE Jenbacher ICE gensets will meet Best Available Control Technology (BACT) per SJVAPCD District Guidelines. The flare will also meet SJVAPCD BACT.

Condensate Processing and Water Treatment

Water, which is entrained in the biomass fuel, is vaporized with the production of syngas. This water is then condensed out of the gas as it cools. This is very similar to the condensate found in natural gas or propane pipe and will contain trace amounts of hydrocarbons. Phoenix Energy and our technology partners utilize a suite of separation technologies including flocculation, settling, and other treatment, which will remove the majority of particulates and hydrocarbons in the water loop. This limits the need for make-up water in the systems cooling towers instead of solely utilizing fresh water for process needs. The water passed through the cooling tower will have trace amounts of hydrocarbons and as a result, the cooling tower will be a permitted emission point.

The cooling tower circulation rate will be between 200-300 m3/hr. The VOC emission rates are expected to be 0.27lbs/hr. (see emissions table below). VOC content in the circulation water is expected to be 0.39 lbs./hr. and an emission factor of 0.7 was utilized based on AP-42 guidelines for cooling tower emissions. The applicant cannot at the moment provide VOC analysis of the cooling tower water nor provide specificity regarding the VOC content in the cooling tower water.

A lengthy review of potential BACT for VOC emissions, not from leaks of VOC into the cooling water stream, indicated no existing BACT for such VOC emissions from the proposed projects process cooling water tower.

III. Emissions Source Summary

The applicant believes that the potential-to-emit equipment can be summarized as follows below for a 2 MW facility.

1) Fuel drying

2) Process Cooling Tower
3) Stand-by/shutdown flare
4) GE Jenbacher J-612 Engine #1
5) GE Jenbacher J-612 Engine #2

A summary table of emissions is presented below.

Emissions Calculations for MSS

	IC Engine		Cooling Tower		Flare		Feedstock Dryer		Total for 1 MW	**Total for 2 MW**	SJVAPCD CEQA Threshold	Major Source and ERC threshold
Pollutant	Emission Factor	Total Emissions	Emission Factor	Total Emissions	Emission Factor	Total Emissions	Emission Factor	Total Emissions				
	(lb/hr)	TPY	(lb/hr)	TPY	(lb/hr)	TPY	(lb/hr)	TPY	TPY	TPY	TPY	TPY
VOC	0.364	1.59	0.27	1.18	0.74	0.09	0.11	0.49	3.36	**6.73**	10	10
NOx	0.38	1.66	N/A	-	0.80	0.10	N/A	-	1.76	**3.53**	10	10
CO	2.56	11.21	N/A	-	4.37	0.55	N/A	-	11.76	**23.52**	100	100
PM10	0.1	0.44	ND	-	0.09	0.01	0.31	1.36	1.81	**3.61**	15	15
SOx	0.03	0.00	N/A	-	N/A	-	N/A		0.00	**0.00**	27	27

ND = not determined N/A = not applicable

Emissions above based on following operating hours

	IC Engine	Cooling Tower	Flare	Feedstock Dryer
Operating hours per year	8760	8760	500	8760
Capacity factor	100%	100%	N/A	100%

Notes on emission factors

- IC Engine emission factors from Manufacturer's specifications w/SCR control device. SOx emission factor from SJVAPCD ATC No. N-8071-1-0 and N-8071-2-0
- Cooling tower VOC emissions factor calculated by applicant
- Dryer VOC emissions calculated per 12/11/84 source test at Sierra Pacific Industries lumber mill in Lincoln, CA
- Dryer PM emission factor from AP-42 Table 10.6.2-1
- Flare emission factors from SJVAPCD ATC No. N-8071-1-0 and N-8071-2-0
- Cooling tower PM emissions subject to SJVAPCD Guideline 8.3.10

Attachment B

Project Description – Composting Facility

PROJECT DESCRIPTION

March 23, 2020

1. **Project Title:** Visalia Landfill – Compost Facility

2. **Lead Agency:** County of Tulare – Resource Management Agency

3. **Contact Person:** Hector Guerra, Chief Environmental Planner

4. **Project Location:** Northeast comer of Road 80 and Avenue 328 – Approximately 6 miles northwest of the City of Visalia.

5. **Latitude, Longitude:** SEC. 4, T 18 S. R 24 E MDB & M

6. **General Plan Designation:** Agriculture

7. **Zoning:** The landfill property, contiguous parcels, and the surrounding area are designated by the Tulare County Zoning Ordinance No. 352 as AE-40, Exclusive Agriculture Zoned.

8. **Description of Project (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.):** The County intends to develop and operate a covered aerated static pile (CASP) compost facility to comply with the upcoming SB 1383 regulations. The compost facility will be located on the County's Visalia Landfill property that encompasses approximately 634 acres, of which the compost facility will occupy 36 acres, located in a soil borrow recessed approximately 20 feet below grade. The compost facility will be designed to accept up to 200,000 tons per year (TPY) in increments of 50,000 TPY technology modules and can store up to 200,000 cubic yards on-site of organic material that would have otherwise been landfilled. The compost facility would include installing processing and composting equipment, a 50,000 square foot processing building, compacted compost pads, and a lined pond. See Sheets 1 and 2 (attached) for site plans illustrating the facility's location and features.

9. **Surrounding land uses and setting (Brief description):** Land uses surrounding the site are characterized by intensive agricultural operations. Tree crops are to the north of the landfill property, while row crops are immediately to the east and south. A dairy is located to the west.

10. **Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement):**

    - Tulare County Health and Human Services Agency, Environmental Health
    - CalRecycle

- San Joaquin Valley Air Pollution Control District (SJVAPCD)
- California Regional Water Quality Control Board, Central Valley Region

In addition to applying to the Tulare County Resources Management Agency for a Conditional Use Permit (CUP), regulatory oversight of compost facilities is provided by CalRecycle [formerly the California Integrated Waste Management Board (CIWMB)] and the Local Enforcement Agency (LEA), Tulare County Environmental Health Department. The project would also be subject to SJVAPCD requirements.

CalRecycle requires that the project applicant meet design, operation, record keeping, environmental health standards, and employee training requirements for a Compostable Materials Handling Facility, apply for and maintain permit conditions, and be inspected at least monthly. A "Compostable Materials Handling Operation" is defined in Title 14 of the California Code of Regulations (14 CCR), section 17852, as follows:

> (a)(12) "Compostable Materials Handling Operation" or "Facility" means an operation or facility that processes, transfers, or stores compostable material. Handling of compostable materials results in controlled biological decomposition. Handling includes composting, screening, chipping and grinding, and storage activities related to the production of compost, compost feedstocks, and chipped and ground materials. "Compostable Materials Handling Operation or Facility" also includes:
>
> (A) agricultural material composting operations;
> (B) green material composting operations and facilities;
> (C) research composting operations; and
> (D) chipping and grinding operations and facilities.

Site improvements will be required by the State Water Resources Control Board (SWRCB) as part of the approval process for this project. The facility currently has a site-specific permit, called Waste Discharge Requirements (WDRs), to water quality for the disposal operations. The permit would need to be revised to reflect operational changes associated with this project and additional regulatory requirements imposed by the SWRCB. Alternatively, the facility may be put under the General Waste Discharge Requirements for Composting Operations (General Order) instead of revised site-specific WDRs. Site improvements include constructing a new lined detention pond, as well as making additional onsite drainage improvements to continue to direct stormwater and process water runoff into these detention pond(s), and improvements to working surfaces such as paving active composting and/or processing areas or compacting the soil to meet the SWRCB's specifications.

11. **Compliance with Organic Waste Laws – Unfunded State Mandates:** AB 1826 (Chesbro, 2014) phased in mandatory commercial organic waste collection to 2020 following AB 341 (Chesbro, 2011) for mandatory commercial recycling collection; and

SB 1383 (Lara, 2016) requires generators with local government and the local haulers within a shared responsibility framework to reduce 50% of all organics by 2020 and to reduce 75% of all organics by 2025 to mitigate methane. AB 876 (McCarty, 2015) requires the County to identify organic processing capacity to 2035 in their Annual Report, where all jurisdictions need to describe the progress made on AB 1826 in their Annual Report. AB 341 and AB 1826 placed the burden of mandatory collection on the generators with a local government planning effort. SB 1383 explicitly shares the responsibility with local government, where CalRecycle may add fines and penalties much like AB 939 (Sher, 1989), but with delayed enforcement until 2024. SB 1383 requires CalRecycle, in consultation with the California Air Resources Board (CARB), to adopt regulations that achieve the specified targets for reducing organic waste in landfills. SB 1383 regulations are slated for approval by CalRecycle in December 2019, becoming effective in 2022. SB 1383 would authorize local jurisdictions to charge and collect fees to recover the local jurisdiction's costs incurred in complying with the regulations.

The total targeted tons for reducing 50% of all organic waste by 2022 and 75% of all organic waste by 2025 for SB 1383 compliance is calculated based on current disposal, using 2014 waste characterization and tonnage amounts as the baseline. A statewide fair-share model has been calculated and is provided in Table 1. Population growth following the California Department of Finance projections is factored in from 2014 to 2035.

Table 1: New Tons Organics Diversion

	2022 50% Reduction	2025 75% Reduction	2030 75% reduction	2035 75% reduction
Food Waste Diversion	69,397	84,652	92,663	100,675
Green Waste Diversion	22,311	27,216	29,791	32,367
Wood Waste Diversion	29,686	36,211	39,638	43,066
Compostable Paper Diversion	16,010	19,529	21,378	23,226
TOTAL:	**137,405**	**167,608**	**183,471**	**199,334**

In addition, to satisfy the jurisdiction's requirements under AB 876, the amount of organic waste that is generated up to 2035 was determined. This identifies 15 years of organic waste processing capacity using the CalRecycle Disposal Reporting System and Waste Characterization Studies. Based on the existing permits from CalRecycle's SWIS database, currently there is a maximum of 120,375 tons of identified organics processing capacity in Tulare County using current tons being diverted, mostly green waste and wood waste. This capacity would serve Tulare County's immediate need for 2020's requirements, but would need to expand by 2022 to accommodate the new tons diverted when the SB 1383 regulations become effective. Tulare County needs a minimum of 137,000 tons of new capacity in 2022, 167,000 tons of new capacity in 2025, and up to 200,000 tons of new capacity by 2035.

12. Project Objectives: The following are the objectives of the proposed project:

- Provide compost capacity for a transformative organics diversion program in California as required by California legislation;

- Reduce methane emissions from landfills by removing organics from landfills and by composting new feedstocks and reducing greenhouse gasses (GHG) by sequestering nutrient rich compost in soils;

- Modify an existing, strategically integrated waste management facility (Visalia Landfill) to accommodate the growing regulatory demand for mixed materials, organic waste, and food waste composting;

- Receive and compost food wastes derived from commercial and residential sources, increase diversion of organic materials from landfills by expanding the approved feedstock list to include digestates that can be received and processed;

- List the organics waste feedstocks for the facility, using terms and definitions consistent with new State composting regulations (14 CCR) and the adopted SB 1383 regulations;

- Allow pre-processing food waste operations at the facility;

- Continue to provide economic benefits to Tulare County through employment of local residents, by the expansion of operational solid waste management activities and construction of new processing equipment;

- Compliance with SJVAPCD rules and regulations;

- Facilitate the accomplishment of AB 341, which directs CalRecycle to increase statewide diversion from landfills to 75% by 2020;

- Enhance the business community's ability to comply with AB 1826, which as of April 1, 2016 requires businesses that generate a specific amount of organic waste per week must arrange for recycling services for that organic waste in a specified manner (such as composting), to substantially reduce landfill disposal of food wastes; and

- Create water saving opportunities by using compost to enhance agricultural soil.

13. Site Preparation: The 36-acre proposed site would be located in a soil borrow pit and would be designed to accommodate up to 200,000 tons per year that can be built in phases of 50,000 tons per year in a modular units, using CASP technology, recessed approximately 20 feet below grade and is currently vacant, graded, and would not need to be cleared and grubbed for the proposed compost facility. Construction at the site would last approximately five to six months for Phase 1, a 100,000 TPY CASP module, and would include installing processing and composting equipment, a 50,000 square foot processing

building, a 10-acre concrete compost pad, and a 35.9 acre-foot (AF) lined pond to collect contact water.

Temporary construction equipment would include a grader, tractor, loader, backhoe, and rubber-tired bulldozer. The existing access to the landfill would be utilized to gain access to the compost facility. Typical operations and site equipment are described in the Operational Plan.

Site improvements would be required by the SWRCB as part of the approval process for this project. The landfill property currently has a site-specific WDR permit for water quality protection. This permit would need to be revised to reflect operational changes associated with the proposed compost facility and additional regulatory requirements imposed by the SWRCB for compacted compost pads and lined wastewater storage ponds. Alternatively, the compost facility may be placed under the General Order instead of revised site-specific WDRs. Regardless, site improvements include constructing a new lined wastewater storage pond, as well as making additional on-site drainage improvements to continue to direct stormwater and process water runoff into these detention pond(s), and improvements to working surfaces such as paving active composting and/or processing areas or amending/compacting the soil to meet the SWRCB's specifications.

14. Utilities: Utilities would be limited to those currently serving the project area, as follows:

- ***Water Supply:*** Two existing wells are available on the landfill property for water supply (see Sheet 1). The "Cotton Gin Well" is located in the south-central portion of the property and has a well yield ranging from approximately 400 to 900 gallons per minute (GPM). This well is currently used for the landfill operations. The average daily water use for the landfill operations is approximately 118,000 gallons per day (GPD). As for the composting operations, the typical summer day for an average 400 tons per day (TPD) CASP compost facility, or 100,000 TPY, is 168 TPD of water or 40,000 GPD or 56 GPM for 12 hours pumping per day, or 10 trips per day for a 4,000 gallon water truck. The typical summer day for an average 800 TPD CASP compost facility, or 200,000 TPY, is 336 TPD of water or 80,000 GPD or 112 GPM for 12 hours pumping per day or 20 trips per day for a 4,000 gallon water truck. These usages equate to an average daily demand for both the landfill operations and compost facility of approximately 158,000 to 198,000 GPD. The Cotton Gin Well's 400 to 900 GPM yield is sufficient to accommodate this demand.

  The second on-site well ("Northeast Well") is located in the northeast corner of the property and is currently used for contingency purposes only. No information is currently available with regard to its well yield characteristics. However, based on the local hydrogeologic depositional environment, it is reasonable to conclude that its yield is likely on the order of several hundred GPM, which would be sufficient to service the composting operations.

A 60,000-gallon dedicated water tank for fire control purposes will be located within the compost facility operating area.

- ***Sewer Service:*** There is no public wastewater service or septic system on the compost site or planned for development. Portable toilet facilities would be provided for employees. The employees would have access to the landfill facilities' gate for access.
- ***Electrical Service:*** Service would be extended to the site and an electrical utility pole would be constructed on-site to provide power to run compost equipment, processing equipment, blowers, and an electric grinder.
- ***Solid Waste Service:*** Residual waste from contamination that is delivered with the organic waste would be containerized on-site for up for 48 hours prior to disposal at the landfill.
- ***Site Access, Circulation and Fire Safety:*** The compost project site would be accessed from Avenue 328 via an entry roadway that services the landfill. There would be no increase in the current tons traffic permit limits stated in the Solid Waste Facility Permit for the landfill, as the current green waste and wood waste is being diverted now, and the new organic wastes tons would be diverted directly to the compost facility instead of to the landfill. A 20-foot-wide perimeter fire lane would surround the site. An additional 20-foot fire lane would be placed between the phased composting areas and distinct operational areas.

The proposed Project would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system nor would it conflict with an applicable congestion management program. The development of the compost facility would not result in an increase in population nor corresponding to an increase in vehicle travel; therefore new or modified intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit would not be required.

Fire protection services to the compost project site would be provided by the Tulare County Fire Department substation (south of the city of Dinuba), which is approximately 6 miles north of the site. The project may be required to meet access and other fire safety standards established by the Tulare County Fire Department. The project as designed would comply with the following California Fire Code (CFC) requirements:

- Pile sizes shall not exceed 25 feet in height, 150 feet in width and 250 feet in length. (2803.3 CFC)
- Piles shall be separated from adjacent piles by approved fire apparatus access roads. (1908.4 CFC). The project's fire lanes are designed to be 20 feet wide.
- Static piles shall be monitored by an approved means to measure temperature within the static piles. Internal pile temperatures shall be monitored and recorded weekly. (2808.6 CFC)
- Fire extinguishers with a minimum rating of 4A 60B: C shall be provided on all vehicles, equipment operating on the piles, and at all processing equipment. (2808.8 CFC)

- All access routes shall be all-weather and certified by an engineer that they will support the load of a 75,000 lb. piece of apparatus. (D102.1, Appendix-D CFC)
- The facility shall maintain a dedicated water tank with appropriate hook-ups for firefighting purposes capable of delivery at least 500 GPM at 20 psi for 2 hours. The water tank shall be maintained in ready state and shall remain unobstructed at all times.
- The storage, accumulation, and handling of combustible materials and control of vegetation shall comply with Chapter 3 of the fire code.

OPERATIONAL PLAN

The following operational procedures are planned for project operation for the proposed compost facility to comply with environmental permits and other regulatory requirements. Phase 1 would include construction of the compost pad for a 100,000 TPY CASP Module with a seasonal peak flow of 500 TPD and the 50,000 square-foot processing building, develop the rest of the site to receive and process materials, cure and store the finished compost, and install the lined pond. Phase 2 would add another 50,000 TPY compost pad and CASP module and Phase 3 would add the final compost pad and CASP module, bringing the total compost facility capacity to 200,000 TPY. Upon final build out, the average and seasonal peak flows would be 650 and 850 TPD, respectively.

Organic Waste and Material Types

The proposed project would authorize the composting facility to accept organic waste and materials types of 'mixed materials' consistent with the new regulations (AB 1826 and SB 1383), which have changed the requirements for disposal of organic waste as well as expanding the list of organic wastes that can be accepted at a Compostable Materials Handling Facility. The additional types of 'mixed materials' and organic wastes would include all types of food material (including post-consumer food waste, food-soiled paper, compostable plastics), and digestate consistent with current regulations. Based on this, the CUP would list acceptable materials that can be received by the composting facility and includes (see definitions in Appendix A):

- 'Mixed Materials' pursuant to 14 CCR
- 'Food Material' pursuant to 14 CCR; and
- 'Organic Wastes' pursuant to SB 1383 regulations.

The landfill currently accepts construction and demolition debris, green waste, wood waste, and agricultural waste for diversion operations, as well as municipal solid waste for landfill disposal. The landfill currently disposes of the organic waste within the municipal solid waste stream, which instead would be diverted from the landfill to the compost facility.

Composting is the biological decomposition of organic material under aerobic conditions (i.e., in the presence of oxygen). Composting is a self-limiting biological process. Conditions that limit the microbial population include: nutrient availability, temperature, aeration, moisture content, and pH. The composting process requires that microorganisms be supplied with the primary nutrients carbon and nitrogen. Carbon to nitrogen ratios (C/N), which range from 20:1 to 30:1, are considered optimal for microorganisms. The more the C/N ratio deviates from this range, the slower the decomposition process becomes. With a ratio greater than 40:1, nitrogen represents a limiting factor and the reaction rate slows. With a C/N ratio lower than 15:1, excess nitrogen is driven off as ammonia. While this loss of nitrogen is not detrimental to the decomposition process, it does lower the nutrient value of the compost product.

CASP technology can be permitted to receive a variety of composting feedstocks including all types of compostable organic wastes, green wastes, food wastes, and clean wood wastes. Many compost facilities receive feedstocks that are predominately composed of tree prunings, leaves, grass clippings, and contain a small percentage of food waste. Leaves generally have a high C/N ratio. Lawn clippings lack structure to maintain porosity for aeration but have a favorable C/N ratio and moisture content for composting, as does food waste. The CASP compost 'recipe' would vary over time as the participation in residential food waste collection programs increases over time, along with SB 1383 commercial organic wastes, however the recipe would be a balanced C/N ratio and would yield an excellent finished compost product.

The proposed project would be authorized to receive and handle any 'compostable material' or 'digestate' as authorized under current regulations. Some organic material may be delivered pre-processed and feedstock-ready from local material recovery facilities and may be deposited directly into the CASP unit without further processing. The following definitions are consistent with current and future state regulations as administered by CalRecycle and SWRCB, as defined in 14 CCR and SB 1383. Any feedstocks approved to be processed at the facility would comply with all applicable regulations. *Table 2: Feedstock Definitions for Feedstocks to Be Accepted under the Project,* as presented on the following page, provides a description of the feedstocks the composting facility would use.

Under the proposed project, the composting facility would obtain a Solid Waste Facility Permit where the following types of wastes would be prohibited at the compost facility:

- Hazardous, radioactive, designated, and medical wastes;
- Dead animals, septage, ash, painted or treated wood;
- Mixed (municipal) solid waste and mixed construction and demolition materials;
- Burning material;
- Manure from known infected herds or sources as monitored and reported by the California Department of Food and Agriculture (CDFA); and
- Biosolids or any type of sewage sludge.

Hours of Operations
The hours of operations for receiving waste material will harmonize with the landfill with the following hours of operations:

Monday – Friday	7:00 am to 4:00 pm
Saturday	8:00 am to 4:00 pm

The hours of operations of processing material will be 24 hours per day, 7 days per week. The waste material received in the processing building may be processed 24 hours per day to accommodate surge piles and process within a 48-hour holding time period from the time of receipt. The CASP piles will be provided moisture control and oxygen via the fans that are controlled electronically on a timer throughout the 24 hour day. CASP piles may be processed

throughout the day to accommodate wind patterns that could limit processing during the calmer portions of the day.

Materials and Receiving

The facility would be designed to process organic waste that would be considered new tons to comply with SB 1383, as well as current tons that may be recycled on-site or at other at other facilities in the County. The organic waste would be delivered to the proposed compost facility by collection vehicles, transfer trailers and self-haul vehicles. Wood waste would be stored outdoors for up to 30 days in a designated area. Green waste would be stored outdoors for up to 7 days in a designated area. Co-collected residential organic wastes would be stored outdoors for up to 48 hours. Commercial organic waste would be delivered into the proposed processing building.

Pre-Processing Operations

Though education and awareness with monitoring and reporting, the County would work with the cities and their haulers to minimize contamination placed in the organic waste carts and bins. Once received the organic waste would be load-checked for non-compatible wastes and contamination, which would be removed by manual floor sort for outdoor operations or mechanical processing equipment within the processing building. The project allows for pre-processed feedstock-ready material to be placed directly into the CASP unit.

The equipment would be used for material handling, size reduction and residual/contamination removal (such as film plastic) from the materials, wastes, and finish compost. Non-compostable residual material would be sorted and containerized on-site and transported for disposal at the landfill within 48 hours of being generated.

The proposed equipment support the processes as follows with a list provided in Table 4:

1. Pre-processing to support receipt of green materials;

2. Pre-processing to support receipt of food material, mixed material, and organic waste;

3. Post-processing to size and classify compost; and

4. On-site conveyance connecting process areas to transport material.

Under existing conditions, the landfill currently accepts construction and demolition debris, green waste, and wood waste and agricultural waste for diversion operations. These material would continue to be received and processed, where recovered green waste and wood waste would be added into the composting facility.

Table 2: Feedstock Definitions for Feedstocks to be Accepted under the Project	
Feedstocks	***Description***
Agricultural Materials	Waste material of plant or animal origin, which results directly from the conduct of agriculture, animal husbandry, horticulture, aquaculture, silviculture, vermiculture, viticulture and similar activities undertaken for the production of food or fiber for human or animal consumption or use, which is separated at the point of generation, and which contains no other solid waste. With the exception of grape pomace or material generated during nut or grain hulling, shelling, and processing, agricultural material has not been processed except at its point of generation and has not been processed in a way that alters its essential character as a waste resulting from the production of food or fiber for human or animal consumption or use. Material that is defined in this Section 17852 as "food material" or "vegetative food material" is not agricultural material. Agricultural material includes, but is not limited to, manures, orchard and vineyard prunings, grape pumice, and crop residues. (14 CCR §17852)
Food Material	A waste material of plant or animal origin that results from the preparation or processing of food for animal or human consumption and that is separated from the municipal solid waste stream. Food material includes, but is not limited to, food waste from food facilities as defined in Health and Safety Code Section 113789 (such as restaurants), food processing establishments as defined in Health and Safety Code section 111955, grocery stores, institutional cafeterias (such as, prisons, schools and hospitals) and residential food scrap collection. Food material does not include any material that is required to be handled only pursuant to the California Food and Agricultural Code and regulations. (14 CCR §17852)
Digestate	Organic by-product (solid or liquid) of anaerobic digestion process.
Green Material	Any plant material except food material and vegetative food material that is separated at the point of generation, contains no greater than 1.0% of physical contaminants by dry weight, and meets the requirements of section 17868.5. Green material includes, but is not limited to tree and yard trimmings, untreated wood wastes, natural fiber products, wood waste from silviculture and manufacturing, and construction and demolition wood waste. Green material does not include food material, vegetative food material, biosolids, mixed material, material separated from commingled solid waste collection or processing, wood containing lead-based paint or wood preservative, or mixed construction and demolition debris. Agricultural material, as defined in this section 17852(a) (5), that meets this definition of "green material" may be handled as either agricultural material or green material. (14 CCR §17852)
Mixed Material	Any compostable material that is part of the municipal solid waste stream, and is mixed with or contains non-organics, processed industrial materials, mixed demolition or mixed construction debris, or plastics. A feedstock that is not source separated or contains 1.0% or more of physical contaminants by dry weight is mixed material (14 CCR § 17852).
Organic Wastes	Solid wastes containing material originated from living organisms and their metabolic waste products, including but not limited to food waste, green waste material, landscape and pruning waste, applicable organic textiles and carpets, wood, lumber, fiber, paper products, printing and writing paper, manure, biosolids, digestate, and sludges. (SB 1383 or as may be amended).
Pre-processed feedstock-ready CASP materials	Some organic material may be delivered pre-processed and feedstock-ready from local material recovery facilities and may be deposited directly into the covered aerated static pile (CASP) unit without further processing.

In preparation for the active composting phase, feedstock materials are pre-processed by grinding. Grinding of the feedstock reduces the volume of material, increases the surface area to promote biological decomposition, and provides a relatively uniform mixture of material and particle size. Feedstock may consist of any organic materials including green waste, clean dimensional lumber, agricultural materials (such as grape pomace), and food wastes. The amounts of these materials which makeup the feedstock 'recipe' are critical for both C/N ratio and most importantly bulk density. Green waste materials, with small percentages of food waste introduced to the mixture are ideal for the CASP technology, based on experience with the materials generated in the region. High percentages of food waste or other similar high-density feedstocks of the total recipe may lead to a feedstock that is too dense and does not allow for proper airflow through the CASP. Bulking materials, such as compost overs or wood waste can be added to increase the bulk density as required, however these materials also reduce the amount of capacity available for new inbound feedstocks. A typical recipe for CASP compost systems can vary from 10% to 25% food material to green and wood materials.

Grinding Pre-Processing Operations

The existing CUP for the landfill property allows for reception and storage of green waste and wood waste and the grinding process, which would be re-located from the current location near the landfill to the compost operations. This project would allow these wastes to continue to be ground; and will allow further processing through a screen or similar equipment to further size separate and be blended with processed food waste in ratio of 10% to 25% food material to green and wood materials and be placed in the CASP unit for composting. Additional equipment, such as a grinder, conveyors, and shaker deck, would be installed on the project site to complete these process operations.

The co-collection of green waste with food material from residential sources (co-collected residential organics) is an emerging trend in California to meet SB 1383 objectives. The amount of residential food material varies from 3% to 7%, with seasonal peaks up to 10%, of the green waste volume, based on seasonal factors and special holiday events. The co-collected residential organics would be delivered to the site by local collection vehicles or from transfer trailers and would be received and processed outdoors in the tipping area and not within the processing building, unless later specified as part of an enhanced odor mitigation plan. A site-specific Odor Impact Minimization Plan will be prepared, which includes multiple design and operational measures to reduce odors, including an outdoor storage time limit of 48 hours for un-processed co-collected materials.

The outdoor organic waste processing area would have a capacity to store up to 10,000 cubic yards of received green waste and co-collected waste. Two stockpiles would be separated by fire lanes consistent with applicable fire district standards of 20 feet. The co-collected residential organics would be stockpiled on a pad for a maximum period of 48 hours and green waste and wood waste could be stored for up to 30 days. Chipping and grinding would generally occur on the day of receipt from co-collected residential organics, and up for 7 days for green waste. The processed

co-collected organics material storage area would be constructed with a compacted all-weather pad equipped with a gravity drain to the lined wastewater storage pond.

Food Waste Pre-Processing

Adding pre-processing lines and processing equipment within the processing building could allow for adequate upfront processing of unprocessed material before beginning the composting process. The project would allow for reception and pre-processing of commercial organic waste and food material/mixed material pre-processing at the facility. Statistics on the comingled commercial loads materials indicate loads have an average of approximately 30% by-weight non-compostable contamination rate, even when the best management practices are followed at the source. Transfer trailers, collection trucks, or end dump vehicles would transport unprocessed commercial organic waste to the project site where it would weigh in across certified scales. The truck would travel to a dedicated receiving and storage area within a designated bunker, within the processing building, where the material would be offloaded. Vectors would be controlled by good housekeeping practices within the enclosed building.

The project proposes to utilize state-of-the-art extruder-type food processing technology to pre-process commercial organic waste. Materials and organic waste would be loaded from the bunker, with a front-end loader, into an infeed bin to be mechanically separated from the residual waste. The resulting food waste, targeting less than 1% contamination by weight, would be blended with green waste either within the building or within the CASP unit. This material would be mixed with green waste and/or bulking agent into a compost feedstock unit with blends of 10% to 25% food material to green material.

Covered Aerated Static Pile (CASP) Technology

CASP technology is superior to traditional composting methods, such as windrows because air is mechanically added to the piles as needed, based on continuous temperature monitoring, and a biological ‘cap’ or ‘cover’ of compost is placed over the pile to significantly reduce the uncontrolled emissions. The proposed CASP composting process consists of multiple phases, with primary and secondary operations, with both positive and/or negative air. Integral to the CASP operations is feedstock receiving and pre-processing as previously described, active composting with aeration, curing, screening and storing finished compost prior to sale. There are approximately 36 acres available at the facility for composting activities. The active composting area would feature a 10-acre paved pad. Once active composting is complete, the materials are then moved to a curing area, then to final screening and finishing at the compost storage until products are sold.

Aeration System

The proposed CASP technology has been determined to be the best available control technology (BACT) by the SJVAPCD. The CASP system includes infrastructure to push air flow into the compost material (‘positive aeration’) and/or pull air flow from the compost material (‘negative

aeration') during the active compost phase, which may include both primary and secondary batch systems. The positive air heats up the composting process as needed and the negative air better controls odors and emissions during the active compost process.

An active aeration system, which can help provide more ideal conditions for the composting process, is expected—on a per ton of compost basis—to reduce system footprint and retention time for composting, reduce movement of material once on-site and the amount of off-road equipment needed compared to traditional windrow composting, and reduces odor and volatile organic compound (VOC) emissions. The system would be designed to satisfy the requirements of the SJVAPCD Rule 4566, which regulates organic material composting operations.

As described above, the aeration system would utilize either positive and/or negative pressure. An active aeration system that utilizes positive airflow utilizes a biocover. An active aeration system that utilizes negative airflow utilizes a biofilter (i.e., separate pile consisting of finished compost overs and/or wood chips). A push/pull system can switch between positive and negative air flow and would therefore utilize both a biocover and a biofilter. The CASP composting system would still use wet suppression/water sprays to help reduce fugitive dust during material receiving/mixing, active and curing phase composting, and finished compost storage and loadout.

Temperature & Moisture Control

The composting process produces heat as a result of bacteriological metabolism. Initially, the heat generated by mesophilic bacteria elevates the temperature to about 50°C (122°F) or more. As the mesophilic bacteria population decreases due to the high temperature, thermophilic bacteria take over and elevate the temperature up to 60°C (140°F) or more. Over time and under the proper environmental conditions (i.e., the presence of oxygen, water, and nutrients), the microorganisms are self-limiting and the temperature stabilizes at between 55°C (131°F) and 75°C (167°F).

Temperatures would be monitored to ensure that the prescribed regulatory period of 72 consecutive hours at no less than 55°C (131°F) are met for the Process to Further Reduce Pathogens (PFRP). Maintaining the proper moisture content for a composting pile is also important; for the composting operations, the optimum water content lies around 50%. If the pile is too dry, the microbes go dormant; therefore, moisture is added to the feedstock prior to inclusion into the CASP operation in order to maintain the proper water content. If the pile is too wet, saturated conditions can cause the pile to become anaerobic due to lack of oxygen circulation. The optimum pH for composting is between 6.0 and 7.5 (near neutral).

Composting

Following grinding, pre-processing and blending or receipt of feedstock-ready materials, the materials would be placed in static piles not exceeding 250 feet long by 100 feet wide and approximately 10 feet in height within the primary CASP unit as to meet Fire Code standards. The piles would be constructed using a loader to stack the material. Underlying the piles are perforated pipes (up to 32 pipes and 8 blowers per CASP unit, or fan group), which may be embedded in the

concrete below or may be flexible pipes placed on grade within each static pile, which provide positive aeration to the bottom of the piles from adjacent air handling units or 'blowers' as part of the initial phases to heat up the mass. After the piles are constructed, they are covered with a minimum of 12 inches of compost material, which acts as a biofilter which reduces harmful emissions and potential odors. The compost cover itself is moisture conditioned through the active composting phase as needed to maintain its effectiveness in controlling emissions and odors.

The CASP aeration process is highly automated and controlled. The composting piles are instrumented with wireless automated temperature probes for ongoing temperature monitoring throughout the active composting process. Based on monitoring and operational protocol, the aeration system is activated to induce airflows through the CASP. The aeration timing and flow rates are varied as needed to optimize the composting process and minimize odors. A push/pull system can then switch from positive to negative air flow and would therefore utilize a biofilter to control emissions and minimize odors.

Composting piles remain on the primary CASP unit for 24 days prior to being moved by a bucket loader or conveyance system to the secondary CASP unit for another 24 days, with some variation in composting time depending on feedstock composition, temperature, moisture, season of the year, and stability of the compost at the end of the active phase. The secondary CASP serves to ensure that adequate decomposition is attained in the event uniform composting was not achieved during the primary CASP phase. After secondary CASP, the material is moved to the curing pad to mature.

The project may consist of negative air, positive air, or a reversing air scenarios design that will be analyzed as part of the California Environmental Quality Act (CEQA) process. There are excepted VOC emission factors (EF) associated with the aeration type, as noted in Table 3 below. Plus there are several aeration floor models that could be pipe-on-grade with a static pile placed on top, or an in-floor Trench or Sparger system within concrete bunkers with variable sized biofilters as shown in Table 3 below.

Curing

When the active composting phase is complete, the curing phase begins. The composting piles are dismantled and hauled to the curing area. Curing allows the compost material to mature and is essential in the development of a high-quality product. Curing piles are constructed with front loaders and are approximately 20 feet wide, 250 feet long and 15 feet high. Material placed in the curing area will typically cure for 3 months or more. Moisture may also be added to the curing windrows as needed to maintain suitable curing conditions and control dust. After the curing process, the composted materials are screened based on customer demand, but typically to 3/8-inch and smaller, to remove oversize particles and contaminants (plastic, glass, etc.) and provide a final compost product specific for its end use.

Table 3: Aeration Type and Floor Type in relation to Emission factors sizing of Biofilters					
Annual Tonnage	**Expected VOC EF, ln/tons**	**Aeration Type**	**Working Surface/ Walls**	**Aeration Floor Type**	**Mass-Bed CASP & Biofilter Area (ft2) for 24-day retention**
50,000	.004 - .05	Negative	Compacted earth/ Block	Pipe-on-grade	60,000
50,000	.004 - .05	Negative	New concrete/ Cast	In-floor LF Trench	41,000
50,000	.004 - .5	Reversing	New concrete/ Cast	In-floor LF Trench	40,000
50,000	.5 - 1.5	Positive	Compacted earth/ Block	Pipe-on-grade	55,000
50,000	.5 - 1.5	Positive	New concrete/ Cast	In-floor Sparger	36,000
100,000	.004 - .05	Negative	Compacted earth/ Block	Pipe-on-grade	90,000
100,000	.004 - .05	Negative	New concrete/ Cast	In-floor LF Trench	71,000
100,000	.004 - .5	Reversing	New concrete/ Cast	In-floor LF Trench	68,000
100,000	.5 - 1.5	Positive	Compacted earth/ Block	Pipe-on-grade	81,000
100,000	.5 - 1.5	Positive	New concrete/ Cast	In-floor Sparger	62,000

Screening

Through this process an over-sized finished compost (>3/8-inch typically) is also produced through the screening effort. This material is typically referred to as ‘overs’ and they generally consist of composted pieces of woody material. There are many uses for ‘overs’ such as composted mulch, biofilter media, erosion control, compost bulking agent, and soil amendment, but due to the rather low nitrogen content and size of this material the value tends to be significantly less than the unders fraction. In addition, film plastic contaminants are a common problem in composting residential wastes and film plastics tend to be concentrated into the overs fraction of the finished compost process. Because of this contamination some end uses may be limited with regard to overs. Eventually, through additional processing and screening, contamination of overs may become so high that landfill alternative daily cover (ADC) will count as disposal starting 2020. Overs are not generally considered a residual; they are a valuable part of the finished compost. But depending on inbound feedstock contamination and the natural process of concentrating film plastics into the overs fraction through screening a portion of overs will generally end up as landfill ADC due to this contamination.

Equipment List

Table 4 provides a summary of the equipment proposed for the facility.

Table 4: Equipment Proposed for Compost Facility

Equipment	Process Used In	Power Source
Fuel Truck	Refueling Equipment (Off-road and On-Road Equipment)	Diesel
2 Tractors	Material Transfer (Off-road Equipment)	Diesel
Excavator	Material Transfer (Off-road Equipment)	Diesel
6 Loaders	Material Transfer (Off-road Equipment)	Diesel
Office Vehicle	Composting Process (Off-road Equipment)	Diesel
Sweeper Truck	Composting Process (Off-road Equipment)	Diesel
2 Water Trucks	Composting Process (Off-road Equipment)	Diesel
Shop Truck	Composting Process (Off-road Equipment)	Diesel
2 Grinders	Feedstock Products (Mulching)	Electric
2 Conveyors	Feedstock Products (Mulching)	Electric
Pre-Processing Line Shredders/Grinders	Compost Processing (Feedstock Pre-processing line)	Electric
Pre-Processing Line Conveyors	Compost Processing (Feedstock Pre-processing line)	Electric
Food Waste Processing Equipment	Depackage and remove contaminates to produce slurry feedstock	Electric
2 Processing Trommel	Compost Processing (Finished Processing	Electric
1 Film Plastic Separator	Compost Processing (Finished Processing line)	Electric
Processing Line Sizing Screen	Compost Processing (Finished Processing line)	Electric
Processing Line Conveyors	Compost Processing (Finished Processing line)	Electric
Shop Truck	Composting Process (Off-road Equipment)	Diesel
2 Processing Trommel	Compost Processing (Finished Processing line)	Electric
1 Film Plastic Separator	Compost Processing (Finished Processing line)	Electric
Processing Line Sizing Screen	Compost Processing (Finished Processing	Electric
Processing Line Sizing Screen	Compost Processing (Finished Processing	Electric

Air Quality Permitting for Compost Facilities

The SJVAPCD has primary responsibility for regulating stationary sources of air pollution situated within its jurisdictional boundaries. To this end, the SJVAPCD implements air quality programs required by State and federal mandates, enforces rules and regulations based on air pollution laws, and educates businesses and residents about their role in protecting air quality. The SJVAPCD is also responsible for managing and permitting existing, new, and modified sources of air emissions within the Tulare County portion of San Joaquin Valley Air Basin.

In 1998, SJVAPCD adopted its Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI) to provide lead agencies, consultants, and project applicants with uniform procedures for addressing air quality in environmental documents. SJVAPCD subsequently revised its GAMAQI document in 2002 and then again in 2015. Key elements of the 2015 GAMAQI document (SJVAPCD 2015a) that are evaluated as part of this analysis include:

- ***CAP Emissions Thresholds:*** These thresholds have been developed for construction and operational emissions, as specified on the next page.

TABLE 5: Air Quality Thresholds of Significance for Criteria Pollutants

	Operational Emissions (ton/year)		
Pollutant/ Precursor	**Construction Emissions (ton/year)**	**Permitted Equipment and Activities**	**Non-Permitted Equipment and Activities**
CO	100	100	100
NOx	10	10	10
ROG	10	10	10
SOx	27	27	27
PM10	15	15	15
PM2.5	15	15	15

Source: SJVAPCD 2015a.

As indicated in the 2015 GAMAQI, permitted sources and activities are subject to SJVAPCD Regulation II (Permits), notably Rule 2201 (New and Modified Stationary Source Review) and Rule 2301 (Emission Reduction Credit Banking). Rule 2201 requires that any emission increases from new permitted stationary sources are mitigated by emission offsets. In most cases, permitted stationary source emissions, therefore will be reduced or mitigated to below the SJVAPCD's recommended significance thresholds (SJVAPCD 2015a).

- ***CAP Modeling:*** When assessing the significance of project-related impacts on air quality, impacts may be significant when emission increases from construction activities or operational activities exceed SJVAPCD's 100 pounds per day screening level, which is applicable to any criteria pollutant after implementation of all enforceable mitigation measures. When on-site emissions are in excess of the screening threshold, SJVAPCD recommends that an ambient air quality analysis be performed. An ambient air quality

analysis uses air dispersion modeling (e.g. atmospheric dispersion modeling system (AERMOD) to determine if emission increases from a project will cause or contribute to a violation of the ambient air quality standards. SJVAPCD's March 2015 GAMAQI states that a project should be considered to have a significant impact if its emissions would cause or contribute to a violation of any California Ambient Air Quality Standards (CAAQS) or National Ambient Air Quality Standards (NAAQS).

- ***Assessment of Carbon Monoxide (CO) Impacts:*** Due to the fact that increased CO concentrations are usually associated with roadways that are congested and with heavy traffic volume, SJVAPCD established that preliminary screening can be used to determine if a project would result in a CO hotspot at any given intersection. SJVAPCD established that if neither of the following criteria are met at all intersections affected by the project, the project will result in no potential to create a violation of the CO air quality standard:

    - A traffic study for the project indicates that the Level of Service (LOS) on one or more streets or at one or more intersections in the project vicinity will be reduced to LOS E or F; or

    - A traffic study indicates that the project will substantially worsen an already existing LOS F on one or more streets or at more intersections in the project vicinity.

  If either of the above criteria can be associated with any intersection affected by the project, the applicant/consultant would need to conduct a CO analysis to determine a project's significance.

- ***Odor Assessment:*** SJVAPCD recommends that odors associated with a proposed project should be evaluated on a case-by-case basis, and suggests a two-part process for evaluating a project's potential odor impacts. Initially, the proximity of a potential odor generator with respect to sensitive receptors (residences, schools, day care centers, hospital, etc.) should be compared to District recommended odor screening distances. For composting facilities, SJVAPCD recommends more detailed analysis of potential odor impacts if sensitive receptors are located within one mile of an odor source. If receptors are located within the recommended screening distance, SJVAPCD suggests that the odors should be assessed qualitatively, taking into consideration project design elements, local meteorological conditions, and the nature of the odor source. SJVAPCD also recommends reviewing historical odor complaints in the project vicinity. An Odor Impact Minimization Plan will be prepared and is required to be part of the Solid Waste Facility Permit application package.

- ***Health Risk Assessment (HRA):*** SJVAPCD's thresholds of significance for health risks associated with toxic air contaminants (TACs) emitted from project operations are as follows:

- Carcinogens: increased cancer risk of 20 per one million or greater for the maximally exposed individual.

- Non-Carcinogens: hazard index of 1 or greater for the maximally exposed individual. Note that the hazard index is expressed as a ratio of exposure levels to acceptable levels.

SJVAPCD recommends that risk assessments be conducted in accordance with California Office of Environmental Health Hazard Assessment (OEHHA) risk assessment guidelines (Cal/EPA 2015a).

The SJVAPCD established the following rules and regulations to ensure compliance with local, State, and federal air quality regulations:

Rule 2010 - Authority to Construct and Permit to Operate

Rule 2010 requires owners of any new or modified equipment that emits, reduces, or controls air contaminants, except those specifically exempted by the SJVAPCD, to apply for an Authority to Construct and Permit to Operate.

Rule 2201 - New and Modified Stationary Source Review

Rule 2201 requires that any emission increases from new permitted stationary sources are mitigated by emission offsets. In most cases, permitted stationary source emissions, therefore, will be reduced or mitigated to below the SJVAPCD's recommended significance thresholds (SJVAPCD 2015a).

Rule 4566 - Organic Material Composting Operations

Rule 4566 regulates organic material composting operations. Rule 4566 controls VOC emissions from composting operations. Additionally, Rule 4566 mandates controlling at least 80% of the VOC emissions that are the common cause of odor issues at uncontrolled composting facilities.

Rule 8021 – Dust Control Plan

Rule 8021 Section 6.3, requires applicants to develop, prepare, submit, obtain approval of, and implement a Dust Control Plan, which would reduce fugitive dust impacts to less than significant for all construction phases of a project, which would also control the release of the Coccidioides immitis fungus from construction activities.

The SJVAPCD will require 'New Source Review' (NSR) for the permitting of new composting operations in accordance with Rule 2201 and Rule 4566. Typically, emissions of VOCs, are the only emissions that will trigger mitigation. The threshold of significance for VOCs in the SJVAPCD is 10 tons per year. Facilities subject to NSR are required to employ BACT, which will be to aerate and maintain a biofilter throughout the 24-day period of active composting; possibly requiring some level of control during curing as well.

Default emission factors are generally conservative, and experts who have experience with compost emissions testing have shown that the real emission factors are much lower. It is possible to accept an Authority to Construct based on default emission factors with the understanding that emission testing after construction will be conducted, and based on those results the permit could be modified to allow more throughput.

Default VOC emission factors in the SJVAPCD are:

- 5.71 lbs./ton of feedstock during composting and curing; and
- 0.2 lbs./ton/day for feedstock storage (These potential emissions may not be required in calculating the total for composting operations, or may be mitigated with compost cover).

It is assumed that 90% of VOCs are generated during active composting and that a finished compost layer will reduce emissions by 80%.

A lower compost emission factor is likely achievable, derived from other site specific studies, of 2.5 lbs./ton.

VOC emissions and offset costs are estimated for the maximum throughput level of each 50,000 TPY for each proposed CASP unit where up to 4 are being proposed. Emission Reduction Credit (ERC) values fluctuate with demand. The following scenario is provided.

- Two-day retention time for feedstock
- Composting with aeration during the active compost phase but not curing.

Table 6: Aeration and Biofiltration during composting only

Feedstock	**Emission Factor**	**Gross VOCs**	**BACT 80% reduction**		**SJVAPCD ERC Costs**	**Offset 2019 cost**
TPY	Lbs./Ton	Lbs.	Lbs.	Tons	Per ton*	
50,000	5.71	285,500	57,100	28.55	$ 4,200	$ 119,910
50,000	2.5	125,000	25,000	12.5	$ 4,200	$ 52,500

*Based upon SJVAPCD posted 2019 costs
(http://www.valleyair.org/busind/pto/erc/ERC_Cost_idx.htm)

Reductions in overall emissions could be achieved with a one day retention time.

APPENDIX A

Title 14 definitions are linked below:

https://govt.westlaw.com/calregs/Document/I2735C56A57C94FB0BB2C821C37CA68B5?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPageItem&contextData= (sc.Default) &bhcp=1

T14: "Agricultural Material" means waste material of plant or animal origin, which results directly from the conduct of agriculture, animal husbandry, horticulture, aquaculture, silviculture, vermiculture, viticulture and similar activities undertaken for the production of food or fiber for human or animal consumption or use, which is separated at the point of generation, and which contains no other solid waste. With the exception of grape pomace or material generated during nut or grain hulling, shelling, and processing, agricultural material has not been processed except at its point of generation and has not been processed in a way that alters its essential character as a waste resulting from the production of food or fiber for human or animal consumption or use. Material that is defined in this section 17852 as "food material" or "vegetative food material" is not agricultural material. Agricultural material includes, but is not limited to, manures, orchard and vineyard prunings, grape pomace, and crop residues.

T14 "Digestate" means the solid and/or liquid residual material remaining after organic material has been processed in an in-vessel digester, as defined in section 17896.2(a)(14). Digestate intended to be composted pursuant to this Chapter may only be handled at a facility that has obtained a Compostable Materials Handling Facility Permit pursuant to section 17854.

(14) "Domestic Sewage" means waste and wastewater from humans or household operations that is discharged to or otherwise enters a treatment works.

(15) "Disposal of compostable material and/or digestate" means:

(A) 1. the final deposition of compostable material and/or digestate on land, unless excluded from this Chapter 3.1 pursuant to section 17855;

(20) "Food Material" means a waste material of plant or animal origin that results from the preparation or processing of food for animal or human consumption and that is separated from the municipal solid waste stream. Food material includes, but is not limited to, food waste from food facilities as defined in Health and Safety Code section 113789 (such as restaurants), food processing establishments as defined in Health and Safety Code section 111955, grocery stores, institutional cafeterias (such as prisons, schools and hospitals), and residential food scrap collection. Food material does not include any material that is required to be handled only pursuant to the California Food and Agricultural Code and regulations adopted pursuant thereto.

(A) “Vegetative Food Material” means that fraction of food material, defined above, that is a plant material and is separated from other food material and the municipal solid waste stream. Vegetative food material may be processed or cooked but must otherwise retain its essential natural character and no salts, preservatives, fats or oils, or adulterants shall have been added. Vegetative food material includes, but is not limited to, fruits and vegetables, edible flowers and plants, outdated and spoiled produce, and coffee grounds. Vegetative food material contains no greater than 1.0% of physical contaminants by dry weight, and meets the requirements of section 17868.5.

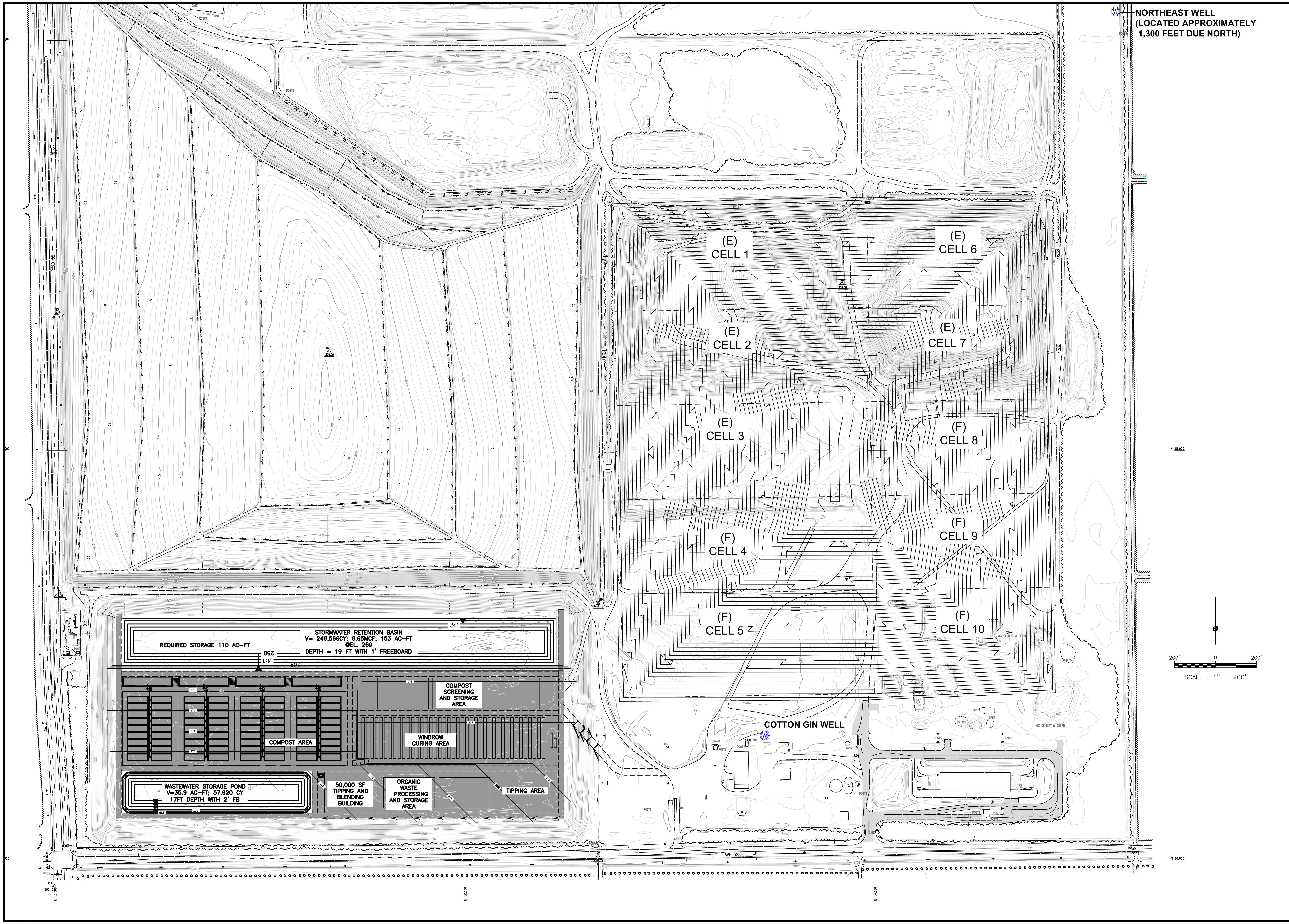
(21) “Green Material” means any plant material except food material and vegetative food material that is separated at the point of generation, contains no greater than 1.0 of percent physical contaminants by dry weight, and meets the requirements of section 17868.5. Green material includes, but is not limited to, tree and yard trimmings, untreated wood wastes, natural fiber products, wood waste from silviculture and manufacturing, and construction and demolition wood waste. Green material does not include food material, vegetative food material, biosolids, mixed material, material separated from commingled solid waste collection or processing, wood containing lead-based paint or wood preservative, or mixed construction and demolition debris. Agricultural material, as defined in this section 17852(a)(5), that meets this definition of “green material” may be handled as either agricultural material or green material.

(26) “Mixed Material” means any compostable material that is part of the municipal solid waste stream, and is mixed with or contains non-organics, processed industrial materials, mixed demolition or mixed construction debris, or plastics. A feedstock that is not source separated or contains 1.0% or more of physical contaminants by dry weight is mixed material.

From the proposed SB 1383 regulations for organic waste:

https://www2.calrecycle.ca.gov/PublicNotices/Details/2366

“Organic Waste” means solid wastes containing material originated from living organisms and their metabolic waste products, including but not limited to food waste, green waste material, landscape and pruning waste, applicable organic textiles and carpets, wood, lumber, fiber, paper products, printing and writing paper, manure, biosolids, digestate, and sludges.



EBA ENGINEERING
825 SONOMA AVENUE
SUITE C
SANTA ROSA, CA 95404
TEL: (707) 544-0784

SITE PLAN

VISALIA LANDFILL - COMPOST FACILITY
TULARE COUNTY
8614 AVE 328
VISALIA, CALIFORNIA

Submittal / Revision:	
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Job No: 18-2573
Drawn By: WC
Checked By: MD
Date: 10/10/2019

Sheet Number
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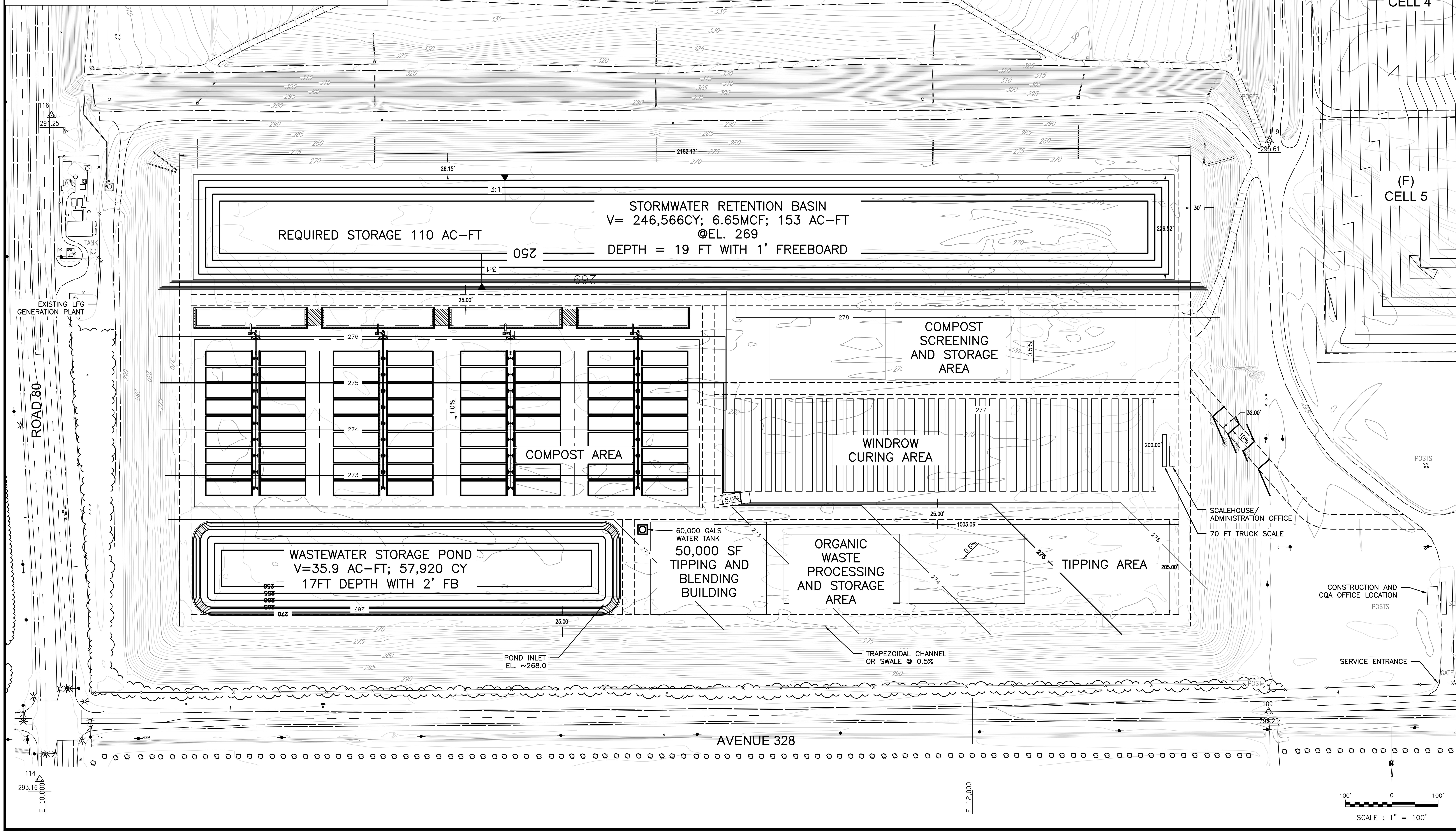
1 of 2

QUANTITIES

EARTHWORK
CUT = 355,130 CY
FILL = 268,850 CY
EXCESS CUT = 86,280 CY

CONCRETE PAVING AREA = 1,400,000 SF
CONCRETE VOLUME = 25,900 CY



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2 of 2