

Davis Street Transfer Station Organic Materials Composting Facility

This In-Vessel Digestion Report (IVDR) describes planned organic compost facilities and processes to be undertaken at Organics Materials Composting Facility (OMCF), within the Davis Street Transfer Station, San Leandro, California. This document has been prepared in accordance with Title 14 of the California Code of Regulations (14 CCR), Sections 17896.15 and 18221.6.1. This IVDR has specifically been formatted with applicable 14 CCR regulatory citations, which are cited sequentially below for reference in *italics*, followed by applicable information on OMCf operations and how each regulation has been met.

Section 18221.6.1 (a) *name(s) of the operator, owner, and the company they represent, if applicable*

- i. Facility Name: Organic Materials Composting Facility ("OMCF")
- ii. Facility Location: 2615 Davis St, San Leandro, CA 94577
- iii. SWFP #: 01-AA-0007 (Davis Street Transfer Station)
- iv. Mailing Address: 2615 Davis St, San Leandro, CA 94577
- v. APN #'s: 079A-0475-007-32 (Alameda County Assessor's Map)
- vi. Land Owner (Davis Street Transfer Station):

Waste Management Alameda County, Inc. (WMAC) (APN: 079A-0475-007-32)
172 98th Ave
Oakland, CA 94603
Phone: (510) 613-8710

City of San Leandro (APN: 079A-0475-010-05)
Civic Center- 835 E. 14th St.
San Leandro, CA 94577
Phone: (510) 563-4277

Note: OMCf to be exclusively within parcel 079A-0475-007-32.

- vii. Operator:
Waste Management of Alameda County, Inc.
2615 Davis St
San Leandro, CA 94577
Phone: (510) 563-4277

- viii. Contacts: Rich Spediacci, Sr. District Manager
Waste Management of Alameda County, Inc.
2615 Davis St
San Leandro, CA 94577
Phone: (510) 563-4277

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Section 18221.6.1 (b) *facility specifications or plans, to include: a site location map, a site map, and identification of adjacent land uses and distances to residences or structures that are nearby and are within 1000 feet of the facility property line*

A Site Location Site Map (Appendix A), a Site Plan / Facility Map (Appendix B) and an Adjacent Land Use Map (Appendix C) are provided in the companion document entitled “Transfer Processing Report, Davis Street Transfer Station, 2615 Davis Street, San Leandro, CA 94577”, Revision 14, October 2016, herein referred to as the Transfer Processing Report, or TPR.

Section 18221.6.1 (c) *schematic drawing of the building and other structures showing layout and general dimensions of the operations area, including but not limited to, the unloading, storage, loading and parking areas.*

Conceptual plans showing operations areas can be found in the companion TPR Document, Appendices E12, E13 and E14. Schematic drawings can be found in the TPR Appendices G4, G5, G6 and G7.

The following plans specific to the OMCF are provided in **Attachment 1** of this IVDR: Site Plan (Attachment 1A); Exterior Elevation Plan (Attachment 1B); and a Traffic Control Plan (Attachment 1C).

Section 18221.6.1 (d) *descriptive statement of the manner in which activities are to be conducted at the facility.*

The OMCF is designed to process organic waste feedstocks that are received, classified and pre-processed in the adjacent Waste Management Organic Materials Recycling Facility (OMRF). Recyclables and non-organics will first be removed from the incoming wastes at the OMRF. Refer to the companion TPR for a detailed description of the OMRF.

The organic material composting processes in the OMCF will convert the organic fraction of municipal solid waste (OFMSW) into marketable compost and soil amendment products. The main processes at the OMCF will entail the following:

- i. (1) Secondary pre-treatment processing to remove recyclables and non-organics through a combination of highly automated mechanical, optical and biological systems designed to yield clean organics for use in In-Vessel Composting System IVC and Anaerobic Digestion systems described herein;
- ii. (2) biological treatment of the pre-processed organics-rich OFMSW, digestate and other organic feedstocks for In-Vessel Composting System featuring covered composting lanes which are aerated. A diesel-powered Lane Turner will actively turn and moisturize the material in the lanes daily to reduce the size of organic materials and accelerate the composting process;
- iii. (3) in a future phase following deployment of the In-Vessel Composting System, Anaerobic Digestion System to generate biogas and digestate suitable for IVC composting from OFMSW and other organic feedstocks. Biogas will be utilized in a combined heat and power system, biogas purification for the production of renewable natural gas or a combination of both; and
- iv. (4) a state-of-the art compost refining (finishing) process system using advanced mechanical, optical and air systems to remove residues and recyclables and create a clean marketable compost product.

All material processing and handling operations will be conducted within a fully-enclosed building with engineered ventilation and odor controls.

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The Organics Material Composting Facility (“OMCF”) building will be approximately 135,000 square feet (interior operating area at full build-out), with a maximum capacity of 1,000 tons per day (TPD) for all four combined operations listed above. During initial operation, it is expected that the OMCF throughput will average 335 TPD (averaged monthly) of feedstock materials with an expanded maximum processing design capacity of 670 TPD and a capability to receive an additional 120 TPD per shift for supplemental Co-Collected Organics (CCO) and Green Waste (GW) feedstocks that do not require pre-processing. The OMCF will produce approximately 55,000 to 65,000 tons per year (TPY) of quality compost and up to 1,000 kW of renewable electricity or 500,000 diesel gallon equivalents (DGE) of renewable natural gas. The final compost products will be loaded via conveyors into walking floor trailers located in the Compost Refining Processing building and transported to third-party compost facility operations where they will be further processed for final sale into soil amendment applications. Detailed descriptions of OMCF processing equipment and methods, including classification, capacity and the number of units are detailed below (Refer to Section 18221.6.1(l)).

Section 18221.6.1 (e) *Days and hours the facility is to operate. If the hours of waste receipt differ from the hours of material processing, each set of hours may be stated. For facilities with continuous operations, indicate the start of the operating day for purposes of calculating the amount of waste received per operating day. The operator may also indicate whether or not, and when, other activities, such as routine maintenance will take place, if those activities will occur at times other than those indicated above.*

Hours of Operation

4:00 am - 11:59 pm – Monday through Friday

4:00 am – 11:59pm – Saturday

Hours for Maintenance Activities:

6:00 pm - 2:00 am Monday-Friday

4:00 pm - 11:59 pm Saturday

12:00 am - 11:59 pm Sunday

Organic waste from the OMRF will be received Monday through Friday from 4:00 am through 5:00 pm. The OMCF will receive on an as needed basis organic waste from the OMRF on Saturday. Processing of waste will occur from 4:00 am through 6:00 pm Monday through Friday and during Saturday operational hours. The OMCF will be closed on Thanksgiving, Christmas, New Year’s Day, July 4th, Labor Day and Memorial Day.

The OMCF is not open to the public.

Section 18221.6.1 (f) *total acreage contained within the operating area*

- i. OMRF: 61,400 square feet of improved building area (1.4 acres)
- ii. OMCF: 135,000 square feet of improved building area (3.1 acres)

Section 18221.6.1 (g) *facility design capacity including the assumptions, methods and calculations performed to determine the total capacity*

- i. The OMCF is designed to process between 300 and 600 TPD (averaged monthly) of OFMSW feedstock materials and receive up to an additional 145 -290 tons per day of CCO and GW materials. Maximum peak inbound tonnage for the OMCF is 1,000 TPD for OFMSW, CCO and GW materials. Expansion from (8) lanes to (16) lanes will require new construction of a building expansion and (8) additional vessels. For the treatment and processing of these

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feedstock materials, there will be four (4) combined and interrelated operating systems including: (1) Pre-Processing, (2) In-Vessel Composting IVC, (3) Anaerobic Digestion AD and (4) Compost Refining. The operator will have the ability to accept any combination of the materials listed and described in the table below. Note that an 8-hour operating shift typically results in 6.3 to 6.5 hours of material processing time after breaks, startup and shutdown are factored.

- ii. The following materials are accepted at the facility and defined below up with average and maximum quantities per each operation. Note, tonnage indicated is not additive and is based on recommended system operating settings and average densities:

Operations Area	Organic Waste Material Processed	Average and Maximum TPD Quantities
Pre-Processing – Mechanical Treatment	<u>Materials Processed</u> Organic Fraction of Municipal Solid Waste (OFMSW) <u>Description</u> The Pre-Processing System includes a mechanical sorting and material preparation system capable of processing up to 60 tons per hour of OFMSW received from the OMRF during a 5-day working schedule. Prepared material will be temporarily stored in the Pre-Processing building and then processed in the Anaerobic Digestion System and In-Vessel Composting System.	OFMSW from the OMRF will be received Monday through Friday at an expected average rate of 300 TPD with 8 lanes. The maximum design capacity is 600 TPD for expansion to 16 lanes.

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Pre-Processing Building – Organic Waste Reception	<u>Materials Processed</u> • Co-Collected Organics (CCO) • Green Waste (GW) <u>Description</u> In addition to OMRF OFMSW, the Pre-Processing Building may accept CCO and GW sourced by WMAC. These materials may be used to supplement shortfalls in OMRF tons and serve as amendment to the AD and Composting treatment processes of organics.	An average of 145 TPD of CCO and GW may be received in the Pre-Processing Building during a 5-day working schedule. This volume of material will be in addition to the OFMSW volume received as described in “Pre-Processing – Mechanical Treatment” above. During peak periods up to 290 TPD of these materials may be received and processed.
In-Vessel Composting	<u>Materials Processed</u> • Pre-Processed Organic Fraction of MSW • Anaerobic Digestate • CCO • GW <u>Description</u> The In-Vessel Composting (IVC) system has eight (8) composting lanes each 175 feet in length designed to process OFMSW, CCO, GW and digestate over a 21-day retention time. Each lane is capable of accepting 20 to 30 tons of material per operating day depending on bulk density. The In-Vessel Composting system is expandable to sixteen (16) lanes by adding eight	The IVC system will operate six days per week and accept 250 TPD on average with 8 lanes. Design capacity will allow for a maximum of 500 TPD with 16 vessels.

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	(8) additional lanes to the north of Lane 1 as shown Appendix 1. The In-Vessel Composting area of the OMCB building will be expanded to enclose the additional lanes. The total annual processing capacity is approximately 78,000 with 8 vessels and 156,000 TPY with 16 vessels.	
Anaerobic Digestion	<u>Materials Processed</u> - o OFMSW - o CCO - o GW <u>Description</u> The Anaerobic Digestion System has a maximum design capacity of 40,000 TPY and will be capable of processing a combination of OFMSW, CCO and GW received from Pre-Processing in varying quantities. The AD System includes up to ten (10) batch digester tunnels designed to process organic waste over an 18 to 21-day retention time which will be unloaded and reloaded sequentially every 2 to 3 days. Digestate generated from the Anaerobic Digestion System will be processed in the In-Vessel Composting system.	The AD system processes material in a batch format which results in approximately 250 to 325 tons of material being loaded into a digester every 2 to 3 working days.

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Compost Post-Processing Mechanical Treatment	<u>Materials Processed</u> i. Finished Compost <u>Description</u> The compost Post-Processing facility includes a mechanical screening and material refining system capable of processing up to 27 tons per hour of compost received from the In-Vessel Composting System during a 6-day working schedule.	Material from the In-Vessel Composting System will be received Monday through Saturday at an average rate of 20 tons per hour for 8 operating hours per day. Average processing capacity will be 216 TPD with a maximum of 250 TPD.
Compost Load-Out	<u>Materials:</u> i. 0"-3/8" Compost ii. 3/8"-1" Compost iii. Residue Screened and refined compost will be self-loaded via an automated conveyance system to walking floor trailers located in a four (4) bay loading dock area I in the Post-Processing Building.	Average 0-3/8" compost loadout will be approximately 185 TPD with a maximum of 250 TPD. Average 3/8"-1" compost loadout capacity will be 15 TPD with a maximum of 20 TPD. Average residue loadout will be approximately 22 TPD with a maximum of 42 TPD.

Section 18221.6.1 (h) *information showing the types and the daily quantities of solid waste to be received. If tonnage was figured from records of cubic yards, include the conversion factor used*

- i. OFMSW from the OMRF will be received Monday through Friday at an expected average rate of 300 TPD. The maximum design capacity volume is 600 TPD.
- ii. An average of 145 TPD of CCO and GW may be received in the Pre-Processing Building received and processed. The maximum design capacity volume is 290 TPD.
- iii. The IVC system's active ventilation and monitoring system required for the biological composting process will operate continuously 24 hours per day seven (7) days per week. Active

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loading and discharge of material will occur six (6) days per week and accept 250 TPD of material on average. Design capacity will allow for a maximum of 500 TPD with (16) vessels.

- iv. Material from the In-Vessel Composting System will be received and processed in Post-Processing facility Monday through Saturday at an average rate 216 TPD and maximum of 250 TPD.

Section 18221.6.1 (i) *descriptions of the methods used by the facility to comply with each state minimum standard contained in 14 CCR, Sections 17896.17 through 17896.61.*

Section 17896.17(a) Siting on Landfills *In-vessel digestion operations and facilities or portions thereof, located atop fully or partially closed solid waste landfills shall meet post closure land use requirements pursuant to Title 27, California Code of Regulations, section 21190.*

The Davis Street Transfer Station is located at the closed Davis Street Landfill. In accordance 27 CCR Section 21190, the closed landfill is monitored and maintained by Waste Management's Closed Site Group in such a way as to protect public health and safety and prevent damage to structures, roads, utilities and gas monitoring and control systems. All new structures, including the OMRF and OMCF are designed so as to maintain the integrity of the closed landfill and all enclosed structures are equipped with subsurface methane barriers and interior monitoring systems. Enclosed spaces will be equipped with methane alarms. WMAC will submit methane alarm system plans for all proposed new structures to the LEA for approval. Quarterly methane migration monitoring is also conducted around the DSTS perimeter with results reported to the LEA. In summary, the Davis Street Transfer Facility meets all post-closure land use requirements pursuant to 27 CCR Section 21190.

Section 17896.17(b). Siting on Landfills. *In-vessel digestion operations and facilities or portions thereof, located on intermediate cover on a solid waste landfill shall locate operations areas on foundation substrate that is stabilized, either by natural or mechanical compaction, to minimize differential settlement, ponding, soil liquefaction, or failure of pads or structural foundations.*

The OMCF is designed and built utilizing a pile foundation to eliminate differential settling and or failure of pads or structural foundations. Geotechnical reports and building foundation plans have been reviewed and approved by the City of San Leandro Building Department.

Section 17896.17(c) Siting on Landfills *In-vessel digestion operations and facilities or portions thereof, located on intermediate cover on a solid waste landfill shall be operated in a manner not to interfere with the operations of the landfill or with the closure or post-closure maintenance of the landfill.*

The OMCF will be operated in a manner not to interfere with the post closure maintenance activities of the landfill. The OMCF building was specifically designed so that it does not overlie existing below-grade landfill gas control system conveyance piping, thereby maintaining access to those components. OMCF buildings and hardscape are considered an improvement to the pre-regulations landfill soil cover in place at DSTS.

Section 17896.18(a) General Design Requirements. *The design of a new in-vessel digestion operation or facility shall utilize expert advice, as appropriate, from persons competent in engineering, architecture, landscape design, traffic engineering, air quality control, water quality protection and design of structures.*

ET environmental, ZWE, Urbaser, JR Miller and Associates, Eggersmann Anlagenbau, Card and Schmidt and Waste Management have collaborated on the design of the OMCF. All are nationally or

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globally recognized experts in the field of solid waste facility design and materials handling, processing, and organics management.

Section 17896.18(b) General Design Requirements. *Design shall be based on appropriate data (service area, anticipated quantity of waste, climatological factors, physical settings, adjacent land use, types and number of vehicles, parking, drainage control, hours of operation).*

The design of the OMCF is based on the conditions set forth in the Conditional Use Permit, the 2010 Master Plan for facility improvements at the Davis Street Transfer Station, 2011 CEQA Initial Study/Mitigated Negative Declaration (IS/MND), geotechnical report and other DSTS technical and engineering information.

Section 17896.18(c) General Design Requirements. *Adequate unloading, control of windblown material, propagation of flies, rodents or other vectors, dust control, noise control, public safety.*

All OMCF material handling operations are located in a negative air pressure air building to mitigate the release of fugitive odors, prevent attraction of vectors, control dust and mitigate noise. The OMCF will be cleaned daily and will undergo periodically scheduled pest control.

Section 17896.18(d) General Design Requirements. *Compliance with odor control, personnel health and safety, and sanitary facilities.*

All OMCF operations are located in negative air pressure air building to mitigate the release of fugitive odors. In-Vessel Composting IVC operations will occur in covered lanes that mitigate the release of heat, humidity and dust into OMCF building air. AD operations are monitored for methane detection and personnel will be required to carry personal gas detection devices. The OMCF will include locker and restroom facilities for employees.

More specifically, the OMCF (e.g. Pre-Treatment process, Anaerobic Digestion, In-Vessel Composting System, Compost Refining Process) will be in a fully enclosed structure with an air handling bio-filter system(s) for odor and air emission control. When entering the building the doors open and then automatically close keeping odor inside the building. All exhaust air generated in the Facility will be captured and treated in an integrated scrubber and bio-filter system for the management of odors. Once the organic material is loaded into the anaerobic digester cell, the digester hatch device is closed with a gas tight seal to maintain process conditions and so biogas does not escape. Odor is controlled through the injection of oxygen into the digester at the end of the process, which helps to strip odors (primarily hydrogen sulfide). Exhaust air produced from the shutdown process is oxidized in a bio filter for further odor mitigation.

All material handling operations will be within a fully-enclosed building with engineered odor controls. These odor controls are described in detail in the companion Odor Impact Mitigation Plan, or "OIMP" included as Appendix O in the companion TPR document.

Section 17896.18(e) General Design Requirements. *Solid waste storage containers shall be durable, easily cleanable, designed for safety handling and constructed to prevent loss of wastes from the container.*

The OMCF will not store solid waste in containers. Incoming OFMSW will be temporarily stored in a bunker that is indoors prior to Pre-Processing or IVC composting. Bunkers will be on a concrete pad integral to the OMCF structural slab, and equipped with floor drains. Bunkers will be cleaned on a regularly scheduled basis.

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Section 17896.19 Biogas Control. *The operator of an in-vessel digestion operation or facility must take adequate measures to prevent the uncontrolled release of biogas that may have harmful effects to on-site users and the general public.*

The In-Vessel Composting process does not produce biogas or flammable gas. There are no hazardous areas in the In-Vessel Composting Building.

Adequate measures to prevent the uncontrolled release of biogas generated by the Anaerobic Digestion AD system that may have harmful effects to on-site users and the general public will be employed. The Anaerobic Digestion concrete and mechanical systems are designed to be gas tight to mitigate the fugitive release of biogas. Methane gas detection monitors will be stationed in the facility to provide supervisory alerts and alarms to operations personnel. In the event of an unscheduled shutdown, the Anaerobic Digestion System can be placed into a safe mode of operation with a natural gas emergency electrical generator to ensure the safe evacuation of biogas to the flare for destruction. Additionally, personnel will be required to carry personnel gas detection devices.

Section 17896.20(a) Cleaning. *In-vessel digestion operations, facilities, and their equipment, boxes, bins, pits and other types of containers shall be cleaned using the following schedule, or at a lesser frequency, approved by the EA, in order to prevent the propagation or attraction of flies, rodents, or other vectors: (1) all operations and facilities shall be cleaned each operating day of all loose materials and litter; and (2) all operations or facilities that operate 24 hours per day must clean the operations or facilities at least once every 24 hours.*

All operations and facilities will be cleaned each operating day of loose materials and litter. In-Vessel Composting IVCs will be inspected and cleaned annually and Anaerobic Digestion digesters every 3 weeks.

Section 17896.20(b) Cleaning. *The entrance and exit shall be cleaned at a frequency which prevents the tracking or off-site migration of waste materials.*

OMCF entrances and exits shall be cleaned at a minimum of 4 times per shift to prevent tracking and off-site migration of waste materials. Entrances and exits to the OMCF will be routinely cleaned with street sweepers as further described below.

Note that a facility cleaning program is in effect at the DSTS, In accordance with 14 CCR, Section 17407.2. The DSTS site is cleaned daily along with the entrance, Davis Street, Business Center Drive and exit. The street sweeper collects dust and litter multiple times per day throughout the facility. A magnet is also used to collect any metal objects that are not vacuumed up in the sweeper truck. A street sweeper patrols the site on a routine basis cleaning the site, including driveways, parking areas, and truck maneuvering areas. This program will apply to the areas around the OMCF

Section 17896.21(a) Drainage and Spill Control. *Drainage at all in-vessel digestion operations and facilities shall be controlled to: (1) minimize the creation of contact water outside of in-vessel digesters and sealed containers; (2) prevent to the greatest extent possible given existing weather conditions, the uncontrolled off-site migration of contact water; (3) protect the integrity of roads and structures; (4) protect the public health; and (5) prevent safety hazards and interference with operations.*

The OMCF is designed to perform the following:

1. Minimize the creation of contact water
2. Prevent uncontrolled off-site migration
3. Protect integrity of roads and structures

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4. Protect the public
5. Prevent safety hazards

All leachates and liquids generated in the OMCF are captured in area drainage systems. Leachates and liquids will be collected in a sump and discharged to the San Leandro Wastewater Treatment Facility. Liquids contained in the Odor Control Systems will be in double-lined tanks.

Section 17896.21(b) Drainage and Spill Control. *The operator shall take measures to prevent spillage and promptly respond to any leaks or spills that occur.*

WMAC will take measures to prevent spillage. Primary OMCF operations will be performed indoors and all leachates and liquids generated will be captured in engineered drainage systems. Liquids contained in the Odor Control Systems will be stored in double-lined tanks.

Section 17896.22 (a). Dust Control. *The operator shall take adequate measures to minimize the creation, emission, or accumulation of excessive dust and particulates, and prevent other safety hazards to the public caused by obscured visibility. The operator shall minimize the unnecessary handling of wastes during processing to prevent the creation of excessive dust. Measures to control dust include, but are not limited to: reduced processing, periodic sweeping and cleaning, misting systems or ventilation control. One or more of the following may be an indication that dust is excessive: (1) safety hazards due to obscured visibility; or (2) irritation of the eyes; or (3) hampered breathing; and (4) migration of dust off-site.*

All processing operations will take place entirely within the OMCF building which is not open to the public. This will minimize the emission of dust and particulates that could affect ambient air quality or create public safety hazards outdoors in the project vicinity.

Potential dust emissions at the facility that could impact workers are from the material handling activities. All materials will contain sufficient moisture content to mitigate the emittance of dust. Facility staff also practices good housekeeping measures like regularly clearing floors and aisles of spilled material. In addition, the facility is equipped with air handling system to exhaust indoor air through a biofilter system.

The OMCF will process organic rich OFMSW which will generate nominal amounts of dust. Dust generated in the building will be collected in an industrial ventilation system and mitigated in scrubbers. The IVC system features covered composting lanes which will be negatively aerated to minimize fugitive dust releases into the OMCF building.

Section 17896.23(a). Hazardous, Liquid, and Special Wastes. *An in-vessel digestion operation or facility shall not intentionally accept or store hazardous wastes, including batteries, oil, paint, and special wastes, unless it has been approved to handle the particular waste by the appropriate regulatory agencies. Such approvals shall be placed in the operating record.*

WMAC does not nor shall they intentionally accept or store hazardous waste at the OMCF, other than those materials such as motor oils, lubricants, solvents and other substances required for facility and equipment maintenance.

In accordance with 14 CCR, Section 17407.5 (b), the DSTS facility implements control measures as necessary to protect public health, safety and the environment. Acceptance of hazardous wastes and special wastes is not permitted at the facility. WMAC has several internal programs to eliminate hazardous wastes that may enter the waste stream at both the collection point and at the unloading/transfer point at the transfer station. Additionally, these materials, if present, will likely be removed in the OMRF prior to conveyance of OFMSW to the OMCF.

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Signs are posted near the DSTS entrance and at the scale house which clearly states the types of wastes not accepted at the site. Additionally, all collection truck drivers are instructed to be watchful for drums, pails, cans, or cartons that may contain hazardous wastes. Drivers are instructed not to pick up such loads. However, if a load containing hazardous waste is noticed only after it was picked up, the load is set aside and inspected by the site's Hazardous Materials Technician.

These measures are already in place at DSTS and will minimize the potential for receipt of potentially hazardous materials at the OMCF and in the OFMSW feedstock.

Section 17896.23(b). Hazardous, Liquid, and Special Wastes. *At in-vessel digestion operations and facilities where unauthorized hazardous wastes are discovered, control measures as are necessary to protect public health, safety and the environment, such as elimination or control of dusts, fumes, mists, vapors or gases shall be taken prior to isolation or removal from the operation or facility.*

If any Hazardous substance are identified at the OMCF (or DSTS), the work area will be secured and those materials will be removed by WMAC trained personnel and placed in the designated receptacles provided by facilities contracted hazardous waste handler /hauler for proper disposal and an appropriately permitted disposal location.

Section 17896.23(c). Hazardous, Liquid, and Special Wastes. *In-vessel digestion operations and facilities shall be properly equipped to handle liquid wastes and sludge wastes in a manner to protect public health, safety, and the environment.*

No liquid waste is planned for acceptance at the OMCF. If any hazardous substance are identified, those materials will be removed by the facilities trained personnel and placed in the designated receptacles provided by facilities contracted hazardous waste handler /hauler for proper disposal.

Section 17896.24. Litter Control. *Litter at in-vessel digestion operations and facilities shall be controlled, and routinely collected to prevent safety hazards, nuisances or similar problems and off-site migration to the greatest extent possible given existing weather conditions.*

OMCF operations will be in a fully-enclosed building which will reduce litter potential outside and near the building. The OMCF has also been designed and will be operated to allow:

1. Minimization (through non-acceptance) of litter-rich feedstocks.
2. Regular patrolling of those areas where litter control has been installed
3. Regular patrolling of aisles, processing areas, access roads, and the site perimeter to remove accumulated litter.
4. Adjacent properties are patrolled regularly to check for blowing litter. Any accumulated litter will be removed.
5. Provision of litter barrels at unloading areas for delivered contaminants.

Note that litter control is conducted at DSTS through housekeeping measures, covered vehicle loads, and site design features. Signage at the entrance of the scale house states that all loads entering the facility are required to be covered (tarped). Windblown paper and debris at the DSTS facility are controlled by catch fences that are located along the perimeter of the public dumping area. In addition, a secondary litter control fence is located between the perimeter of the public dumping area and the property line. Company employees police the station daily for litter. Litter pickup is

done more frequently in areas such as tunnel exits and truck wash areas. These programs will apply to the OMCF building exterior, traffic lanes, loading and parking areas.

Section 17896.25. Load Checking. *The operator of an attended in-vessel digestion operation or facility shall implement a load checking program to prevent the acceptance of waste which is prohibited by this Chapter. This program must include at a minimum: (1) the number of random load checks to be performed; (2) a location for the storage of prohibited wastes removed during the load checking process that is separately secured or isolated; (3) records of load checks and the training of personnel in the recognition, proper handling, and disposition of prohibited waste. A copy of the load checking program and copies of the load checking records for the last year shall be maintained in the operating record and be available for review by the appropriate regulatory agencies.*

A load check program is in effect at the DSTS in accordance with 14 CCR 174095(a). Please refer to Section F of the accompanying TPR document for details. This program applies to OMCF operations and entails:

- (a) All delivered materials are subject to a random load check inspection. The load check program includes random checks by spotters, pickers and equipment operators of the material loads.
- (b) Two forms of documents are generated at the site to log activities related to the detection of inappropriate materials in the incoming waste stream. The first is the random check conducted at the gate, identifying date, material, generator/hauler, vehicle license number, whether the load was accepted or rejected, and the reason for rejection. The second is the Special Occurrence and load-check logs. These logs identify the date, site activities of the operator(s), number of loads rejected and descriptions of the load check observations.
- (c) Any unacceptable items are either removed by the generator or stored temporarily in an on-site bin prior to hauling for disposal.
- (d) All employees are given load check training annually.

Section 17896.26. Maintenance Program. *All aspects of the in-vessel digestion operation or facility shall be maintained in a state of good repair. The operator shall implement a preventative maintenance program to monitor and promptly repair or correct deteriorated or defective conditions.*

The OMRF has (4) distinct processing systems operating sequentially which involve mechanical, electrical, optical, hydraulic, and control systems for materials handling (conveyors, screens, turners, air handling systems, etc.). They include:

1. Pre-Processing
2. In-Vessel Digestion
3. In-Vessel Composting
4. Post Processing Refinement

Additionally, the facility deploys rolling stock vehicles in the form of front-end wheel loaders, sweepers, forklift, and other ancillary equipment necessary for the operation of the (4) systems. Each operating system and the rolling stock equipment will require a distinct and organized maintenance program. These maintenance programs are developed through the interaction with the various system manufactures, along with the published maintenance routines, requirements and the experience of the facility operator.

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These programs will include the following:

1. Routine daily maintenance for each operational unit within each system or vehicle, for items such as:
 - a. cleaning of and around units and systems
 - b. lubrication per manufacturers requirements
 - c. system adjustments, i.e. (belt tension, speed, and alignment, etc.)
 - d. visual inspection to confirm operating parameters are being met.
 - e. visual inspection to identify need for repairs
 - f. prepare service order(s) to perform identified repair needs
 - g. run systems diagnostic via software control systems where available
2. Periodic maintenance for each operational unit within each system or vehicle, for items such as:
 - a. perform manufactures recommended maintenance for lubrication changes and wear items replacement
 - b. test and measure performance of each unit and operating system
 - c. system adjustments and calibrations
3. Annual maintenance for each operating unit within each system or vehicle, for items such as,
 - a. systemic cleaning
 - b. major parts replacements
 - c. operating unit replacement (when appropriate)
 - d. system or unit upgrades

Section 17896.27. Medical Wastes. *Medical waste, whether treated or untreated, shall not be accepted at an in-vessel digestion operation or facility, unless approved by the appropriate regulatory agencies.*

Medical waste is not accepted at the Davis Street Transfer Station, per the conditions of the Solid Waste Facility Permit. Additionally, it will not be accepted at the OMRF or OMCF. Medical waste stopped at the DSTS scale house is refused. Medical waste found in random load checks is returned to its generator. If medical waste is found on site, every attempt is made to determine its origin, return it to its generator, and prevent the generator from bringing it in again. If the generator cannot be located the medical waste is disposed of in accordance with all applicable laws and regulations.

Section 17896.28. Noise Control. *Noise shall be controlled to prevent health hazards and to prevent nuisance. Measures to control noise include but are not limited to: posting of warning signs that recommend or require hearing protection; separation by barriers that limit access to authorized personnel only; or, enclosures to reduce noise transmission. Compliance with specific provisions regarding noise control in a local land use approval, such as a conditional use permit or CEQA mitigation measures, shall be considered compliance with this standard.*

The primary sources of noise at the OMCF are front end loaders, lane turners and the operating systems. Hearing protection devices are available to workers to minimize the effects of excessive noise. Due to the facility being entirely enclosed, there is no expectation that noise will emit from

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the building and reach any nearby receptors. Additionally, OMCf office and locker room areas are located in separate but adjacent modular buildings to reduce worker exposure to noise.

At the DSTS, back up alarms on loaders are turned off at night to minimize noise and equipment is not operated outside of buildings from 11:00pm to 6:30am. If noise complaints are received and the site staff cannot determine the cause of the noise professional Industrial Hygienists are brought in to measure the decibel level and octave of the noise to determine its origin. Engineers are then employed to design measures to mitigate the noise.

Section 17896.29. Non-Salvageable Items. *Drugs, cosmetics, foods, beverages, hazardous wastes, poisons, medical wastes, syringes, needles, pesticides and other materials capable of causing public health or safety problems shall not be salvaged at in-vessel digestion operations or facilities unless approved by all applicable agencies and the EA.*

In accordance with 14 CCR, Section 17408.4, no drugs, cosmetics, foods, beverages, hazardous wastes, poisons, medical wastes, syringes, needles, pesticides nor other materials capable of causing public health or safety problems are salvaged at Davis Street Transfer Station. This applies to OMCf operations. Items such as hazardous wastes, poisons, medical wastes, syringes, needles, and pesticides that cannot be disposed of with municipal solid waste are refused at the scale house, returned to the generator (if found during a load check), or disposed of properly by WMAC if the generator cannot be found.

Section 17896.30. Odor Best Management Practice Feasibility Report. *The operator may voluntarily prepare an Odor Best Management Practice Feasibility Report (Report) or the EA may require the operator to prepare a Report after consecutive or chronic odor violations as determined pursuant to section 17896.31(f).*

If required by the LEA, WMAC will prepare an Odor Best Management Practice Feasibility Report as requested by the LEA if consecutive violations occur pursuant to section 17896.31(f).

Section 17896.31(a). Odor Impact Minimization Plan. *All in-vessel digestion operations and facilities shall prepare, implement and maintain a site-specific odor impact minimization plan. A complete plan shall be submitted to the EA with the EA Notification or permit application.*

All material handling operations will be within a fully-enclosed building with engineered odor controls. These odor controls are described in detail in the companion Odor Impact Mitigation Plan, or "OIMP" included as Appendix O in the companion TPR document.

Section 17896.32. Odor and Nuisance Control. *Each in-vessel digestion operation and facility shall be conducted and maintained: (a) in a manner that minimizes odor impacts so as to not cause a nuisance; and (b) to otherwise prevent the creation of a nuisance.*

The facility has developed and maintains a site-specific OIMP. The OIMP is maintained at the Facility Administration office. The OIMP contains site-specific management practices and standard operating procedures for minimizing off-site odors from the DSTS and OMCf operations. The OIMP is included as Appendix O in the companion TPR document.

The OMCf will be operated in a manner that minimizes odor impacts so as to not cause nuisances.

Section 17896.33. Parking. *Adequate off-street parking area(s) shall be provided, if necessary, for transfer vehicles. Compliance with specific provisions regarding adequacy of off-street parking in a local land use approval, such as a conditional use permit or CEQA mitigation measures, shall be considered compliance with this standard*

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Parking will be provided at the OMRF, Administrative and Green Waste buildings, in accordance with City of San Leandro Site Development Standards. The parking area for OMCf employees is adjacent to the OMRF Administration Building as shown in the attached the Site Plan in **Attachment 1**.

Section 17896.34. Personnel Health and Safety. *The Injury, Illness, and Prevention Program (IIPP) required by Title 8, California Code of Regulations, section 3203, shall be available for review by local and state inspectors during normal business hours. Nothing in this section is intended to make the EA responsible for enforcing the IIPP.*

WMAC's Injury and Illness Prevention Plan (IIPP) for the Davis Street Transfer Station can be found in the accompanying TPR Document, Appendix S.

Attachment 2 to this IVDR is the IIPP for Zero Waste Energy, who will operate the OMCf as an Special Purpose Entity (SPE) under contract to WMAC.

Section 17896.35(a) Pre-Digestion Solid Waste Handling. *Putrescible wastes shall be injected into the in-vessel digester or stored in a sealed container or sealed structure or removed from the site within 48 hours from the time of receipt. This requirement does not apply to putrescible waste stored in a sealed bag, bottle, or can.*

All inbound feedstocks are loaded into In-Vessel Composting or Anaerobic Digestion vessels each day during the 6 days per week operational schedule.

Section 17896.35(b) Pre-Digestion Solid Waste Handling. *All non-putrescible wastes not intended for digestion shall be removed within 7 days from the date of receipt or at an alternate frequency approved by the LEA.*

All non-recyclable, non-putrescible waste not intended for digestion will be segregated and placed in appropriate containers and/or DSTS facility designated for disposal at an appropriately permitted landfill within 7 days.

Section 17896.36. Protection of Users. *An in-vessel digestion operation or facility shall be designed, constructed, operated, and maintained so that contact between the public and solid wastes is minimized. This may be accomplished through the use of railings, curbs, grates, fences, and/or spotters.*

The OMCf is not open the public. For the protection of employees, appropriate guarding, railings and gates will be utilized.

Section 17896.37. Roads. *All on-site roads and driveways shall be designed and maintained to minimize the generation of dust and tracking of soil onto adjacent public roads. Such roads shall be kept in safe condition and maintained to allow vehicles utilizing the in-vessel digestion operation or facility to have reasonable all-weather access to the site.*

All roads at the Davis Street Transfer Facility including service roads for the OMCf will be kept in safe conditions and maintained to provide all weather access to the site and the OMCf.

Section 17896.38. Sanitary Facilities. *The operator shall maintain all sanitary and hand-washing facilities in a reasonably clean and adequately supplied condition.*

WMAC and the SPE will maintain adequately supplied hand-washing facilities. These are located in the employee restroom building adjacent to the OMCf; see attached Site Plan.

Section 17896.39. Scavenging and Salvaging. *Each in-vessel digestion operation or facility shall meet the following requirements: (a) scavenging shall be prohibited; (b) salvaging of materials, such*

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as metal, paper, glass and cardboard is permitted as an integral part of the operation, subject to conditions established by the EA, the local land use authority, or other approving agencies. (c) salvaging activities shall be conducted in a planned and controlled manner and not interfere with other aspects of site operation. Activities shall be conducted so as not to interfere with expeditious entry and exit of vehicles delivering waste to the in-vessel digestion operation or facility. Salvaging activities conducted at an in-vessel digestion operation or facility shall be confined to specified, clearly identified areas of the in-vessel digestion operation or facility, and controlled to prevent health, safety or nuisance problems; and (d) storage of materials salvaged from solid wastes shall be ancillary to the activities of the operation or facility unless such storage is planned as an integral part of the operation. Materials salvaged on-site shall be stored away from other activity areas in specified, clearly identifiable areas as noted in the In-vessel Digestion Facility Plan or In-vessel Digestion Report. They shall be arranged to minimize risk of fire, health and safety hazard, vector harborage, or other hazard or nuisance, and limited to a specified volume and/or duration as described in the Enforcement Agency Notification, In-vessel Digestion Facility Plan, or In-vessel Digestion Facility Report.

Scavenging is strictly prohibited at the Davis Street Transfer Station in accordance with 14 CCR, Section 17409.3(a). Employees found scavenging are disciplined. However, material recovery operations including removal of non-organic recyclable materials (e.g., plastics, aluminum, ferrous metal and glass) are performed at the DSTS and OMCF as allowed under 17409.3(b). Materials from recovery operations are stored at other locations within the DSTS and removed based on market conditions and trucking considerations. Salvaging operations at DSTS are performed on a “not to interfere” basis with other operations per Section 17409.3(c).

With regard to the OMCF and 14 CCR 17896.39 requirements, the following programs are in effect:

- o The OMCF is not open to the public
- o Scavenging is prohibited by employees as stated above.
- o The OMCF is not designed to accommodate the salvaging of materials such as metal, paper, and containers. The OMCF pre-processing equipment is designed to remove recyclables and non-organics through a combination of highly automated mechanical and optical systems.
- o Salvaging activities are not conducted at the OMCF.
- o The OMCF is not designed for storage of salvaged materials.

Section 17896.40(a). Signs. *For in-vessel digestion operations or facilities not open to the public, each point of access from a public road shall be posted with an easily visible sign indicating the in-vessel digestion operation or facility name and location of nearest public operation or facility.*

Signage for the OMCF will include facility name and location of nearest public operation.

Section 17896.40(b). Signs. *If the operation or facility is open to the public, there shall be an easily visible sign at all public entrances indicating the name of the operator, the operator's telephone number, schedule of charges, hours of operation, and a listing of the general types of materials which either (1) WILL be accepted, or (2) WILL NOT be accepted.*

Not applicable. The OMCF will not be open to the public.

Section 17896.41. Site Restoration. *All in-vessel digestion operations and facilities shall meet the following requirements: (a) The operator shall provide the EA written notice of intent to perform site*

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restoration, at least 30 days prior to beginning site restoration; (b) The operator(s) and owner(s) shall provide site restoration necessary to protect public health, safety, and the environment; and (c) The operator shall ensure that the following site restoration procedures are performed upon completion of operations and termination of service: (c.1) the operation and facility grounds, ponds, and drainage areas shall be cleaned of all residues including, but not limited to, digestate, compost materials, construction scraps, and other materials related to the operations, and these residues legally recycled, reused, or disposed; (c.2) all machinery shall be cleaned and removed or stored securely; and (c.3) all remaining structures shall be cleaned of digestate, compost materials, dust, particulates, or other residues related to the site restoration operations.

The OMCF is not designed with a pre-scheduled termination date. However, once the OMCF ceases operations, in compliance with CCR title 14, 30 days prior to beginning site restoration, the OMCF will notify the enforcement agency in writing of the intent to perform site restoration. The grounds and drainage areas will be cleaned of all residues and properly disposed of. All machinery will be cleaned and removed or stored securely. Any remaining structures will be cleaned of compost materials, dust, particulate, or other residues related to the composting and site restoration operations.

Section 17896.42. Supervision and Personnel. *The operator shall provide adequate supervision and a sufficient number of qualified personnel to ensure proper operation of the site in compliance with all applicable laws, regulations, permit conditions and other requirements. The operator shall notify the EA in writing of the name, address and telephone number of the operator or other person responsible for the operation. A copy of the written notification shall be placed in the operating record.*

The OMCF will have a management structure which includes an Operations Manager and Foreman to oversee and direct the activities of the operation personnel which include system operators, equipment operators, mechanics and laborers. Resumes of management organization that will operate the OMCF are attached to this IVDR as **Attachment 3**.

Section 17896.43. Training. *Personnel assigned to the operation or facility shall be adequately trained in subjects pertinent to site solid waste operations and maintenance, hazardous materials recognition and screening, use of mechanized equipment, environmental controls, emergency procedures and the requirements of this Article. A record of such training history shall be maintained and made available for inspection.*

The OMCF offers a number of equipment and operation specific training to its employees. Training records and a log of attendance is maintained at the office. Safety training sessions are conducted pursuant to regulations.

Section 17896.44. Vector, Bird and Animal Control. *The operator shall take adequate steps to control or prevent the propagation, harborage and attraction of flies, rodents, or other vectors, and animals, and to minimize bird attraction.*

Since un-shredded, putrescible wastes (food wastes) are handled at the facility, fly attraction and propagation is anticipated. Fly trapping and parasite inoculation of incoming feedstocks is performed as necessary. A monitoring program will be developed and implemented. When necessary, a professional pest control service will be contracted to identify, record, and eliminate any vector and/or bird problems that may arise. Site personnel will be aware of the type of vector problems that could occur at the site and will be instructed to notify the site management

personnel, which will be regularly monitoring the site. Facility bird control is actively ongoing for the entire Waste Management Site. Due to the OMCF being entirely enclosed, bird inhabitation is not expected to be an issue.

Section 17896.45. Record Keeping Requirements. (This section outlines lengthy record keeping standards for materials throughput, public complaints, employee training, and other items which for brevity are not repeated here).

OMCF shall provide monthly summary reports to the LEA. The reports summarize the following information:

- | | |
|--|-----------------------------|
| a. Vehicle types accessing the facility | g. Employee training |
| b. Material types received and weights | h. Vehicle Trips |
| c. Origin of inbound materials | i. Compost quantity shipped |
| d. Type and destination of outbound materials | j. Trash-to-Landfill |
| e. Material sampling and testing results (pathogens, metals) | k. Special Occurrences |
| f. Public complaints | l. Loads Rejected. |

The record keeping provisions for the OMCF will be consistent with those for the entire DSTS, as outlined in the companion TPR, Section F.

For the OMCF, and Per 17896.45 requirements, WMAC will maintain records of incoming materials weights and volumes received; outgoing (salvaged) and residual item weights/volumes; public complaints; employee training records; pathogen reduction methods; and compostable materials test results (metals, pathogens/temperature, and physical contamination).

All required records will be kept by WMAC and accessible for five (5) years and shall be available for inspection by the LEA and other duly authorized regulatory agencies during normal working hours. WMAC will submit copies of specified records to the EA upon request or at a frequency approved by the LEA.

Section 17896.46. Documentation of Enforcement Agency Approvals, Determination and requirements. *Approvals, determinations, and other requirements the EA is authorized to make under this Chapter shall be provided in writing to the operator and placed in the operating record by the operator*

WMAC acknowledges that pending regulatory approvals and requirements will be kept in the operating record as applicable.

Section 17896.47. Communication Equipment. *Each in-vessel digestion facility shall have adequate communication equipment available to site personnel to allow quick response to emergencies.*

The OMCF deploys hand held two-way radios for communication between management and facility personnel.

Section 17896.48. Equipment. *Equipment shall be adequate in type, capacity and number, and sufficiently maintained to allow the in-vessel digestion facility to meet all requirements of this Chapter.*

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Equipment at the OMCF will consist of:

1. Pre-Processing System
 - a. Diverter Gate
 - b. Magnet
 - c. Debris Roll Screen
 - d. NRT DXRT
 - e. NRT ColorPlus
 - f. Rotary Drum Reactor
2. Anaerobic Digestion
 - a. Digesters
 - b. Percolate Tank
 - c. Mechanical and Control Systems
 - a. Piping Chase
 - b. Percolate Pump House
 - c. Biogas Storage Buffer
 - d. Mechanical Containers
 - e. Electrical and Control Container
3. In-Vessel Composting
 - a. Composting Lanes
 - b. Ventilation Chamber
 - c. Lane Turner and Transfer Wagon
4. Compost Refining System
 - a. Mechanical Metering Bin
 - b. Eddy Current
 - c. 1" Debris Roll Screen
 - d. 1" Dual Pass Windsifter:
 - e. 3/8" Debris Roll Screen
 - f. 3/8"-1" Dual Pass Windsifter
 - g. NRT SpydIR
 - h. 3/8"-1" Processor:
5. Volvo Bucket Loader
- f. Combined Heat and Power System

Section 17896.49. Fire Fighting Equipment. *Each in-vessel digestion facility shall have fire suppression equipment continuously available, properly maintained and located as required by the local fire authority.*

A Fire Prevention, Control and Mitigation Plan Specific to the OMCF is provided as **Attachment 4** to this IVDR report.

Fire control is accomplished through a combination of good operating practices, and facility fire suppressions systems, as approved by the San Leandro Fire Department (Fire Protection Agency). The OMCF facility will be designed with overhead fire suppression systems and fire extinguishers as required by code. The Fire Protection Agency will have access to all parts of the facility. The emergency equipment access route during site operating hours is the same as the route followed by customers delivering materials to and from the site.

Section 17896.50. Housekeeping. *The operator shall provide adequate housekeeping for the maintenance of in-vessel digestion facility equipment and shall minimize accumulations of fuel drums, inoperable equipment, parts, tires, scrap, and similar items*

The OMCF shall conduct daily housekeeping activities such as, mechanical and hand sweeping of floors and equipment, litter removal and spillage clean-up.

Section 17896.51. Lighting. *The in-vessel digestion facility and/or equipment shall be equipped with adequate lighting, either through natural or artificial means, to ensure the ability to monitor incoming loads, effectiveness of operations, and public health, safety and the environment.*

The OMCF has a combination of lighting inside the facility structure in an adequate amount to perform all the operational activities safely, and skylight throughout the roof structure to enhance ambient light during the daytime. The OMCF includes interior lighting fixtures designed to withstand high humidity environments. Outdoor lighting will be placed at overhead and man door locations in addition to odor control and biofilter process areas. Outdoor lighting will also be provided in the employee parking area.

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Section 17896.52. Site Attendant. *An in-vessel digestion facility open to the public shall have an attendant present during public operating hours or the facility shall be inspected by the operator on a regularly scheduled basis as approved by the EA to ensure that it meets all of the requirements of this Chapter.*

The OMCF will have 24 hour a day/ 7 days per week personnel attendance at the site, either through working or security personnel.

Section 17896.53. Site Security. *The in-vessel digestion facility shall be designed to discourage unauthorized access by persons and vehicles through the use of either a perimeter barrier or topographic constraints.*

The OMCF will utilize the existing Davis St. security program. Security at the DSTS facility is provided using a combination of fences and gates to secure the site at all entry and exit points. Video surveillance is conducted after normal operating hours, and yard lights are kept on during night hours. Gates at the facility are locked at night and the entire site is enclosed with an eight-foot high chain link fence with barbed wire on top. Furthermore, a private security contractor provides a watchman for 14 - 16 hours per day during the week and on weekends. Access is allowed to company vehicles 24 hours a day and is monitored by the guard at the Main Entrance gate after the site is closed to the public.

Section 17896.54. Traffic Control. *Traffic flow through the in-vessel digestion facility shall be controlled to prevent the following: (1) interference with or creation of a safety hazard on adjacent public streets or roads; (2) on-site safety hazards, and (3) interference with operations.*

The Davis St. facility employs and monitors a site specific traffic control plan. Refer to the traffic and circulation plan for the OMCF provided in **Attachment 1**. The OMCF does not directly receive materials from outside parties and the outbound is controlled by OMCF personnel. The OMCF is located well within the larger DSTS facility and is not adjacent to any public streets or roadways. Traffic control does not represent a potential issue for the operation.

Section 17896.55. Visual Screening. *The in-vessel digestion facility shall have appropriate treatment of areas open to public view to create and maintain an aesthetically acceptable appearance as approved by the local land use authority, or if none exist, in consultation with the LEA. Compliance with specific provisions regarding visual screening in a local land use approval, such as a conditional use permit, or CEQA mitigation measures shall be considered compliance with this standard.*

All IVC operations will be entirely within the OMCF building. The OMCF is designed to meet current City of San Leandro architectural requirements and the 2011 Conditional Use Permit.

Section 17896.56. Water Supply. *A safe and adequate water supply for conducting in-vessel digestion, drinking and emergency use (e.g., fire protection, first aid) shall be available*

Water is provided in two forms; a separate recycled water line which can be used for operational water needs, and a domestic water line for the needs of potable water. See below information provided in accordance with 24 CCR Section 18221.6.1 (j) for detailed information on water supply.

Section 17896.57(a). Digestate handling standards. *Digestate not contained in an in-vessel digester shall, within 24 hours, be: (1) stored or processed on-site in a sealed container or sealed structure unless the EA approves an alternative handling method after determining the alternative method will not pose an additional risk to public health and safety or the environment; or (2)*

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incorporated in an on-site aerobic compost process. (A) On-site aerobic composting of digestate is allowable only at large volume in-vessel digestion facilities that have obtained an In-vessel Digestion Facility Permit pursuant to section 17896.13. (B) All in-vessel digestion facilities that compost on-site shall comply with the sampling requirements of section 17896.58, maximum metal concentrations requirements of section 17896.59, the maximum acceptable pathogen concentrations requirements of section 17896.60(b)(1), and physical contamination limits of section 17896.61; or (3) removed from the site and either: (A) transported only to another solid waste facility or operation for additional processing, composting, or disposal; or (B) used in a manner approved by local, state, and federal agencies having appropriate jurisdiction. Any digestate that will be land applied must meet the requirements of section 17852(a)(24.5). (C) disposed in a manner as set forth in the Consolidated Regulations for Treatment, Storage, Processing or Disposal of Solid Waste (commencing at 27 CCR Section 20005).

Digestate produced in the Anaerobic Digestion system will be used as a compost feedstock in the In-Vessel Composting system.

Section 17896.57(b). Digestate handling standards. *Digestate that has not been analyzed for metal concentration pursuant to section 17896.59, pathogen concentration pursuant to section 17896.60(b)(1), and physical contaminants pursuant to section 17896.61 or is known to contain any metal in amounts that exceed the maximum metal concentrations described in section 17896.59, pathogens that exceed the maximum acceptable pathogen concentrations described in section 17896.60(b)(1), or physical contaminants that exceed the maximum physical contamination limits described in section 17896.61 shall be designated for disposal, additional processing, or other use as approved by local, state agencies having appropriate jurisdiction.*

Section 17896.58 below describes how compost produced in the In-Vessel IVC from OFMSW, digestate, CCO and GW will be sampled and tested to ensure compliance with Sections 17896.59, 17896.60(b)(1) and 17896.61.

Section 17896.58. Sampling requirements. (This section requires operators to verify that compost products meet specified requirements for metals content and pathogen reduction. Sampling frequencies and methods are specified.)

Pursuant to Section 17868.1. Sampling Requirements, which states:

All composting operations that sell or give away greater than 1,000 cubic yards of compost annually, and all composting facilities shall meet the following requirements:

(a) Operators shall verify that compost meets the maximum acceptable metal concentration limits specified in section 17868.2, and pathogen reduction requirements specified in section 17868.3. Verification of maximum acceptable metal concentrations and pathogen reduction requirements shall occur prior to the point where compost is removed from the site or beneficially used onsite. Test results of samples must be received by the operator prior to removing compost from the composting operation or facility where it was produced. This verification shall be performed by taking and analyzing at least one composite sample of compost, following the requirements of this section as follows:

(1) An operator who composts agricultural material, green material, food material, vegetative food material, or mixed material shall take and analyze one composite sample for every 5,000 cubic yards of compost produced. If the

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composting operation or facility produces less than 5,000 cubic yards of compost in a 12-month period, the operator shall analyze at least one composite sample of compost produced every 12-month period.

To comply with these provisions stated above, and to demonstrate the process technology represented in the "System-Specific Temperature Monitoring Plan" attached to this IVDR as **Attachment 5**, the facility will conduct an accelerated sampling and testing program for the initial 77 calendar days or eleven (11) weeks of commercial operation. This accelerated sampling schedule will entail the sampling and testing of samples every week for the first eleven weeks of initial operations. A detailed timeline of the sampling, testing and receipt of results is attached as the Sampling and Testing Protocol appended to this IVDR as **Attachment 6**.

The production quantity of each of these accelerated sampling events to validate process technology will be conducted at approximately 1,000 cubic yard intervals rather than 5,000 cubic yards. Once process technology is validated over the eleven-week period, the production quantity of each of the future and standard sampling after the validation of process technology will be conducted at approximately 4,500 cubic yard intervals each. These future intervals are estimated to be once per month.

Sample Collection:

Sample collection will take place in the locations identified and illustrated in **Attachment 6** of the Sampling and Testing Protocol appended to this IVDR. These locations represent the ending location the material has been processed in the portion of the IVC Lane Turner System commonly referred to as Zone #2. This Zone #2 is designed to sanitize the feedstocks to comply with the pathogen reduction regulation. The feedstocks will be processed through this Zone #2 for a period of 8 to 9 days while maintaining exhaust air temperature at a minimum of 131°F (55°C) for the entire 8 to 9 day period. All eight (8) lanes are turned each operating day, currently planned for a six (6) day per week schedule. This would result in the referenced material processing through Zone #2 as having 8 to 9 turns during the pathogen reduction period before sampling.

This sampling protocol will entail the collection of eight (8) samples from the locations as indicated in **Attachment 6**. Due to the design and configuration of the Lane Turner System, samples will be collected from four (4) locations at each of the outer lanes in each of the two (2) sets of four (4) lanes.

The representation that all eight (8) lanes of material would be in a similar state of compliance is due to two main factors;

1. The material which is loaded each day in each 4-lane module is effectively monitored and processed as a single pile and therefore would have relatively uniform results. This means, all the materials are similar since the daily input feedstocks to each of the eight (8) lanes have been pre-processed through the Rotary Drum Reactor Pre-Treatment System which thoroughly mixes and homogenizes the material. Thus, all the materials into each lane, each day, are of the same characteristics and constituents.
2. All lanes are monitored independently. If the outer lanes and inner lanes have data readings which are both at desired levels, then it is presumed the outer lane and inner lanes would have the same conditions and test results. If the outer lanes are sampled and determined to be in compliance, then the inner lanes are concluded to be in compliance as well.

To prove process technology and the representation of compliance for all lanes, the facility for the first eleven weeks of operations would collect samples from all eight (8) lanes in the same location for each as described in **Attachment 6**.

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Over the course of this accelerated sampling and testing time period, the process technology shall be proven and the sampling protocol detailed herein should be sufficient for demonstrating compliance in all lanes for all materials for all future sampling and testing requirements

At each of the eight (8) or 16 (for the accelerated term) locations, samples at a depth of 12" and 24" below the surface will be taken for total composite of 16 or 32 (for the accelerated term) individual samples. These 16 or 32 sample fractions will be mixed together. After final sample preparation is performed as described in the paragraph above, the testing composite sample in a quantity dictated by the testing laboratory shall be bagged, sealed and labeled as required by the testing laboratory. All other shipping and sample integrity protocols will be followed as directed by the testing laboratory.

The testing results based on historical timelines would be published 6 to 7 calendar days from sample receipt by the testing laboratory. All samples would be sent for Next-Day Delivery the date of sampling. To ensure the facility will meet the timeline to transport material offsite within 2 to 4 days of discharge from Post-Processing Material Refinement System, samples will be collected on a Wednesday, with results published before the materials represented in the tests is discharged from the In-Vessel Composting System the following Friday, or 9 days later.

This will be achieved due to the duration the sampled materials remains in the process through Zone #3. It takes 10 to 12 days for the material to process through the balance of Zone2 and all of Zone 3 as illustrated in **Attachment 6**. Thus, if the results are received in 7 days from date of receipt of the Testing Laboratory, the material will be determined in or out of compliance before discharge from the Lanes. This would further allow for an additional buffer of 1 day while the materials are in Material Refinement System for a total buffer of 3 days.

Understanding the material may for an unforeseen reason fall to pass one or more of the required tests on any given month, protocols are established for resolution of these conditions;

1. Pathogen Test;

If the material fails a pathogen test, the material will be transported to either;

- a. A permitted facility which is authorized to accept food waste, where it will be reformed into manageable windrows and put through a new cycle of the Process to Further Reduce Pathogens (PFRP) per Section 17868.3.b.3 "Windrow Composting", or;
- b. Designated for disposal at an approved landfill

2. Heavy Metals;

Depending on the level of concentration, these non-compliant materials will be transported to either;

- a. A permitted facility which is authorized to accept food waste for further processing with other similar materials with a lower concentration of heavy metals for dilution and retesting or;
- b. Designated for disposal at an approved landfill

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3. Contamination;

WMAC and the SPE are aware of the regulations for contamination concentrations which take effect in January 2018. We will be working to fully understand these requirements to insure the materials produced at the OMCF will meet or exceeds these standards. We intend to conduct internal testing and evaluations of the refinements systems to determine if the outcomes for contamination removal are realized or will need further enhancements

Section 17896.59(a). Metal Concentrations. *Compost produced at an in-vessel digestion facility (pursuant to section 17896.57(a)(2)) shall not exceed the maximum acceptable metal concentrations shown (in table in 17896.59(a). Compost that contains any metal in amounts that exceed the maximum acceptable metal concentrations shown shall be designated for additional processing, disposal, or other use as approved by local, state and federal agencies having appropriate jurisdiction. Test results of samples must be received by the operator prior to removing compost from the in-vessel digestion facility where it was produced.*

The OMCF material shall meet the Heavy Metal concentration limits set forth in the section. Any non-compliant materials, as verified by sampling, will be transported to a permitted facility which is authorized to accept food waste for further processing with other similar materials with a lower concentration of heavy metals for dilution and retesting or will be designated for disposal at an approved landfill.

Section 17896.59(b). Metal Concentrations. *Alternative methods of compliance to meet the requirements of this section may be approved by the EA if the EA determines that the alternative method will ensure that the maximum acceptable metal concentrations shown (in regulations) are not exceeded.*

The OMCF material shall meet the Heavy Metal concentration limits set forth in the section. Any non-compliant materials, as verified by sampling, will be transported to a permitted facility which is authorized to accept food waste for further processing with other similar materials with a lower concentration of heavy metals for dilution and retesting or will be designated for disposal at an approved landfill.

Section 17896.60. Pathogen Reduction. *Compost produced at an in-vessel digestion facility (pursuant to section 17896.57(a)(2)) shall not exceed the maximum acceptable pathogen concentrations described in this section. Compost that contains any pathogens in amounts that exceed these pathogen reduction requirements shall be designated for additional processing, disposal, or other use as approved by local, state and federal agencies having appropriate jurisdiction. Test results of samples must be received by the operator prior to removing compost from the in-vessel digestion facility where it was produced. Alternative methods of compliance to meet the requirements of this section may be approved by the EA if the EA determines that the alternative method will provide equivalent pathogen reduction (Subsection (d)).*

The OMCF has developed a System Specific Temperature Monitoring Plan which details the process to comply with this Section is provided as **Attachment 5** to this IVDR.

Section 17896.61. Physical Contamination. (This section requires operators to verify that compost products meet specified requirements for physical contamination (Subsections a-d). Sampling frequencies and methods are specified. *Alternative methods of compliance to meet the*

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requirements of this section may be approved by the LEA if the EA determines that the alternative method will provide equivalent physical contaminant reduction (Subsection (e)).

See above sampling protocol in Section 17896.58, Sampling Requirements, for method of compliance with this section which details the process to comply with this Section.

Section 18221.6.1 (j). *The IVDR shall describe anticipated volume of quench or process water, and the planned method of treatment, and disposal of any wastewater.*

It is anticipated that up 7,000,000 gallons of process water may be used annually. The majority of process water will be used in the In-Vessel IVC process to accelerate the composting of organic waste. The process water used will be a combination of potable water supplied by the East Bay Municipal Utility District (EBMUD) and reclaimed water supplied by the San Leandro Water Pollution Control Plant.

Wastewater effluent will be generated by both the Anaerobic Digestion AD and In-vessel IVC Systems with an anticipated maximum annual volume of 2,000,000 gallons. Wastewater will be discharged to the San Leandro Water Pollution Control Plant. No pre-treatment is currently required.

Section 18221.6.1 (k). *The IVDR shall describe provisions to handle unusual peak loading.*

All organic waste received in the OMCF is controlled and supplied by WMAC. At all times during operating hours there will be close coordination and communication between WMAC and the SPE concerning the volumes of waste available to the OMCF and the OMCF's capacity to accept ensuring maximum TPD thresholds are not exceeded.

During periods of unusual peak loading, WMAC will bypass organic waste materials to the Green Waste Processing and Transfer Building where it will be temporarily stored while processing and final disposal options are reviewed. Organic Waste Materials will be transferred out of the Green Waste Processing and Transfer Building on average within 48 hours with the exception of the weekend or holidays, in which material will be transferred out the next business day.

Section 18221.6.1 (l). *The IVDR shall provide a description of transfer, recovery and processing equipment, including classification, capacity and the number of units.*

The OMCF will accept and process organic materials from the OMRF including OFMSW, CCO, and GW. Additionally, the In-Vessel IVC will process digestate generated from these materials in the Anaerobic Digestion AD system. A description of the four (4) operations that will process these organic materials is provided below. A site plan illustrating material flow through the OMCF is provided as **Attachment 1**.

1. Pre-Processing

The OMCF Pre-Processing system will be located in a fully-enclosed building under negative air pressure and receive two (2) different sized fractions of organic waste from the OMRF: (1) 0-2.5"; and (2) 2.5-12". The 0-2.5" fraction will be processed in the following way:

0-2.5" OMRF Fraction

1. Diverter Gate: Conveyed material received from the OMRF can be diverted to a storage bunker located in the Pre-Processing Building via an automated diverter gate. 0-2.5" material from the OMRF will be diverted to the bunker during planned and unplanned maintenance outages or when sufficient daily material has been received for input into the In-Vessel Composting system. Otherwise, material will be conveyed to the next processing center via a feed conveyor.
2. Magnet: 0-2.5" material will be presented to a cross-belt electro-magnet to remove metals. Metals will be recovered in a 20-cubic yard roll-off.

In Vessel Digestion Report

3. Debris Roll Screen: Following the removal of metals by the magnet, material sized 1/2" or less will be screened in a Debris Roll Screen (DRS). The 0-1/2" fraction will be conveyed to the compost bunker as prepared feedstock. Material sized 1/2" or greater will be further processed as described in 4 and 5 in this section.
4. NRT DXRT: Material sized 1/2" and larger passing over the DRS will be processed in an NRT DXRT that utilizes x-ray and air classification technologies to eject glass, ceramics and other hard inert materials from the organic waste material. Organic material passing through the NRT DXRT will be stored in a bunker ready for composting or anaerobic digestion.
5. NRT ColorPLUS: Ejected material from the NRT DXRT will be further processed in an NRT ColorPlus to maximize organic material recovery. The NRT ColorPlus uses advanced image processing to accurately eject glass using compressed air. Organic material passing through the NRT ColorPlus will be stored in a bunker ready for composting or anaerobic digestion.

Following the above process, the resulting 0"-2.5" pre-processed fraction will be conveyed to a bunker where the 2.5"-12" fraction of material is also received. The resulting 0"-12" fraction is then processed in the following manner.

0"-12" OMRF Fraction

1. Diverter Gate/Bunker: Conveyed material received from the OMRF can be diverted to a storage bunker located in the Pre-Processing Building via an automated diverter gate. 0"-12" material from the OMRF will be diverted to the bunker during planned and unplanned maintenance outages or when sufficient daily material has been received for input into the bio reactor and In-Vessel Composting system. Otherwise, material will be conveyed to the next processing center via a feed conveyor.
2. Bio Reactor: 0"-12" material is feed to a Bio Reactor for a period of (3) days to enhance the biological and physical degradation in preparation for the composting and anaerobic digestion system.
3. Debris Roll Screen: A Debris Roll Screen will separate material based on 1" screen. Material that is sized 1" or less will be conveyed to the In-Vessel Composting System. Material sized 1" or larger will be conveyed to an aspirator to remove film plastics and then processed in an NRT optical sorter.
4. NRT SpydIR: Material passing over the 1" Debris Roll Screen will be processed in a NRT Optical Sorter to remove mixed plastic greater than 1". The material will then be conveyed to the Wood Optical unit.
5. Wood Optical: After mixed plastics are removed in the NRT SpydIR, the remaining material will be processed in a specially designed optical machine that identifies wood materials and uses compressed air to eject and recover following optical recognition.

2. In-Vessel Composting

The In-Vessel Composting (IVC) system is located in an enclosed building under negative air pressure and is designed to process up to 78,000 TPY (8) lanes and 156,000 TPY (16) lanes of OFMSW, digestate, CCO and green waste.

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Through a high level of process air, temperature and water control, organic materials will be actively composted to achieve CalRecycle Title 14 Chapter 3.1 Compostable Materials Handling Operations and Facilities Regulatory Requirements and Article 7 Environmental Health Standards, Section 17868.1 Sampling Requirements and achieve a level of material self-heating suitable for blending with other compost products and mulch materials by a third-party compost facility operator.

The IVC includes the following:

- o Composting Lanes: The system will include eight (8) covered composting lanes expandable to sixteen (16) each designed for a 21-day plug-flow operation, each with the following dimensions (refer to **Attachment 7** of this IVDR for Lane Turner Layouts):
 - a. Length – 162'-0"
 - b. Width – 16'-4"
 - c. Height – 10'-10"
- Ventilation Chamber: A ventilation chamber housing the fresh air and exhaust fans runs the length of the In-Vessel between lanes 4 and 5 and between lane 8 and future lane 9
- Lane Turner: Compost in the lanes will be actively turned and agitated by a remote-controlled Lane Turner machine that drives on the composting lane walls. The Lane Turner is powered by an EPA Tier IV diesel engine and will process material in each of the 8 lanes 6 days per week. The Lane Turner will also moisturize compost via an attached sprinkler system.

3. Anaerobic Digestion

The Anaerobic Digestion system is located in an enclosed building under negative air pressure and is designed to process up to 40,000 TPY of OFMSW, CCO and green waste. The Anaerobic Digestion System features a robust batch fermentation process that is capable of processing material with contamination and different fraction sizes with little or no pre-processing required.

An architectural section showing system components is provided as **Attachment 8**. Key components of the Anaerobic Digestion AD include the following:

1. Digesters: The system will include eight (8) concrete dry digesters that feature in-floor aeration, drainage, specially designed gas tight hatches and biological inoculant spraying systems each with the following dimensions:
 - a. Length – 105'-0"
 - b. Width – 19' – 0"
 - c. Height – 14'-6"
2. Percolate Tank: The liquid biological inoculant also called "percolate" is stored in a below-grade concrete tank beneath the digesters. The tank is lined and contains leak detection features. Percolate is recirculated between the percolate tank and digesters. The percolate is re-heated and pH is rebalanced in the tank prior to application in the digesters.
3. Combined Heat and Power System: If all biogas generated from the Anaerobic Digestion System is nominated to a combined heat and power system, up to 1,000 kW of renewable electricity and 1,300 kW of heat will be produced. Electricity and heat will be utilized by the OMCF.
4. Renewable Natural Gas: If all biogas generated from the Anaerobic Digestion System is nominated to a biogas purification system, up to 500,000 diesel gallon equivalents (DGE) of

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carbon-negative renewable compressed natural gas will be available for Waste Management's vehicle fleet.

4. Compost Post-Processing

Finished compost from the In-Vessel IVC system will be conveyed to the Post-Processing system located in a fully-enclosed building under negative air pressure. Finished compost will be classified into two (2) different sized fractions: 0" to 3/8"; and 3/8" to 1". The system will include the following components which are designed to process up to 27 TPH while maximizing the removal of inert debris and minimizing compost yield losses:

1. Mechanical Metering Bin: Conveyed material received from the In-Vessel facility will be received in a mechanical metering bin with a maximum storage capacity of 60 cubic yards. The purpose of the metering bin is to buffer and balance the batch discharge of compost from the In-Vessel facility via the Lane Turner machine to the continuous process of the Post-Processing system. The metering bin will also allow for temporary storage of compost during planned and unplanned Post-Processing system outages.
2. Eddy Current: The eddy current separator will remove remaining non-ferrous and ferrous metals in the compost. Recovered metals will be discharged to a 20-yard roll-off container via a conveyor.
3. 1" Debris Roll Screen: Following the removal of metals, compost will be size-separated in a 1" Debris Roll Screen. Material that is 1" or less will be further screened in a 3/8" DRS as described in #4 below. Material that is 1" or more will be conveyed to residue.
- 3a. 3/8" Debris Roll Screen: Compost material that is 1" or less will be further screened in a 3/8" DRS. Material that is 3/8" or less is a final product that will be conveyed to a walking floor trailer loadout. Material that is 3/8" to 1" will be further processed in 4a.
- 4a. 3/8"-1" Processor: Following the removal hard polymers in #5 above, the 3/8"-1" fraction will be further processed in a densimetric table processor to remove additional inert material through density separation. The processor includes a tilted vibratory table with holes that allow for the introduction of forced air. The vibrating table separates heavier inert materials in the compost such as glass and ceramics. The forced air separates light inert materials which are siphoned from the top of the processor. The remaining 3/8"-1" compost material is a final product that will be conveyed to a walking floor trailer loadout.

5. Compost Loadout

Following compost post-processing and refinement as described in #4 above, the product will be conveyed to an automated four (4) bay walking floor trailer dock facility also located within the enclosed Post-Processing Building. The Post-Processing Building is under negative pressure and all building air is treated through a bio filter. The load out system automatically controls the loading of each trailer and sends notification to the system operator when they have completed the full load-out of each trailer. Once a full load-out signal has been acknowledged, the facility operator will tarp the trailer and exchange with a new trailer to continue the material load-out activities.

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The 0-3/8" compost product will have two (2) dedicated walking floor trailer docks, while 3/8"-1" will have a single dock. The fourth dock will be dedicated to the load-out of residue also to a walking floor trailer. All walking floor trailer load-out operations will be conducted within the Post-Processing building.

Section 18221.6.1 (m) *The IVDR will describe planned method for final disposal of solid waste.*

OMCF operations will generate non-recyclable, non-compostable residual waste from Pre-Processing and Compost Refining Post-Processing operations. These residual materials will be conveyed to the DSTS Main Transfer Building, and then in turn shipped off site for disposal at the WMAC Altamont Landfill.

Section 18221.6.1 (n) *The IVDR will describe planned method for the storage and removal of salvaged material.*

The OMCf will generate residual materials from Pre-Processing and Compost Refining and Post-Processing operations. The final disposition of these materials will occur as follows:

- i. Glass: Approximately 4,000 TPY of mixed glass and ceramics will be recovered in the Pre- and Post-Processing systems. These materials will be collected in 20-yard roll-off containers and delivered to either the OMRf for classification and recycling or the Davis St transfer station for disposal.
- ii. Light Residue/Film Plastics: Up to 8,000 TPY of light inert residue and film plastics will be recovered from the Post-Processing system. This material will be delivered to the Waste Management transfer station for disposal.

Material that has completed the composting cycle in the SMART TURN In-Vessel Composting System will be shipped off-site for mixing, blending and final sale. Recovered materials from the OMCf will be delivered to the OMRf. The disposition of compost and recovered materials includes the following:

1. Finished Compost (all fraction sizes): Approximately 45,000 to 55,000 TPY of quality compost will be produced. The final products will be loaded via conveyors into walking floor trailers located in the Post-Processing Building and transported to third-party compost facility operations where they will be prepared for final sale into soil amendment applications. Trailers will be loaded and removed daily. Empty trailers will be staged in advance of the removal of full trailers to ensure minimum disruption to loading activities.
2. Mixed Metals: Approximately 1,000 TPY of recovered metals from the Pre- and Post-Processing system will be loaded into 20 cubic yard containers. Containers containing mixed metals will be removed and replaced on a weekly basis or as needed based on actual recovered volumes. Replacement containers will be staged in advance to minimize or eliminate operational disruptions. The containers will be delivered to the OMRf where the materials will be classified and recycled by Waste Management.
3. Rigid Plastics: Approximately 12,000 TPY of rigid plastics will be recovered in the Compost Refining Process. These materials will be stored in 20 cubic yard containers. Containers containing rigid plastics will be removed and replaced every 1 to 3 days or as needed based on actual recovered volumes. Replacement containers will be staged in advance to minimize or eliminate

In Vessel Digestion Report

operational disruptions. Removed containers will be delivered to the Organics Material Recycling Facility for classification and recycling

4. Wood: Up to 2,400 TPY of wood will be recovered for further classification and processing at DSTS. Wood will be collected in 20 cubic yard containers and delivered to the OMRF on a weekly basis or based on actual recovered volumes. Replacement containers will be staged in advance to minimize or eliminate operational disruptions.

Section 18221.6.1 (o). *The IVDR shall provide resumes of management organization which will operate the facility.*

Resumes of management organization that will operate the OMCF are attached to this IVDR as **Attachment 3.**

Section 18221.6.1 (p). *The IVDR shall provide a list of permits already obtained, and the date obtained and last revised.*

Solid Waste Facility Permit (SWFP) #: 01-AA-0007 for the Davis Street Transfer Station was issued May 18, 20014. Per communication from the LEA dated September 18, 2016, it is understood that a single Solid Waste Facility Permit application will be processed for the Davis Street Transfer Station with the In-Vessel Digestion Facility (OMCF) listed as a sub-unit.

Section 18221.6.1 (q). *The IVDR shall contain an Odor Impact Minimization Plan pursuant to Section 17896.31 and if applicable, an Odor Best Management Practice Feasibility Report and associated plan pursuant to Section 17896.30.*

WM has developed and maintains a site-specific OIMP for the DSTS and OMCF. The OIMP is maintained at the Facility Administration office. The OIMP contains site-specific management practices and standard operating procedures for minimizing off-site odors from the DSTS and OMCF operations. The OIMP is included as Appendix O in the companion TPR document. An Odor Best Management Practice Feasibility Report and plan is not required or proposed at this time.

IVDR ATTACHMENTS

- 1 OMCF Site Plan, Building Elevation Plan and Traffic Control Plan
- 2 Injury and Illness Prevention Plan
- 3 Resumes
- 4 Fire Prevention, Control and Mitigation Plan
- 5 System Specific Temperature Monitoring Plan
- 6 Sampling Protocol
- 7 In-Vessel Lane Turner Layout
- 8 Anaerobic Digestion System Architectural Section

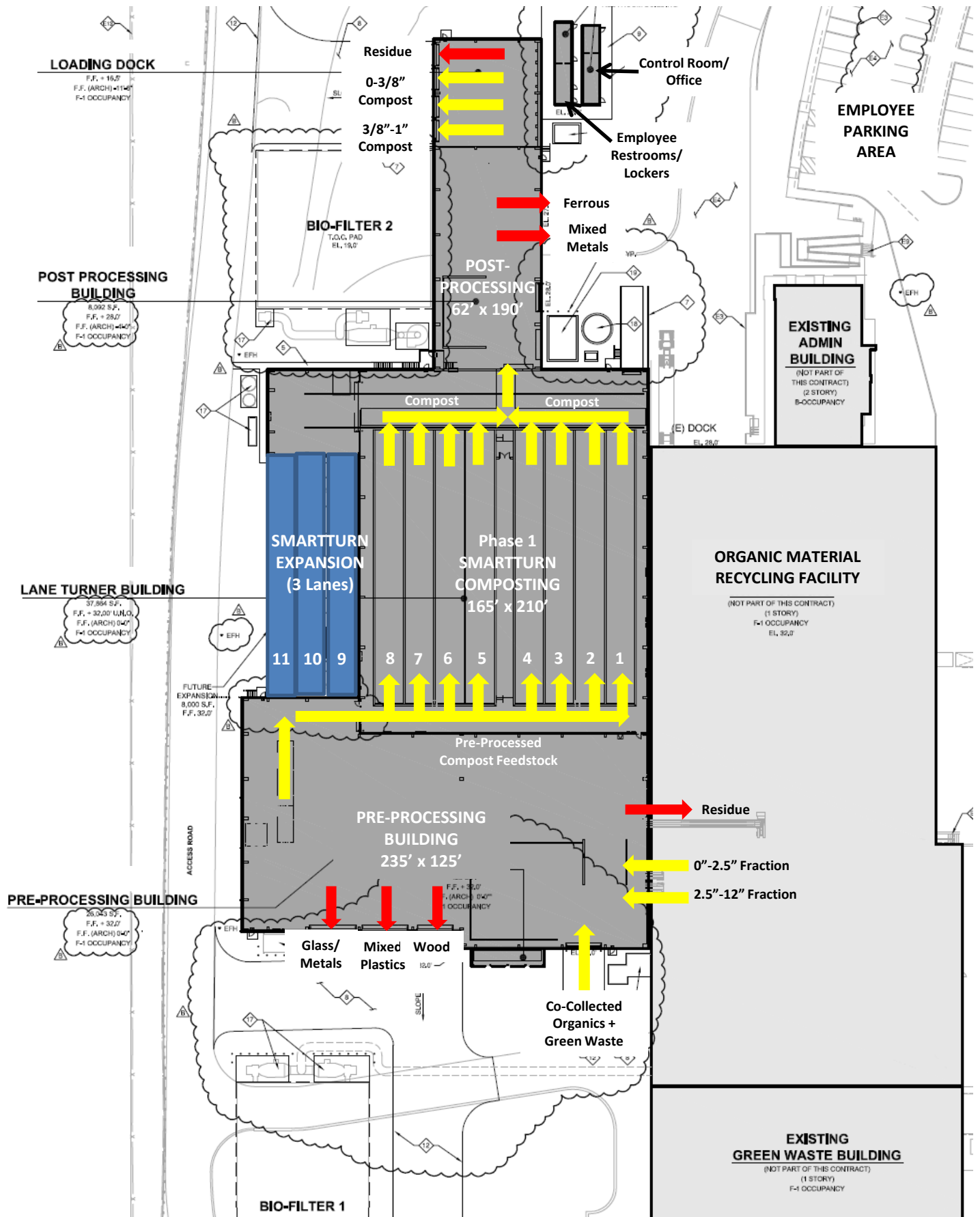


ATTACHMENT 1 – OMCF SITE PLAN, BUILDING ELEVATION PLAN, AND TRAFFIC CONROL PLAN



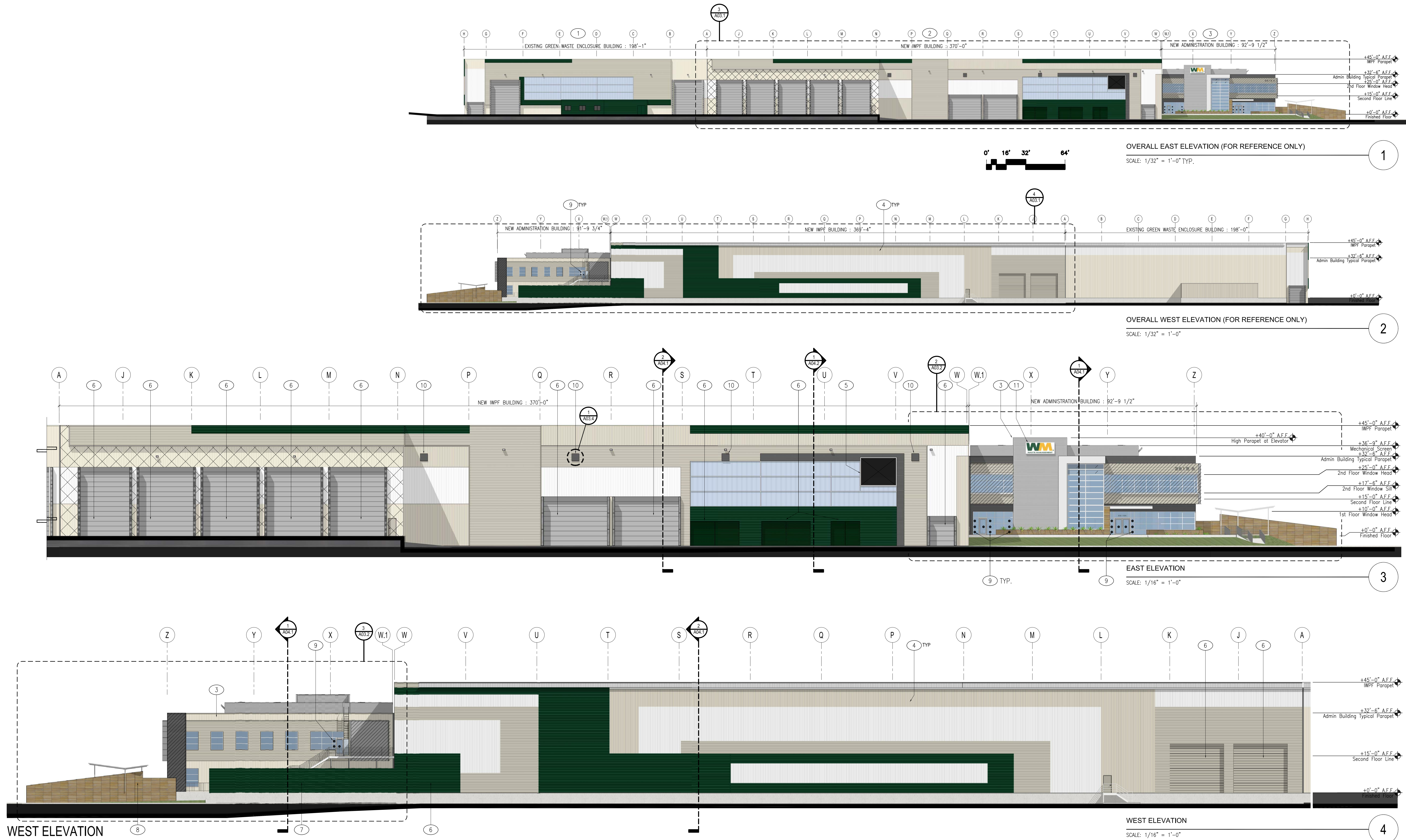
1A – OMCf SITE PLAN

Appendix 1: Organic Material Composting Facility (OMCF) Site Plan

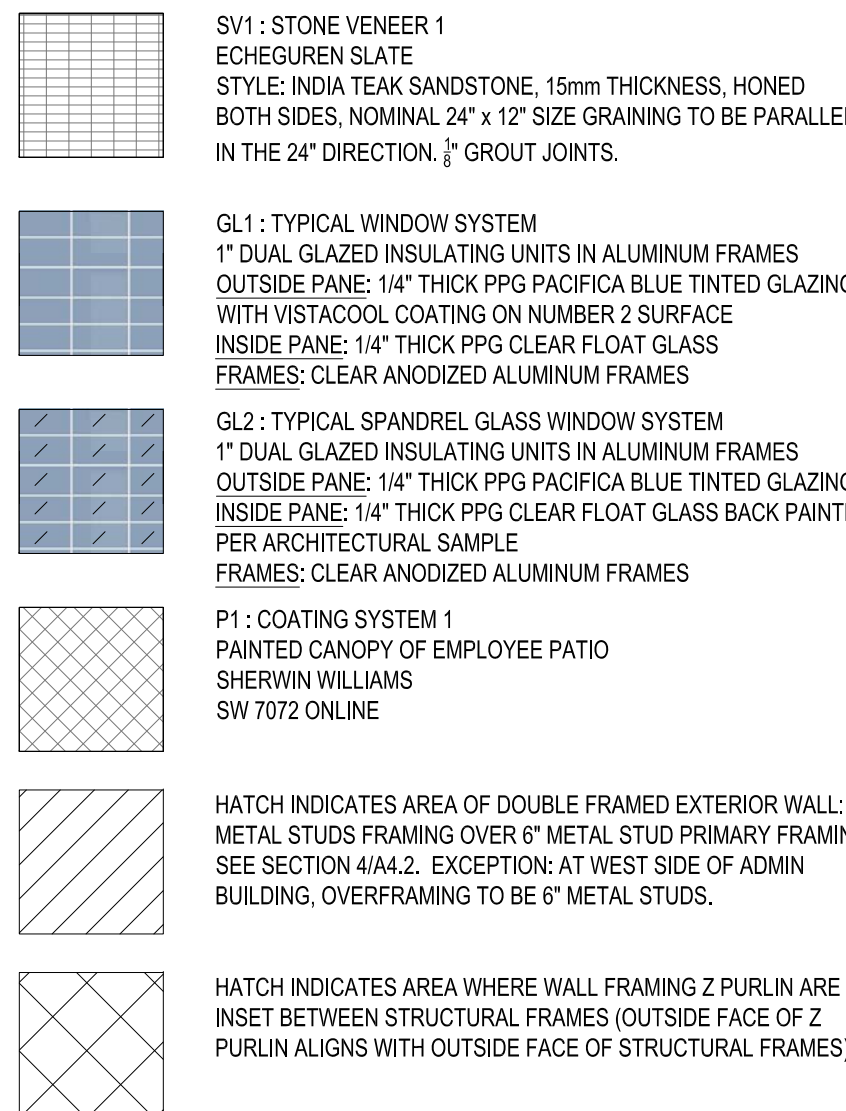
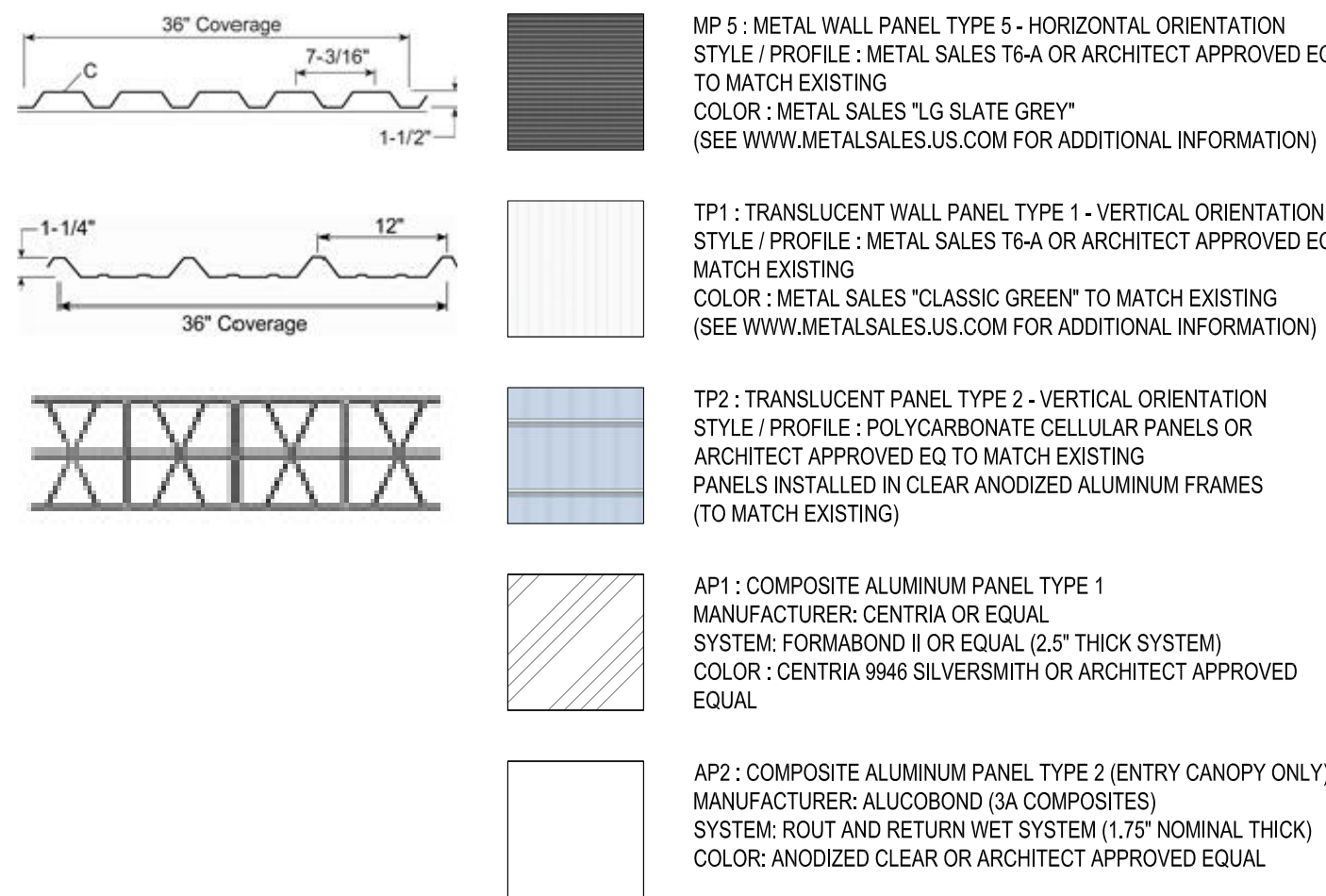
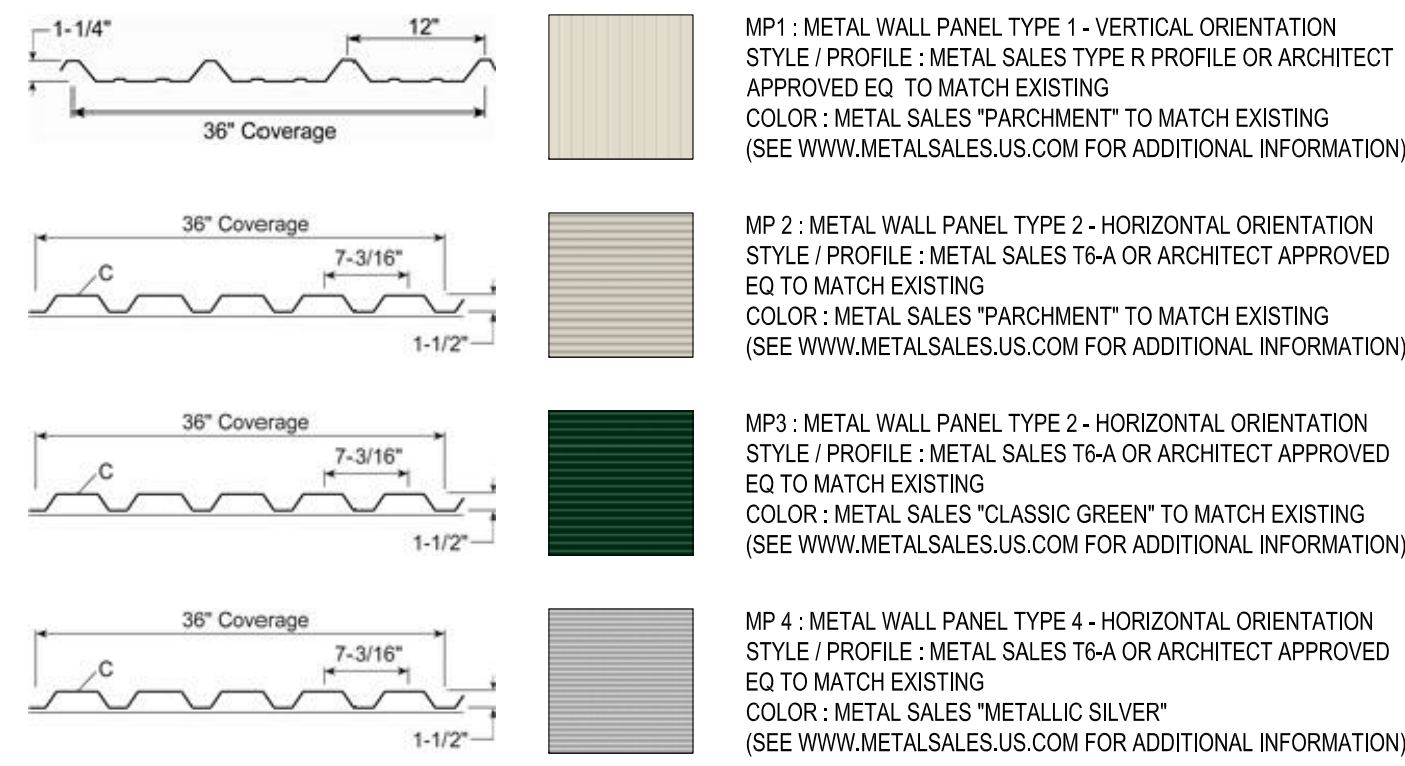




1B – OMCF BUILDING ELEVATION PLAN



FINISH SCHEDULE:



KEYNOTES:

- EXISTING GREEN WASTE BUILDING.
- PROPOSED NEW INTEGRATED WASTE MANAGEMENT FACILITY BUILDING.
- PROPOSED NEW ADMINISTRATION BUILDING, SEE ENLARGED ELEVATION CALLOUT.
- METAL SIDING PANELS TO MATCH (E) METAL PANEL, SEE FINISH SCHEDULE.
- WALL OPENING FOR MATERIAL CONVEYOR. SIZE TO BE CONFIRMED WHEN FINAL IWPF EQUIPMENT LAYOUT IS CONFIRMED.
- ROLL-UP DOOR.
- TRUCK DOCK SCREEN WALL. TOP OF WALL AT +10'-0" A.F.F.
- SCREEN WALL BETWEEN EMPLOYEE PATIO AND TRUCK DOCKS.
- "•" INDICATES LOCATION OF TEMPERED GLAZING. SEE ENLARGED ELEVATIONS ON SHEET A03.3.
- 3' X 3' LOUVER PANELS, FOUR REQUIRED, SEE 1/A03.4.
- BUILDING SIGNAGE.

SITE AND SHELL SUBMITTAL FOR:

**WASTE MANAGEMENT
SAN LEANDRO**

INTEGRATED WASTE PROCESSING
FACILITY (IWPF) & ADMINISTRATIVE
OFFICE BUILDING

2615 DAVIS STREET
SAN LEANDRO, CALIFORNIA

approved for the owner by :

approved for the architect by :

issue :	description :	date :
A	ISSUED FOR CLIENT REVIEW	05-02-16
B	ISSUED FOR SITE & SHELL PERMIT REVIEW	06-03-16

GENERAL CONTRACTOR:

ET
Environmental Corporation, LLC
7945 SW Mohawk Street
Tualatin, Oregon 97062-9193
PH 503-885-8800 FAX 503-885-8810

drawn by : JDL plot date : 06-03-16

checked by : SDG

stamp



scale : ASB/NOTED

project number : 12405.00

**EXTERIOR
ELEVATIONS**

sheet no. :

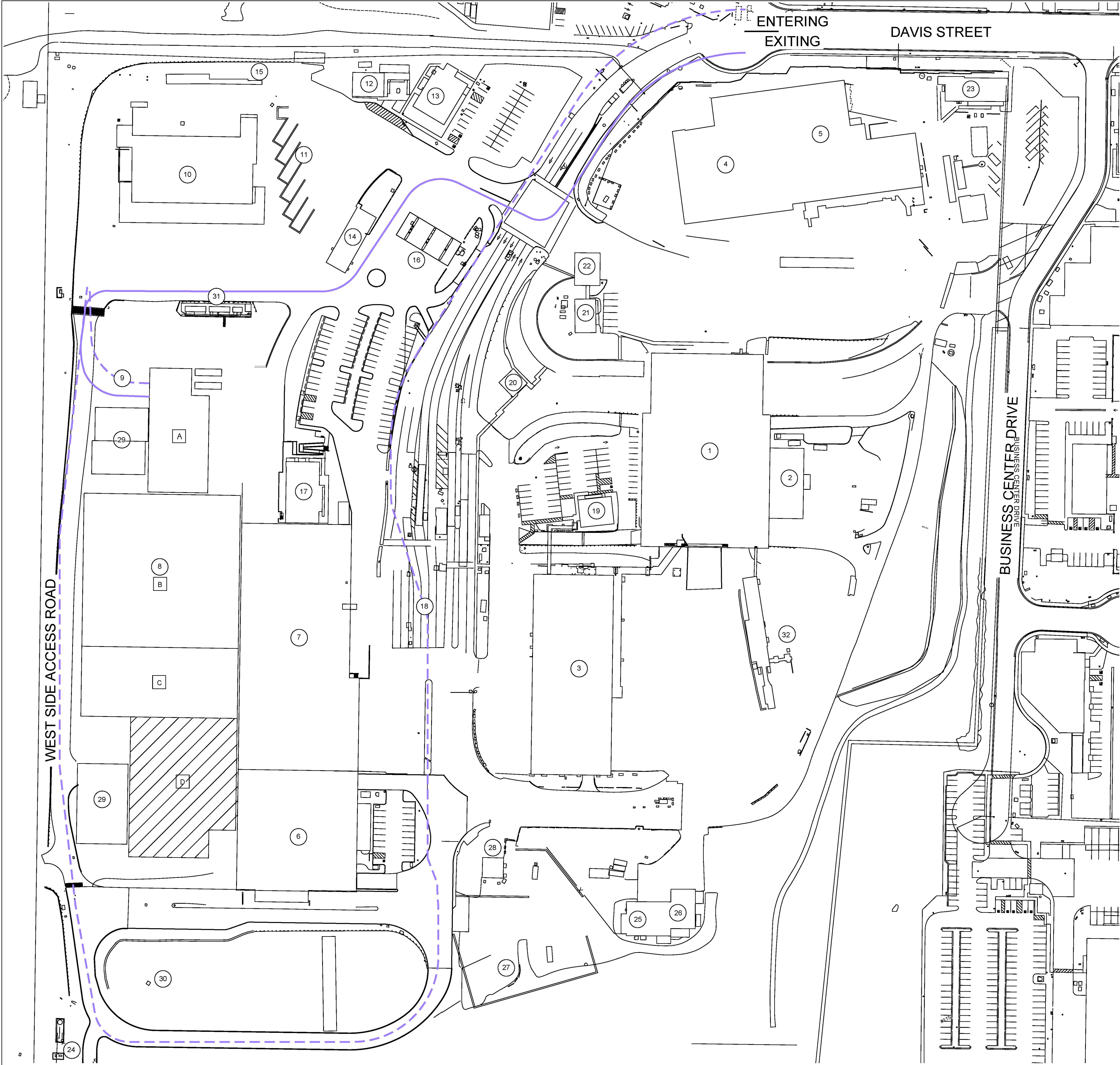
**SITE &
SHELL**

A03.1



1C – OMCF TRAFFIC CONTROL PLAN

FILENAME: S:\Current Projects\West Region Projects\02-ET1185 - Davis Street WPF\Pre-Con - Design\Design\Master Site Plan\2016-01-19 TPR Exhibits\TRAFFIC CIRCULATION PLAN 05-19-2016 FINAL Rev B.dwg
SAVED 7/6/2016 2:15 PM



TRAFFIC CIRCULATION SITE PLAN
1" = 50'

LEGEND

- 1 TRANSFER STATION
- 2 HAZARDOUS MATERIALS STORAGE
- 3 SMART MRF
- 4 SINGLE STREAM MRF
- 5 BALE STORAGE
- 6 ORGANICS PROCESSING AND TRANSFER
- 7 FOOD WASTE/ORG. RECYCLING FACILITY (OMRF)
- 8 FOOD WASTE/ORG./GREEN WASTE COMPOST FACILITY (OMCF)
- A POST-PROCESSING
- B COMPOSTING
- C PRE-PROCESSING
- D ANAEROBIC DIGESTION
- 9 COMPOST LOADING
- 10 MAINTENANCE SHOP
- 11 GARDEN CENTER
- 12 EDUCATION CENTER
- 13 ADMINISTRATION OFFICE 2
- 14 LCNG FUELING
- 15 PUBLIC REUSE AND E-WASTE
- 16 DIESEL FUEL CANOPY
- 17 EMPLOYEE SERVICES & ADMINISTRATION OFFICE
- 18 SCALE COMPLEX
- 19 MATERIALS RECOVERY DIVISION (MRD)
- 20 FIELD OFFICE
- 21 TRANSPORTATION OPERATION BUILDING
- 22 AUXILIARY DIESEL FUEL ISLAND
- 23 EMPLOYEE SERVICES
- 24 LANDFILL GAS COLLECTION AND TREATMENT FACILITY
- 25 VEHICLE MAINTENANCE
- 26 HEAVY EQUIPMENT MAINTENANCE
- 27 WOOD WASTE TRANSFER
- 28 PUBLIC WOOD/GREEN WASTE DROP OFF
- 29 BIOFILTER & EQUIPMENT
- 30 FUTURE BIOFILTER
- 31 LIQUID FUEL STORAGE
- 32 PUBLIC AREA MRF (PAM)

TRUCK ROUTE LEGEND

- MSW TRANSFER TRUCKS
- MSW ROUTE TRUCKS
- GW TRANSFER TRUCKS
- GW ROUTE TRUCKS
- DW MRF COMMODITY TRUCKS
- DW MRF ROUTE TRUCKS
- SS MRF COMMODITY TRUCKS
- SS MRF ROUTE TRUCKS
- PUBLIC TIPPING
- GARDEN CENTER
- OMRF ROUTE TRUCKS
- OMRF COMMODITY TRUCKS
- AD BUILDING TRANSFER
- OPERATIONS EMPLOYEES
- VISITORS

NOTE: EMPTY TRUCK ROUTES ARE DEPICTED AS DASHED LINES



WASTE MANAGEMENT - DAVIS STREET TRANSFER STATION

2615 DAVIS STREET, SAN LEANDRO, CA 94577

FINAL DRAFT REV C
07-06-2016

SHEET NUMBER
1



ATTACHMENT 2 – INJURY AND ILLNESS PREVENTION PROGRAM



Injury and Illness Prevention Program (IIPP)

2016

Table of Contents

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I. Introduction

Operator Name: Zero Waste @ Davis Street, an Urbaser Project ("ZWE")

Company Address: 3470 Mt. Diablo Blvd
Suite A215
Lafayette, CA 94547
(925) 297-0600

Site Address: Davis Street Transfer Station
2615 Davis St,
San Leandro, CA 94577

Injury and Illness Prevention Program Implementation Team:

General Manager To be named

Operations Supervisors To be named

II. Safety Policy Statement

It is the policy of ZWE that injury and illness prevention shall be considered of primary importance in all phases of operations and administration. It is the intention of the company's top management to provide safe and healthy working conditions and to establish and insist upon safe practices at all times by all employees. The prevention of injury and illness is an objective affecting all levels of the organization and its activities. It is therefore, a basic requirement that each supervisor make the safety of employees an integral part of his or her regular management function. It is equally the duty of each employee to accept and follow established safety regulations and procedures.

Every effort will be made to provide adequate training to employees. However, if an employee is ever in doubt about how to do a job safely, it is their duty to ask a qualified person for assistance.

Employees are expected to assist management in injury and illness prevention activities. Unsafe conditions must be reported. Fellow employees that need help should be assisted. Everyone is responsible for the housekeeping duties that pertain to their jobs.

Any injury that occurs on the job even a slight cut or strain must be reported to management as soon as possible. Under no circumstance, except an emergency, should an employee leave a shift without reporting an injury that occurred.

When you have an injury or illness everyone loses; you, your family, your fellow workers and the Company. Please work safely. It's good for everyone.

III. Assignment of Responsibility

ZWE accepts the responsibility for leadership of the safety and health programs, for its effectiveness and improvement and for providing the safeguards required to ensure safe conditions.

The General Manager and Supervisors are responsible for developing proper attitudes toward safety and health in themselves and in those they supervise, and for ensuring that all operations are performed with the utmost regard for the safety and health of all personnel involved.

Employees are responsible for total and genuine cooperation of all aspects of the safety and health program including compliance with all rules and regulations and for continuously practicing safety while performing their duties.

Designated Safety Program Coordinator, the overall administration and oversight of the safety program is assigned to:

To be Named

General Manager

To Be Named

Operations Manager

Responsibilities will include, but not be limited to:

- Review safety policy and procedures.
- Develop a sound technical knowledge of all applicable CAL/OSHA Safety Orders and Federal Regulations.
- Maintain an occupational training program covering hazards basic to all types of employment and those unique to each worker's job assignment.
- Schedule and conduct regular safety training meetings with all employees.
- Provide necessary personal protective equipment, and instructions for use and care.
- Conduct safety and health inspections to find, eliminate or control safety and health hazards as well as unsafe working conditions.
- Correct unsafe and unhealthy work practices in a timely manner and document corrections on the Hazard Correction Form.
- Keep records of all employee training, corrections of unsafe conditions, dates and results of workplace inspections.

IV. Employee Compliance, Policy & Procedure

Communicating Safety Policy & Procedures

All employees shall receive safety training and instruction:

- During orientation for job specific and general safety rules. This shall include but, not be limited to emergency preparedness and evacuation procedures, and hazard communication.
- If an employee is given a new job assignment, safety training for the new assignment will be given at orientation.
- Whenever new substances, processes, procedures or equipment are introduced to the workplace.
- During regularly scheduled safety meetings.
- Refresher safety training will be conducted on a regular basis and retraining shall be available for employees demonstrating a deficit in safety knowledge.

Code of Safe Practices

It is our policy that everything possible will be done to protect employees, customers and visitors from accidents. Safety is a cooperative undertaking requiring participation by every employee. Failure by any employee to comply with safety rules will be grounds for corrective discipline. Supervisors shall insist that employees observe all applicable Company, State and Federal Safety Rules and Practices and take action as is necessary to obtain compliance and carry out this policy.

Employees shall:

1. Report all unsafe conditions and equipment to your supervisor or safety coordinator immediately.
2. Report all incidents, injuries and illnesses to your supervisor or safety coordinator immediately.
3. Means of egress shall be kept unblocked, well-lighted and unlocked during work hours.
4. In the event of fire, sound alarm and evacuate.

5. Upon hearing fire alarm, stop work and proceed to the nearest clear exit and in accordance with the Company's Building Evacuation Plan,
6. Only designated/trained workers may attempt to respond to a fire or other emergency.
7. Exit doors must comply with fire safety regulations during business hours.
8. Stairways should be kept clear of items that can be tripped over and all areas under stairways that are egress routes should not be used to store combustibles.
9. Materials and equipment will not be stored against doors or exits, fire ladders or fire extinguisher stations.
10. Aisles must be kept clear at all times.
11. Work areas should be maintained in a neat, orderly manner. Trash and refuse are to be thrown in proper waste containers.
12. All spills shall be wiped up promptly.
13. Files and supplies should be stored in such a manner as to preclude damage to the supplies or injury to personnel when they are moved. Heaviest items should be stored closest to the floor and lightweight items stored above.
14. All cords running into walk areas must be taped down or inserted through rubber protectors to preclude them from becoming tripping hazards.
15. Never stack material precariously on top of lockers, file cabinets or other high places.
16. Never leave desk or cabinet drawers open that present a tripping hazard. Use care when opening and closing drawers to avoid pinching fingers.
17. Do not open more than one upper drawer at a time, particularly the top two drawers on tall file cabinets.
18. Always use the proper lifting technique. Never attempt to lift or push an object which is too heavy. You must contact your supervisor or request assistance when help is needed to move a heavy object.
19. When carrying material, caution should be exercised in watching for and avoiding obstructions, loose material, etc.
20. All electrical equipment should be plugged into appropriate wall receptacles or into an extension of only one cord of similar size and capacity. Three-pronged plugs should be used to ensure continuity of ground.
21. Individual heaters at work areas should be kept clear of combustible materials such as drapes or waste from waste baskets. Newer heaters which are equipped with tip over switches should be used.
22. Appliances such as coffee pots and microwaves should be kept in working order and inspected for signs of wear, heat or fraying of cords.
23. Fans used in work areas should be guarded. Guards must not allow fingers to be inserted through the mesh. Newer fans are equipped with proper guards.

24. Equipment such as scissors, staplers, etc., should be used for their intended purposes only and should not be misused as hammers, pry bars, screwdrivers, etc. Misuse can cause damage to the equipment and possibly injury to the user.
25. Cleaning supplies should be stored away from edible items on kitchen shelves.
26. Cleaning solvents and flammable liquids should be stored in appropriate containers.
27. Solutions that may be poisonous or not intended for consumption should be kept in well-labeled containers.

Notice of Safety Infraction

We consider the safety of our employees to be very important. Therefore, to prevent accidents, it is our policy to strictly enforce company safety rules.

Infractions of safety rules will result in the following:

- 1st Infraction: Written/Verbal Warning
- 2nd Infraction: Suspension
- 3rd Infraction: Dismissal

Sample Safety Warning Form

_____, you have been observed working in the following unsafe manner, contrary to company safety rules:

This is your:

First Infraction

Second Infraction

Third Infraction

Fourth Infraction

Action taken:

Supervisor

Date

Employee

Date

Program Emphasis

A highlighted program can be a positive and successful way to motivate employees to work safely and comply with the general safety rules and procedures.

- Special meetings for:
 - o Presentation of safety awards.
 - o Announcements of safety policy and procedures.
 - o Announcements of contests winners for safety record improvement, or safety poster design.
- Displaying safety solutions or new safety equipment.
- Display of a sign showing days worked without a lost-time accident.
- Involve the workers and change the program when motives and attitudes change. When results change, reassess the program and make changes that fit the current situation.
- Emphasize that the program is designed to reward employees for working safely, not for refusing to report an injury.
- Employees need to understand the rules as well as their potential gain to have a successful program.

V. Employee Communication

Safety Communication Policy

The company recognizes that open two-way communication between management and staff on health and safety issues is essential to an injury-free productive workplace. Your thoughts regarding safety are considered important, and we encourage your active participation in our company safety program.

Please feel free to express any of your safety concerns or suggestions in safety meetings or discussions with your supervisor. In addition, concerns or suggestions can be submitted anonymously via the Safety Suggestion Box located in the employee breakroom area.

All suggestions will be considered seriously and will receive a response. No employee will be retaliated against for reporting hazards or potential hazards, or for making suggestions related to safety.

Safety meetings will be held every _____ providing an opportunity for employees to voice opinions regarding safety and receive safety training.

Employee Safety Information Form

This form can be used by employees who wish to provide a safety suggestion, or report an unsafe workplace condition or practice.

Description of Unsafe Condition or Practice:

Causes or Other Contributing Factors:

Reason(s)

Employee's Suggestion for Improving Safety:

Has this matter been reported to the area Supervisor? ___ Yes ___ No

Employee Name (Optional)

Department

Date

(Employees are advised that the use of this form or other reports of unsafe conditions or practices are protected by law. It would be illegal for the employer to take any action against an employee in reprisal for exerting their rights to participate in communications involving workplace safety)

For Office Use Only:

Accepted Date _____ Proposed Completion Date _____

Actual Completion Date _____

Actual Taken

Signature:

Date:

VI. Facility Safety Committee

The Company has established a Facility Safety Committee. The Committee will meet periodically according to company policy and conduct activities that include, but not limited to, the following:

- Meet regularly, but not less than quarterly.
- Prepare and make available to the affected employees, written records of the safety and health issues discussed at the committee meetings and maintain for review by CAL/OSHA upon request.
- Review results of the periodic, scheduled worksite inspections.
- Review investigations of occupational injuries and illnesses and causes of incidents resulting in occupational injury, occupational illness, or exposure to hazardous substance, and where appropriate, submit suggestions to management of the prevention of future incidents.
- Review investigations of alleged hazardous conditions brought to the attention of any committee member. When determined necessary by the committee, the committee may conduct its own inspection and investigation to assist in remedial solutions.
- Submit recommendations to assist in the evaluation of employee safety suggestions.
- Prepare and update business tasks associated with each committee meeting. Detailed with task, person responsible, anticipated completion date and actual completion date.

Sample Safety Committee Topics:

- Safety disciplinary action.
- Industry safety updates.
- Employee Safety Meeting Minutes (training), by department/topic.
- Results of premise safety inspections, by department.
- Security issues.
- Safety incentive program results.
- Employee safety suggestions.

Safety Committee Minutes

Date/Time:

Attendees:

Name	Position/Department

Previous Meeting Follow-up:

New Topics Discussed:

Employee Accidents/Injuries Log

Date: Dept.: Position:	<u>Describe Incident:</u>	I. Unsafe Act - Unsafe Condition D Combination	<u># of Work Days Lost</u>	<u>Preventative Action:</u>
Date: Dept.: Position:	<u>Describe Incident:</u>	::J Unsafe Act D Unsafe Condition I Combination	<u># of Work Days Lost</u>	<u>Preventative Action:</u>

VII. Safety Training Requirements

The Company requires that training be provided under the following;

- All employees and those given new job assignments when training has not previously been received.
- Whenever new substances, processes, procedures or equipment are introduced to the work place and represent a new hazard.
- Whenever the employer is made aware of a new previously unrecognized hazard.

The following are conditions in which additional training or re-training may be needed:

- High turnover.
- An increase in near misses which could have resulted in injuries or illnesses.
- An increase in reported injuries.
- High injury or illness incidents.
- A request for personal protective equipment not currently provided.
- Expansion of operations.

Records of training will be kept by the _____.

Safety Training Policy

The General Manager shall be responsible for assuring training is provided that familiarizes supervisors with the safety and health hazards the employees under their immediate direction and control that may be exposed.

Supervisors are responsible to see that those under their direction receive training on general work place safety, as well as, specific instructions with regard to hazards unique to any job assignment.

When a supervisor is unable to provide the required training, he/she should notify the assigned person and request that such training be given to the employee by others.

All company employees will participate in:

- Training whenever job duties or work assignments are expanded or changed.
- Training whenever employees are exposed to new processes, machinery, chemicals, and/or previously unrecognized hazards.

- Initial and ongoing employee safety training will be provided, but not limited to, when new substances processes or procedures are introduced into the work environment.
- Scheduled safety meetings.
- Other training programs as appropriate.

Employee Safety Training Checklist

This form is to be completed by the training supervisor in conjunction with a new or reassigned employee.

Employee Name: _____ Date of Hire/Assignment: _____

Department: _____

Type of Work: _____

Past Work Experience: _____

Did the employee have a pre-placement physical? Yes ☐ No ☐

If yes, any work restrictions indicated

Review the following safety policies and procedures; check and discuss those that are included in the orientation.

- _____ The Company, State, and Federal safety policies and programs.
- _____ General and specific safety rules and regulations pertaining to hazards associated with the employee's job assignment; including the Code of Safe Work Practices.
- _____ The required personal protective equipment necessary for safe work performance.
- _____ Procedures for the prompt reporting of accidents and/or "near misses".
- _____ The immediate reporting of hazardous conditions and/or unsafe work practices or conditions to your Supervisor without fear of reprisal.
- _____ The Safety Suggestion Box for reporting unsafe conditions and/or unsafe work practices.
- _____ The Company's safety rule enforcement procedures (disciplinary policy).
- _____ The Company's Hazard Communication Program, emergency preparedness.
- _____ Location of fire extinguishers and emergency procedures.
- _____ Use of tools and equipment.
- _____ Proper guarding of equipment.
- _____ Material handling and lifting procedures.
- _____ Special hazards of the job.
- _____ Employee responsibility for prevention of injuries and illnesses.
- _____ Safe operations of vehicles.

Employee Training Record

Name				
Department				
Training Topic	Date Training Completed	Trainer	Employee Initials	

Employee Safety Meeting

Date _____
Name of Trainer _____ Location _____
Department _____
Section _____

Attendees (Please print your name legibly)

	<u>Department</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

* Note this training on the individual employee training records

VIII. Identification and Control of Hazards

Initial and ongoing employee safety training will be provided when new substances, processes or procedures are introduced into the work environment.

Investigation of accidents and/or "near miss" incidents will be conducted to determine causation and the controls necessary to prevent a recurrence.

Scheduled inspections will be conducted monthly by the Facility Safety Committee to identify unsafe conditions, work practices, and develop controls to eliminate or control noted deficiencies/hazards. Inspection results will be discussed during the Facility Safety Committee meetings.

Control Procedures for Unrecognized Hazards

Eliminate hazards from machines, processes, material, or work site structure.

Abate hazards by controlling exposures to it or guarding against it at its source.

Train employees to be aware of hazards and to follow safe work practices and procedures.

Prescribe signs and personal protective equipment for warning and shielding employees against hazards.

The program administrator or designee shall:

- o Evaluate the severity of the hazard identified, and determine if it can be abated immediately.
- o Determine hazard priority for implementing corrective procedures and actions.

Correction of Unsafe Conditions and/or Work Practices

Unsafe or unhealthy work conditions or practices must be corrected immediately.

Employees must be removed from affected area(s) until hazard(s) are corrected and new training implemented.

Defective equipment and/or work areas are to be taken "out of service" until hazards are corrected. This should be done by physically tagging-out and locking-out equipment, and removing employees from affected work areas.

Supervisors are responsible for assuring the proper controls have been implemented to correct hazardous conditions prior to employees resuming work.

Injury and Illness Investigation

Incident investigation is an essential element of the Injury and Illness Prevention Program.

The purpose of the investigation is to determine what factors, conditions, and/or work practices contributed to the event, so that appropriate action can be taken to prevent a recurrence. Minor incidents or "near miss" incidents will be investigated because they are a warning of a potential hazard.

To assure that meaningful data will be obtained, all management personnel should be familiar with injury and illness investigation techniques. In particular, each line supervisor should be well versed in injury and illness investigation procedures, as well as, being the key person in the incident investigation.

The investigation will be documented on the Supervisor's Report of Injury or Exposure Form. The Employee's Report of Injury or Exposure will be completed by the employee.

The following are the basic rules for injury and illness investigation:

- Finding the cause of injury is the purpose of an investigation and not finding fault. An unbiased approach is necessary to obtain objective findings.
- Visit the scene of the incident as soon as possible (when it is safe to do so) to get important details from witnesses while fresh in their minds.
- If possible interview the injured worker at the scene.
- All interviews should be conducted as privately as possible. Interview witnesses one at a time. Talk with anyone who has knowledge of the injury and illness even if they did not actually witness it.
- Consider taking signed statements in cases where facts are unclear or there is disagreement or discrepancies about the facts.
- Document details graphically. Use sketches, diagrams and photos as needed and take measurements when appropriate.
- Focus on causes and hazards. Develop an analysis of what happened, how it happened, and how it could have been prevented.
- Determine what caused the incident itself, not just the injury, and the controls necessary to prevent a recurrence.
- Follow up safety training is appropriate in many cases.
- Include an action plan. How can the injury or illness be prevented in the future?
- If a third party or defective product contributed to the injury, save any evidence. It could be critical to the recovery of claim costs.

Serious injuries, illnesses, or death of an employee must be reported to the nearest District Office of the Division of Occupational Safety and Health within 8 hours. Serious injury or illness means an injury or illness which requires:

- Inpatient hospitalization for more than 24 hours for other than observation.
- A loss of any member of the body.
- Any serious degree of permanent disfigurement.

Supervisor's Investigation Report

ALL ITEMS MUST BE ANSWERED FULLY

WARNING: "WORKER'S COMPENSATION INSURANCE FRAUD IS A CRIME PUNISHABLE BY LAW."

EMPLOYEE INFORMATION

Location (print) _____ State _____ Department _____ Phone Number _____
Employee Name _____ Date of Birth _____ Employee # _____
Address _____ City _____ State _____ Zip _____
Job Title _____ Length of Service with Company _____ Yrs.
Hourly Wage Rate _____ Job Being Performed at Time of injury _____

Description of Incident:

Employee Signature _____ Date _____

Supervisor

INCIDENT DETAILS

PART OF BODY INJURED -MARK ALL THAT APPLY

Head	Arm R-L	Trunk	_Hip R-L	Foot R-L
- Face	Elbow R-L	-Shoulder R-L	_Thigh R-L	_Toe Identify
_Eye R-L	Forearm R-L	Chest	Knee R-L	Ribs R-L
Nose	Hand R-L	_Back: Lower-Upper	_Leg R-L	Skin
Neck	_Finger - Identify	Abdomen	Ankle R-L	-Other (Describe)

NATURE OF INJURY -MARK ALL THAT APPLY

Abrasion	Puncture	_Exposure - Chemical	Inhalation	
n Bum				
-	-Crushed	-Fracture -Dislocation	_Hearing Loss	_Fatality
Bruise				
_Laceration - Cut	_Poisoning - Systemic	_Sprain	_Exposure -Heat/Cold	Human
Bite				
_Amputation	Dermatitis	Strain	_Foreign Object	
_Other				

Supervisor

INVESTIGATION

Date of Investigation _____

Person(s) Making Investigation _____

Employee's Supervisor (*print name*) _____

Supervisor's Phone # _____

Who was immediately in charge at the time of injury?

Was Employee Task Trained? - Yes - No If Yes, explain

Were Safety Codes/Rules Violated? - Yes - No If Yes, explain

Equipment Involved: Type _____ Model No. _____ Manufacturer _____

CAUSE OF INJURY - MARK ALL THAT APPLY

☐ Body Motions	☐ Hot/Cold Temp	☐ Flame/Fire/Smoke	☐ Ladders	
☐ Slip/trip/fall				
☐ Bldg./Structures	☐ Conveyers	☐ Furniture/Fixtures	☐ Machine-Misc.	
☐ Flying Objects				
☐ Chemicals	☐ Electrical -HV	☐ Hand Tools Non-Power	☐ Noise	☐ Flash
☐ Infectious Agents	☐ Electrical - LV	☐ Hand Tools -Power	☐ Particles	☐ Other
☐ Vehicles	☐ Falling Objects	☐ Hoisting Apparatus	☐ Sharp Objects	

CAUSE OF INCIDENT - MARK AND EXPLAIN ALL THAT APPLY

☐ Equipment Failure	☐ Improper Material Handling	☐ Excessive Speed	☐ Poor Housekeeping
☐ Horseplay	☐ Lack of Attention	☐ Wet Slippery Uneven Surface	☐ Procedure Failure
☐ Fatigue	☐ Other (explain)		

ANALYSIS

Description of incident

STEPS TAKEN TO PREVENT SIMILAR OCCURRENCE - MARK AND EXPLAIN ALL THAT APPLY

☐ Reinstruction of Employee Involved	☐ Formal Disciplinary Action
☐ Reminder Instruction of all Employees	☐ Installation of Guard Device
☐ Personal Protective Equipment Required	☐ Counseling of Employee

Supervisor Signature _____ Date. _____

IX. Safety and Health Recordkeeping

Records will be kept for all safety program activities, and may include:

- Training schedule for each employee.
- Initial orientation training.
- Job descriptions and /or job analysis.
- Safety Meetings.
- Safety Committee Meetings.
- Vehicle inspection forms.
- DMV driving records.
- CPR/First Aid training.
- Injury and illness Investigations.
- Employee and employer claim forms.
- OSHA required records.
- Inspections performed, in-house, and any performed by outside agencies.
- Disciplinary actions.

A copy of all the above records will be maintained and filed by the Business Manager.



ATTACHMENT 3 – RESUMES

Michael James Hardy
7435 Kingdom Drive, Riverside, CA 92506

Work Experience:

Senior Project and Operations Manager
Zero Waste Energy, LLC, Lafayette, CA

2014 – Present

- ❖ Managed the operations of a 6,000 Tons Per Year Anaerobic Digestion Facility including the;
 - Supervision of Facility Operations Technicians
 - Oversight of all regulatory compliance activities
 - Direct all production control, production process development, quality systems.
 - Direct and maintain all facility performance data and analysis
- ❖ Provide Technical and Operational support to all ZWE designed and developed Anaerobic Digestion Facilities. Including;
 - Zero Waste Energy Developments, 90,000 Tons Per Year Mixed Waste AD Facility, San Jose, CA
 - South San Francisco Scavengers 20,000 Tons Per Year AD Facility with Biogas upgrade system
- ❖ Coordinate internal resources and third parties/vendors assisting in execution of projects
- ❖ Assist in the definition of project scope and objectives, involving all relevant stakeholders and ensuring technical feasibility
- ❖ Successfully manage the relationship with the client and all stakeholders

President/CEO
California Bio-Mass, Inc., Thermal, CA

2008 – 2014

- ❖ Due the Illness and subsequent passing of the Company President/CEO, assumed the role of CEO and coordinated and executed the sale of the company and all its assets over the years of 2011 through 2013
- ❖ Attend and participate in meetings of municipal councils and council committees.
- ❖ Direct non-merchandising departments such as advertising, purchasing, credit, and accounting.
- ❖ Interpret and explain policies, rules, regulations, and laws to organizations, government and corporate officials, and individuals.
- ❖ Negotiate or approve contracts and agreements with suppliers, distributors, federal and state agencies, and other organizational entities.

Vice President/COO
California Bio-Mass, Inc., Thermal, CA

1992 - 2008

- ❖ Managed the operations of two 500 Ton Per Day Full Solid Waste Composting facilities including the;
 - Supervision of General Managers for each site and the In-direct control of 45 employees
 - Oversight of all regulatory compliance activities
 - Direct all production control, production process development, quality systems, purchasing, and shipping/receiving activities.
 - Establish departmental responsibilities, and coordinate functions among departments and sites.
- ❖ Ensure that, as the company grows, manufacturing capabilities meet or exceed all industry and customer requirements for cost, quality and responsiveness.
- ❖ Develop and manage budgeting and budget execution with a focus on product costs and margins.
- ❖ Partner with sales team to meet with customers to discuss and set scheduling timelines for product delivery.
- ❖ Direct and coordinate activities of businesses concerned with production, pricing, sales, and/or distribution of products.

Personal data

Séara Franck

Les Coutrans – Rue de l'étoile 13105 MIMET (F)

f.seara@urbaserenvironnement.fr

+ 33 688 84 87 64

PROJECT MANAGER

Education

General Engineering degree – 2004/2005

Centre for higher industrial studies of Villier-les-Nancy, France.

=> I am registered on "le repertoire français des ingénieurs du CNISF" – The National Council for Engineers and Scientists in France.

The final project of my engineering studies was the creating a computer-assisted maintenance system for the firm Urbaser Environment.

I performed the ISO 14001 Certification for Urbaser Environment.

Diplôme Universitaire Technologique (2 years technical degree) in Health, Safety and Environment – 1999/2001

Besançon university – Vesoul, France.

Work experience

Project Manager at URBASER – from 2014 to now

Partial reconstruction of the integrated household waste treatment centre of Fos-sur-Mer, (close to Marseille) France.

Urbaser Environment, a subsidiary of Urbaser S.A.

Partial reconstruction of the integrated household waste treatment centre of Fos-sur-Mer, France. 18 000 m² of pre-existing building to rebuild: a primary automatic sorting unit (440 000 tpy), a secondary sorting unit, methanisation unit, maturing unit.

Conception and creation of a new detection system – fire protection, ventilation – air treatment. Total cost of the operation: 58 million euros. This reconstruction followed a major fire that damaged the plant.

Set up of the general contractor's project team (recruitment).

Implementation of the reconstruction draft budget management tool, cost 58 million euros.

Preparing call for tenders and allocation of a project supervisor, according to the law on public project contracting and its relationship to private project management (Loi M.O.P in France).

Implementation of the various stages of the project such as: PRO files – development of the project specifications and procurement process, construction supervision. Acceptance of completed works, start-up of the plant.

Reconstruction schedule strengthening, critical path and milestones surveillance.

Assistance in obtaining 25 million euros advance payments from the insurance company. Successful final validation of 33 million euros expenditure from the insurance company.

Reporting directly to Urbaser and Urbaser Environnement.

Management and supervision of the general contractor's contract.

Representing Urbaser as main contact on the project, while meeting with the client (the urban community of Marseille, France).

Start-up of the facilities have just be finished.

Complex servicing of the project meetings, considering phasing issues.

Chief Operations Officer at URBASER – 2007/2013

Household waste treatment plant, using methanisation and composting process of Varennes-Jarcy (close to Paris), France.

Urbasys SAS, a subsidiary of Urbaser Environment.

Operating a household waste treatment centre (treating 100 000 tpy) on a Public Service Delegation contract.

incomes : 5.3 million euros.

35 employees.

Waste treatment using methanisation process, composting process, waste recovery as electricity and compost.

Maintenance of social peace on the facilities and minimal salary increase (1.5% to 2% a year), operating costs optimization (trade negotiation on an item – minus 350 000€ on a 2.3 million € budget), grant applications and partnership agreement with the regional health insurance service (CRAMIF in French), threefold certification, consumer satisfaction (SIVOM de la Vallée de l'Yerres et des Senarts) giving access to trade partnership and reduction of payment delays, general ledger control, consolidation and approval of report and balance sheet, implementation of a short-work system, supervision.

participating in technical hearings,

Participation and representative of the group during judicial expertise claim, collaboration with lawyer's offices on 4 contract amendments with the municipal customer.

7 fold increase of the electricity production, 0 working injury on a 600 days period.

Assistant Chief Operations Officer at URBASER – 2005/2007

Household waste treatment plant, using methanisation and composting process of Varennes-Jarcy, France.

Urbasys SAS, a subsidiary of Urbaser Environment.

Creating and implementing a computer-assisted maintenance system.

Preparation for the ISO 14001 Certification (environmental management system)
Renovation and reliability of the plant.

Senior Technician at SYTEVOM (local authority) – 2001/2004

Household waste treatment and recycling Syndicate in Quincey, France.

Senior technician

In charge of a 14 waste disposal site and a transfer station, control of a landfill in Vadans.

Maintenance handbook updating, technical optimizations improving the users' flow, training of the landfill custodians, management and control of 3 landfill construction site (cost for each one: 300 000€)



ATTACHMENT 4 – FIRE PREVENTION, CONTROL AND MITIGATION PLAN

Fire Prevention, Control and Mitigation Plan
Organic Materials Processing Facility, Davis Street Transfer Station, San Leandro, California
Prepared October 2016

General Facility

The Organic Materials Composting Facility (OMCF) at Davis Street Transfer Station will include an Auto Fire Sprinkler System within the building areas. Since the feedstock materials are typically moist with a limited processing time, it is not anticipated that the feedstock would dry out and become a fire hazard potential. In addition, areas that generate a high volume of dust and air-borne debris such as the 3/8" minus and 3/8"-1" Processor will capture dust and pneumatically transfer it to a bag house mitigating potential combustion conditions.

SMARTFERM Anaerobic Digestion

The SMARTFERM AD system generates flammable biogas. A key process consideration in the design and process controls of the SMARTFERM is that methane-containing biogas is never in the presence of air and an ignition source. Biogas can only be produced in "anaerobic" or oxygen-free conditions.

Moreover, the design of the reinforced concrete and steel facility physically places all potential ignition sources outside of the biogas production and storage areas. Finally, aside from the biogas itself, there is no viable supply of fuel as the organic waste itself is wet and absorbs additional moisture throughout the AD process as part of the biological process. Additional fire prevention and control features include the following:

- a. A closed-head sprinkler, water-curtain will be provided at the interface between the dry digester and AD Loading area. The sprinklers will be provided 6 feet apart, within 18 inches of the hatch, and will work to cool the digester hatch assembly.
- b. The digesters house a highly monitored and remotely controlled process. Upon detection of a hazardous condition, the process may be terminated, and the biogas in the digester evacuated. This process is controlled from the Electrical and Control Container.
- c. In the case of a fire the production of biogas can be quickly terminated, and the biogas extracted from a digester in a few hours.
- d. Except for a very brief 10 to 12 minute period of time during the termination of the 21-day process cycle, when biogas is present in the digesters, there will be no oxygen to support combustion. During this time period, the material will contain the maximum amount of saturation from the liquid percolate. There are no sources of ignition contained in the sealed digester such as electrical wiring or motors.
- e. The AD Loading area will be provided with a gas detection system to provide an alarm upon detection of concentrations of gas in excess of 20% of the lower flammable limits (LFL) of the biogas outside the digesters.
- f. The purpose of the AD Loading area is to facilitate loading and unloading of digesters. Because of this no materials will be stored in this area, and thus no fuel load will be present to support

combustion. Additionally, the staging hall area will be equipped with an Auto Fire Sprinkler System

- g. The entire facility will be provided with both auditory and visual hazard alarms. The alarm system will alert occupants of any hazardous conditions, and will be activated both manually and automatically by the flammable gas detectors or other fire alarm devices.
- h. All personnel entering the AD Loading area and SMARTFERM facility will be required to have a personal biogas detector.
- i. The steel digester hatches cannot be opened unless the concentration of flammable gas in the vault is less than 1% of the LFL.
- j. The AD Loading area will be provided with an emergency ventilation system to exhaust and ventilate the space. It will activate and rapidly dilute any gases in the common areas. The system may be activated manually or automatically and will be set to activate at 20% of the LFL.
- k. The SMARTFERM emergency systems will be supplied with standby power from an on-site uninterruptable power system (UPS).

Each digester will be separated from adjacent digesters and other areas by 10-inch thick concrete walls and from the percolate tank below by at least a 15-inch thick concrete floor slab. Additionally, the digesters feature a 13 -inch thick structural concrete ceiling.



ATTACHMENT 5 – SYSTEM SPECIFIC TEMPERATURE MONITORING PLAN

ATTACHMENT 5 – SYSTEM-SPECIFIC TEMPERATURE MONITORING PLAN

Objective:

The SMARTTURN advanced dynamic In-Vessel composting system (IVC) process is designed to deliver sanitized compost which is compliant with the requirements of the California Code of Regulations, Title 14, Division 7, Chapter 3.1, Article 7, Section 17868.3, Pathogen Reduction, which reads;

§ 17868.3. Pathogen Reduction.

(a) Compost products derived from compostable a material, that contains pathogens in amounts that shall not exceed the maximum acceptable pathogen concentrations described in Subdivision (b) of this section. Compost that contains any pathogens in amounts that exceed these pathogen reduction requirements shall be designated for disposal, additional processing, disposal, or other use as approved by local, state or federal agencies having appropriate jurisdiction. Test results of samples must be received by the operator prior to removing compost from the composting operation or facility where it was produced.

(b) Operators that produce compost shall ensure that: (1) The density of fecal coliform in compost, that is or has at one time been active compost, shall be less than 1,000 Most Probable Number per gram of total solids (dry weight basis), and the density of Salmonella sp. bacteria in compost shall be less than three (3) Most Probable Number per four (4) grams of total solids (dry weight basis). (2) At enclosed or within-vessel composting process operations and facilities, active compost shall be maintained at a temperature of 55 degrees Celsius (131 degrees Fahrenheit) or higher for a pathogen reduction period of 3 days. (A) Due to variations among enclosed and within-vessel composting system designs, including tunnels, the operator shall submit a system-specific temperature monitoring plan with the permit application to meet the requirements of Subdivision (b)(2) of this section.

SMARTTURN System Description

Key design attributes of the SMARTTURN system are a forced aerated floor and lane/vessel cover system which mitigates emissions, odors and dust in the general building. The SMARTTURN is the logical technical progression of In-Vessel Composting (IVC) technology as it takes the batch processing of an IVC and transforms it into a continuous plug-flow process to increase throughput while minimizing manual handling of the material.

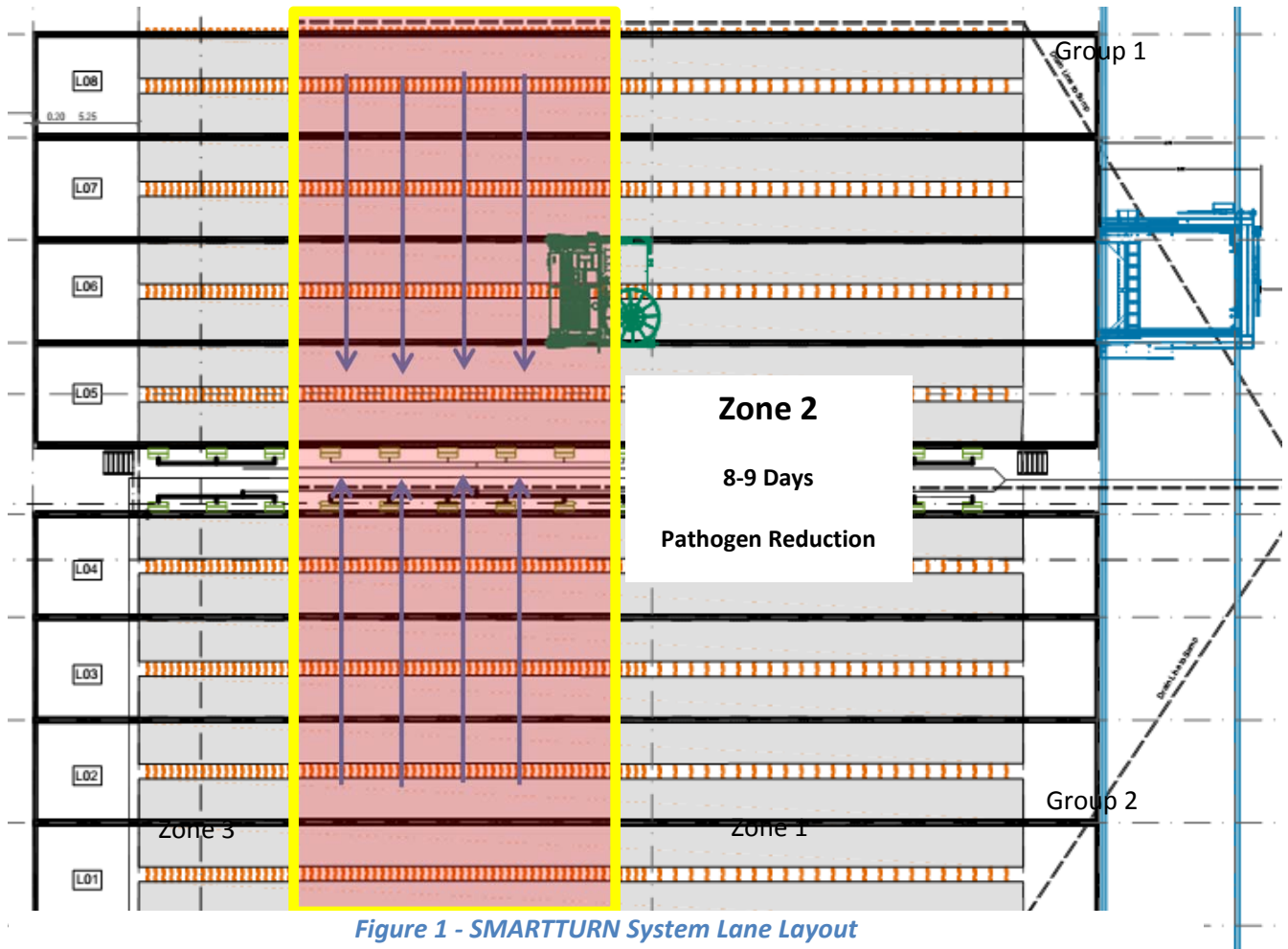


Figure 1 - SMARTTURN System Lane Layout

As can be seen in Figure 1, the SMARTTURN system is configured into two (2) groups of four (4) lanes each. The lane dimensions are 162.0' long by 16.4' wide by 11.0' high. The lanes are fitted with removable hard covers over each lane independently, except the material loading and discharge locations which are approximately 4-5 meters long on each end. The covers are designed to maintain heat, while mitigating emission, dust and odors. Exhaust air from the open space between the top of the material mass and the underside of the lane cover is drawn across the lanes through rectangular ports in the lanes as shown by the blue arrows in Figure 1. The ports are 1 foot by 3 feet, and are located on 12 foot centers the entire length of the covered lane just below the covers. The exhaust air is collected through damper equipped connections to each exhaust port on Lanes 4 and 5 (last lane in each group) and routed to a biofilter to eliminate emissions and odor issues common with conventional composting systems.

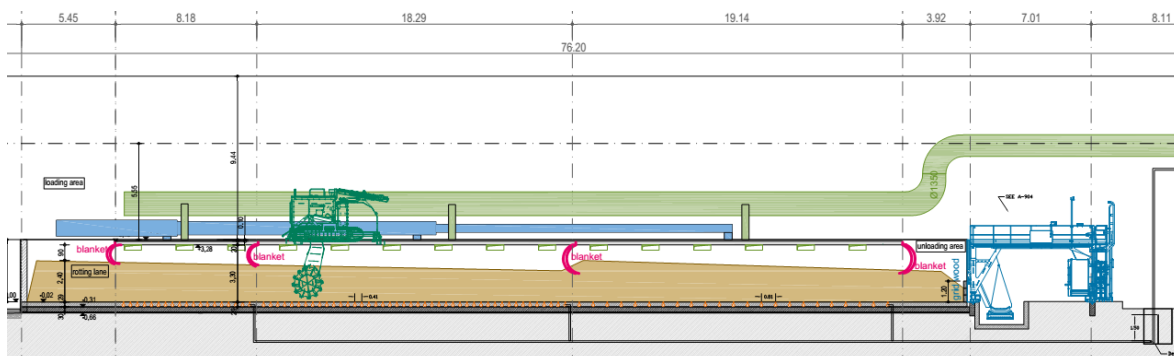


Figure 2 - SMARTTURN System Cross-Section

Figure 2 shows how the SMARTTURN dynamic In-vessel composting system maintains control of the material emissions and odors by providing curtains at the ends of each Zone and a collection hood is fitted to the Transfer Wagon to further capture emissions during the discharge of finished material.

The Turner is equipped with a 5.9' meter diameter full lane width spinning rotor that makes insertion of instrumentation including a temperature probe into the mass quite impractical. See Figure 3.

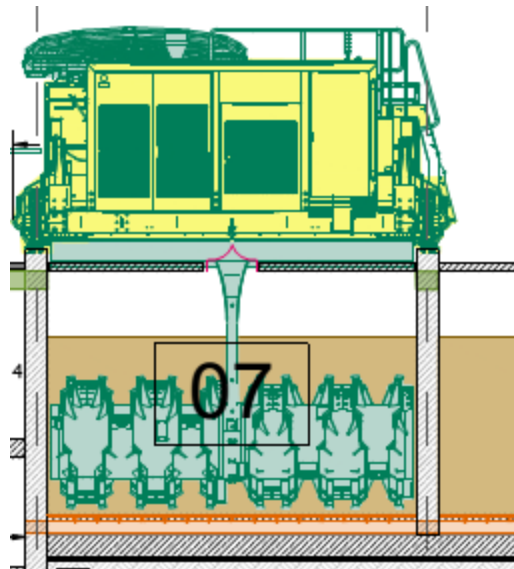


Figure 3 - Backhus D AR Lane Turner with 1.8 meter rotor

Similarity to currently operational IVC Projects

The batch style IVC vessels installed at ZWE projects in San Jose and South San Francisco perform the same process to the lanes in a SMARTTURN dynamic In-vessel composting system. The IVC contains an aeration floor with spigot spacing that is equivalent to that in the SMARTTURN lanes for Zone 2. The IVC's at Blue Line heat up and maintains the material at a predetermined temperature set point. The computer controlled system for the IVC continuously monitors both material temperature through a lance inserted directly into the material mass, and exhaust air temperature through sensors at the exhaust air louvers directly outside of the IVC vessel. When the lances are unavailable due to damage or malfunction, the exhaust air is tracked as a proxy for material temperature.

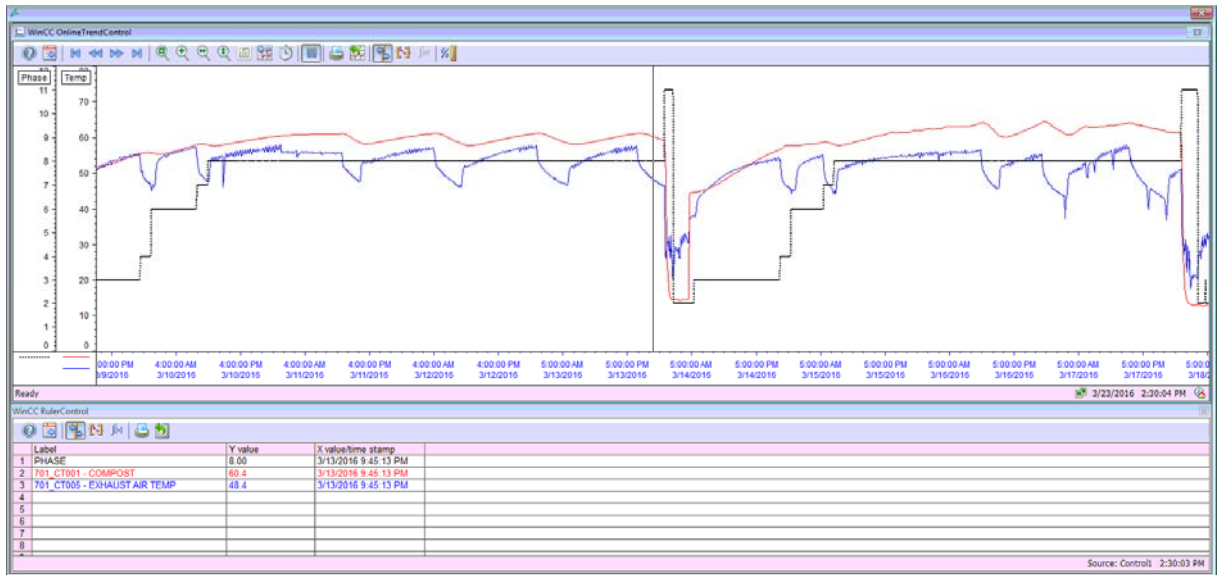


Figure 4 - Blue Line IVC #1 Material versus Exhaust Air Temperature Trend

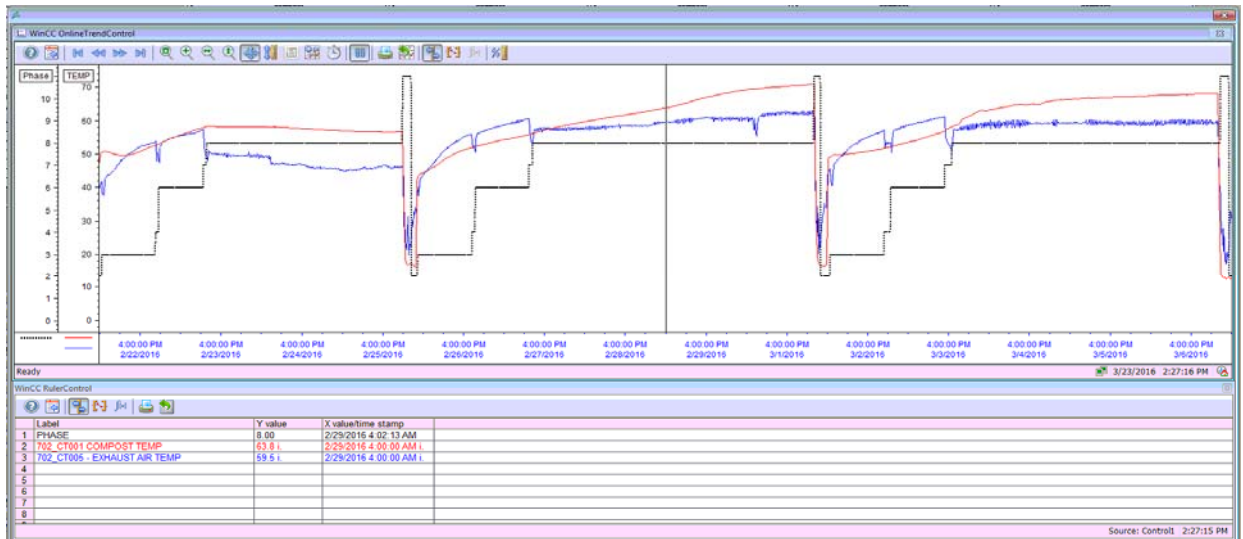


Figure 5 - Blue Line IVC #1 Material versus Exhaust Air Temperature Trend

To demonstrate the validity of the proxy, Figures 4 and 5 above plot material temperature measured directly in the mass within the IVC and exhaust air temperature over the course of two complete cycles for IVC No. 1 and, three complete cycles for IVC No. 2 respectively. Of particular interest in these trends is phase 8, the “Composting” phase.

As can be seen in the trends during phase 8, the material mass temperature maintains a consistent temperature differential above that of the exhaust air. The only exception is shown during the initial 4 hours of phase 8 on IVC No. 2 where the temperature of the material mass was tardy in rising due to an abbreviated phase 7. This anomaly would not be present in the SMARTTURN lanes as it is a plug-flow system and the temperature of the material in the lane will have already been heated through the intensive aeration and composting activity in Zone 1 over the span of the initial three (3) days of active composting. In all cases after the initial 4 hours of the commencement of phase 8 composting; the material mass temperature maintains a positive differential (higher temperature) of at least 3°C over exhaust air temperature.

At ZWE projects in San Jose and South San Francisco, exhaust air temperature is measure at the exhaust air outlet port, just as in each Zone on the SMARTTURN system.

This System-Specific Temperature Monitoring Plan demonstrates compliance with California Code of Regulations, Title 14. Division 7. Chapter 3.1. Article 7, Section 17868.3.b.2.A in the following manner:

1. SMARTTURN has temperature sensors in the exhaust air duct in two locations in Zone 2 of the system. One near the beginning and one near the end of Zone 2. Temperature sensors are installed at each lane where exhaust duct are attached.
2. Projected residence time within Zone 2 is approximately 8 to 9 days.
3. The temperature of the exhaust air in Zone 2 within the open space under the lane cover, but above the material mass will be measured at a minimum of three (3) locations and plotted daily. The temperature of the exhaust air in Zone 2 will be maintained at a minimum temperature of 55°C for a minimum of 72 consecutive hours.
4. The three (3) locations will be spaced at the approximate distance the material is moved in a daily turning event of approximately 3 meters. Therefore the material will be measured as it moves through Zone 2 for a minimum of three consecutive days.
5. If the plotted temperature drops below the prescribed limit of 55°C, the 72 hour duration clock will be reset and the material within the portion of Zone 2 will be held within the Zone until compliance with the standard is achieved.

Conclusion

By tracking and maintaining the exhaust air temperature from each of the 8 lanes in Zone 2 at or above 55°C provides a direct temperature measurement of the material mass.

This measurement practice is based on experience with the IVC vessels at Blue Line Scavenger's IVC's located in South San Francisco, California. As shown in this report, the

temperature differential between the material mass and the exhaust air in the IVC's for South San Francisco is significant, consistent, and repeatable.

ZWE asserts that installing process instrumentation to measure and record lane exhaust air temperature is a valid indication and proxy the material mass in Zone 2 has achieved and maintained a certain temperature. ZWE further asserts to monitor and control the process in Zone 2 such that the exhaust air temperature is maintained at a minimum of 55°C for a minimum of 72 consecutive hours. Based on the experience from the IVC's at Blue Line, the material mass would be maintaining a temperature of at least 58°C, if not more.

Therefore, this proposed Systems Specific Temperature Monitoring Plan will achieve the requirements of the California Code of Regulations, Title 14. Division 7. Chapter 3.1. Article 7, Section 17868.3. Pathogen Reduction.



ATTACHMENT 6 – SAMPLING PROTOCOL

ATTACHMENT 6 – SAMPLING PROTOCOL/ INITIAL 77 DAY/11 WEEK OPERATIONAL PERIOD

DAVIS ST. OMCF - Start-up Sampling & Testing Calendar							
Initial 105 days of Operations							
	1	2	3	4	5	6	7
Event							
Production (Yds.)	0	0	0	0	0	0	0
Accumulative	0	0	0	0	0	0	0
	8	9	10	11	12	13	14
Event				Sampling Date - #1			
Production (Yds.)	0	0	0	0	0	0	0
Accumulative	0	0	0	0	0	0	0
	15	16	17	18	19	20	21
Event				Sampling Date - #2		Results Date - #1	
Production (Yds.)	0	0	0	0	0	50	50
Accumulative	0	0	0	0	0	50	100
	22	23	24	25	26	27	28
Event				Sampling Date - #3		Results Date - #2	
Production (Yds.)	-	75	75	75	75	75	75
Accumulative	100	175	250	325	400	475	550
	29	30	31	32	33	34	35
Event				Sampling Date - #4		Results Date - #3	
Production (Yds.)	-	125	125	125	125	125	125
Accumulative	550	675	800	925	1,050	1,175	1,300
	36	37	38	39	40	41	42
Event				Sampling Date - #5		Results Date - #4	
Production (Yds.)	-	187	187	187	187	187	187
Accumulative	1,300	1,487	1,674	1,862	2,049	2,236	2,423
	43	44	45	46	47	48	49
Event				Sampling Date - #6		Results Date - #5	
Production (Yds.)	-	187	187	187	187	187	187
Accumulative	2,423	2,610	2,797	2,985	3,172	3,359	3,546
	50	51	52	53	54	55	56
Event				Sampling Date - #7		Results Date - #6	
Production (Yds.)	-	187	187	187	187	187	187
Accumulative	3,546	3,733	3,920	4,108	4,295	4,482	4,669
	57	58	59	60	61	62	63
Event				Sampling Date - #8		Results Date - #7	
Production (Yds.)	-	187	187	187	187	187	187
Accumulative	4,669	4,856	5,043	5,231	5,418	5,605	5,792
	64	65	66	67	68	69	70
Event				Sampling Date - #9		Results Date - #8	
Production (Yds.)	-	187	187	187	187	187	187
Accumulative	5,792	5,979	6,166	6,354	6,541	6,728	6,915
	71	72	73	74	75	76	77
Event				Sampling Date - #10		Results Date - #9	
Production (Yds.)	-	187	187	187	187	187	187
Accumulative	6,915	7,102	7,289	7,477	7,664	7,851	8,038
	78	79	80	81	82	83	84
Event							
Production (Yds.)	-	187	187	187	187	187	187
Accumulative	8,038	8,225	8,413	8,600	8,787	8,974	9,161
	85	86	87	88	89	90	91
Event							
Production (Yds.)	-	187	187	187	187	187	187
Accumulative	9,161	9,348	9,536	9,723	9,910	10,097	10,284
	92	93	94	95	96	97	98
Event							
Production (Yds.)	-	187	187	187	187	187	187
Accumulative	10,284	10,471	10,659	10,846	11,033	11,220	11,407
	99	100	101	102	103	104	105
Event				Sampling Date - #11		Results Date - #10	
Production (Yds.)	-	187	187	187	187	187	187
Accumulative	11,407	11,594	11,782	11,969	12,156	12,343	12,530

Operations Schedules				
Day	Sample	Results	Total Yrd	tested
11	1		-	
18	2		-	
20		1	50	50
25	3		325	
27		2	475	425
32	4		925	
34		3	1,175	700
39	5		1,862	
41		4	2,236	1,061
46	6		2,985	
48		5	3,359	1,123
53	7		4,108	
55		6	4,482	1,123
60	8		5,231	
62		7	5,605	1,123
67	9		6,354	
69		8	6,728	1,123
74	10		7,477	
76		9	7,851	1,123
102	11		11,969	
104		10	12,343	4,492

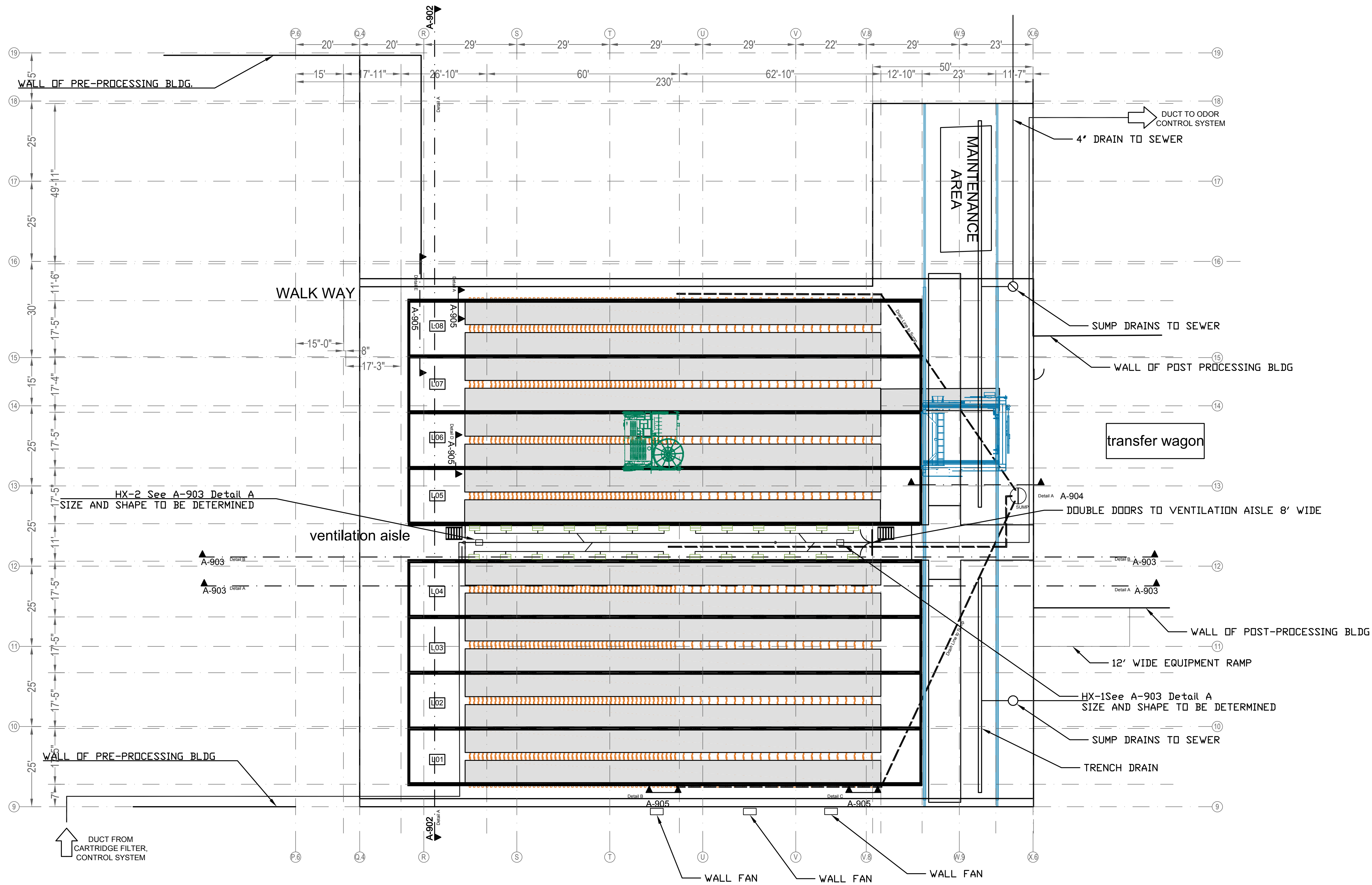
SAMPLING DIAGRAM

			INPUT SIDE												
	Process Steps	Day	Vessel #	1	2	3	4		5	6	7	8	Yards Zone 1		
ZONE 2	Raise Temperatures and Moisture - 2 Days	1						EQUIPMENT CHAMBERS					1,222		
		2													
	Maintain Temperatures of Exhaust Air above 150 ⁰ F 9 days	3													
		4													
		5	Sampling Locations	X			X		X			X	Composite prepared from 8 locations - same day		
		6													
		7		X			X		X			X			
		8													
		9													
		10													
		11												Yards Zone 2	
ZONE 3	Further maturation and beginning the lowering of Moisture content 8 Days	12												3,502	
		13													
		14												Yards Zone 3	
		15												2,369	
		16													
		17													
		18													
		19													
OUTPUT SIDE															

Inputs - Zone 1	Yards	Tons	Bulk Density	yd/TN Factor	Mass Losses	
Yards Input per Day	407	231	42	1.764	28.5%	(-) Mass/19day
Total Zone	1,222	693			1.5%	(-) Mass/day/avg.
Days in Lane	3	4.5%	Loss/zone		38.2%	Rejects
Mass Loss Zone	55	31				
To Next Zone	1,167	662				
PFRP - Zone 2		Tons	Bulk Density	yd/TN Factor		
Yards Input per Day	389	221	42	1.764		
Total Zone	3,502	1,985				
Days in Lane	9	13.5%	Loss/zone			
Mass Loss Zone	473	268				
To Next Zone	3,029	1,717				
Maturation - Zone 3		Tons	Bulk Density	yd/TN Factor		
Yards Input per Day	337	168	37	2.002		
Total Zone	2,692	1,527				
Days in Lane	8	12.0%	Loss/zone			
Mass Loss Zone	323	183				
Next Process	2,369	1,343				
Net Output/Dy	187	93				
Net Output/Mo	4,492	2,244				



ATTACHMENT 7 – SMARTTURN LANE TURNER LAYOUT



SYN	REVISION	BY	APPROVED	DATE
A	INITIAL DRAFT			02/24/16
B	REVISIONS (PER EAB)			03/04/16
C	REVISIONS			03/17/16
D	REVISIONS			05/11/16
F	REVISIONS, REMOVE FUTURE AISLES			06/14/16

SYN	REVISION	BY	APPROVED	DATE
G	REVISIONS			06/30/16
H	SHORTEN LANES FOR BID DRUMS			07/20/16

CONFIDENTIAL

PRELIMINARY

SMARTTURN

ADVANCED COMPOSTING SYSTEMS

ZeroWaste

ENERGY, LLC.

Recovery and Energy with Zero Waste

THE DISCLOSURES CONTAINED ON THIS DRAWING ARE MADE WITH THE UNDERSTANDING THAT THEY ARE CONFIDENTIAL AND WILL NOT BE USED IN ANY WAY DETRIMENTAL TO THIS COMPANY'S INTEREST.

DRAWN BY	ADJ	DATE	7/11/16
CHECKED	TS	DATE	7/11/16
ENGR.			
CHECKED			
APPROVED			

PLANT

WASTE MANAGEMENT
ALAMEDA COUNTY
DAVIS ST

TITLE

SMARTTURN PLAN VIEW
ZEROWASTE ENERGY-ORGANIC
MATERIAL COMPOSTING FACILITY

PROJECT NO.

7001

DWG NO.

A-901

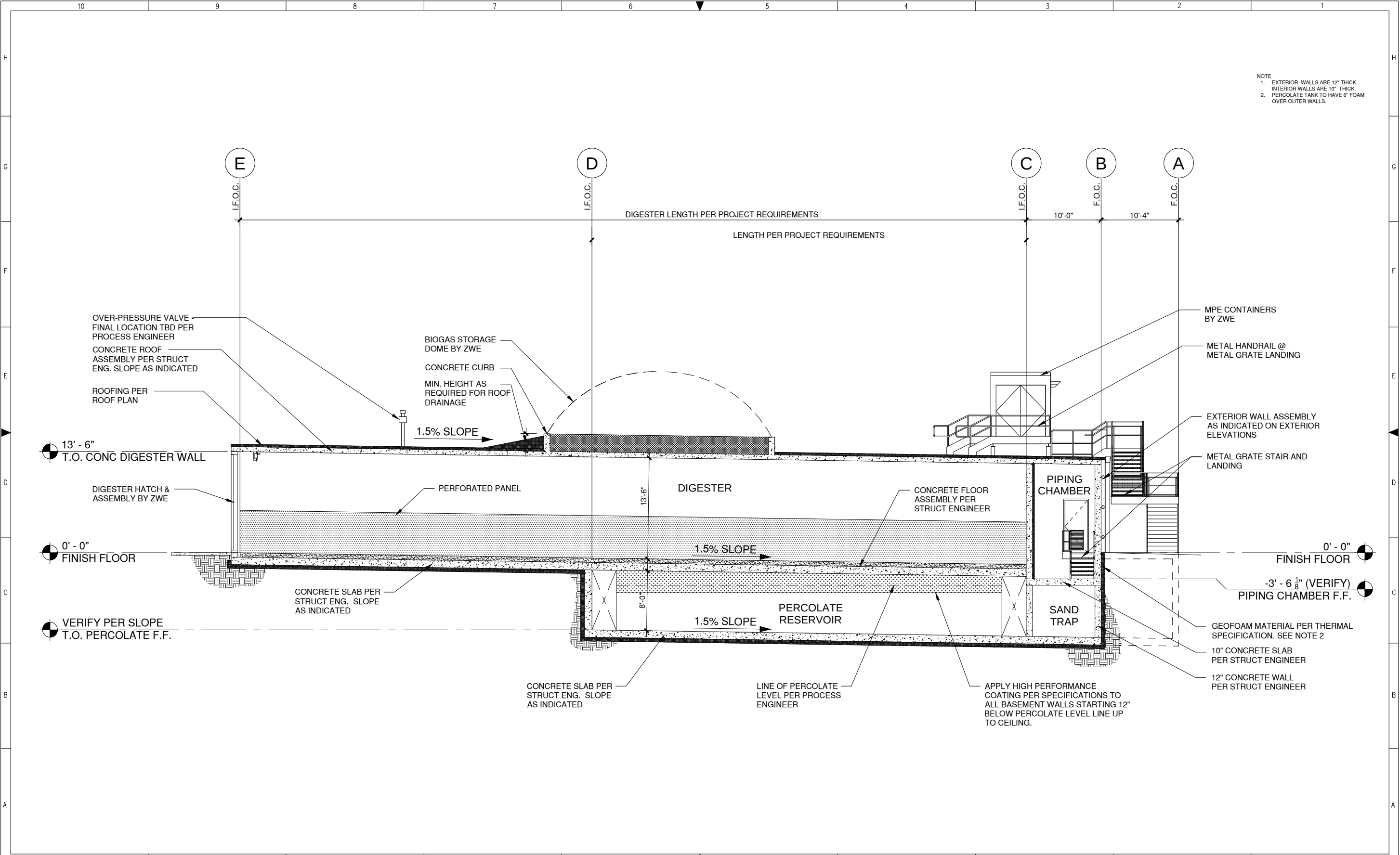
REVISION

H

SCALE: 1/16"=1'



ATTACHMENT 8 – SMARTFARM ARCHITECTURAL SECTION



NOTE
1. EXTERIOR WALLS ARE 12" THICK.
INTERIOR WALLS ARE 10" THICK.
2. PERCOLATE TANK TO HAVE 6" FOAM
OVER OUTER WALLS.

SYM	REVISION	BY	APPROVED	DATE	SYM	REVISION	BY	APPROVED	DATE
BO	FEED - INITIAL DRAFT	-	-	-					

CONFIDENTIAL

PRELIMINARY



DRAWN BY	DATE
CHECKED	
ENGR.	
CHECKED	
APPROVED	

PLANT	BIOWASTE TREATMENT PLANT
TITLE	ARCHITECTURAL DIGESTER SECTION 1

PROJECT NO.	-
DWG NO.	A-008
REVISION	BO