



REPORT TO PLANNING COMMISSION

SUBJECT: 1050-1070 Andersen Dr./535-580 Jacoby St. (“Marin Sanitary Service”) – To amend the Master Use Permit for Marin Sanitary Services (MSS) recycling facility to eliminate the entitled anaerobic digestion facility and permit an increase in size of the entitled biomass conversion facility from 1.0 MW (mega-watt) to 2.0 MW of bioenergy capacity; APN: 011-180-75, -76, -80, -81 & -82; Planned Development (1933) District Zone; Evan Edgar, Applicant; Joseph J. Garbarino Jr. for Marin Sanitary Service, Owner; Canal Neighborhood.

PERMITS REQUIRED

- Use Permit Amendment, pursuant to SRMC Section 14.22.150 to amend an existing Use Permit

EXECUTIVE SUMMARY

To meet future waste reduction and resource recovery mandates from waste hauling to waste diversion and conversion, Marin Sanitary Service (MSS) proposes to take advantage of technological improvements and amend its existing Master Use Permit (UP09-031) approval to eliminate the entitled 12,500 TPY (tons per year) anaerobic digestion facility and replace the entitled 12,500 TPY/1.0 MW (megawatt) biomass conversion facility with a larger 25,000 TPY/2.0 MW (megawatt) biomass conversion facility.

Projected emissions from the proposed project will remain below CEQA thresholds of significant established by the Bay Area Air Quality Management District (BAAQMD) which has authority over the air quality emissions. The project proposes no other changes to the Master Use Permit for the MSS operations.

RECOMMENDATION

It is recommended that the Planning Commission adopt a resolution approving Use Permit Amendment PLAN21-005/UP21-024 (Attachment 1).

PROPERTY FACTS

Address/Location:	1050-1070 Andersen Dr./535-580 Jacoby St.	Parcel Number(s):	018-180-75, -76, -80, -81 & -82
Property Size:	85.93-Acres	Neighborhood:	Canal

Site Characteristics			
	General Plan Designation	Zoning Designation	Existing Land-Use
Project Site:	General Industrial	PD (1933), P/OS	MSS
North:	LI/O	LI/O	GGBH&TD Yard
South:	N/A	N/A	City of Larkspur

East:	PROS	P/OS	CSMA Facility
West:	Gen. Ind.	I, P/QP	Contractor Yard, SMART ROW

Site Description/Setting:

The MSS facility is located along Andersen Dr. and the terminus of Jacoby St. (1050-1070 Anderson Dr. and 535-565 Jacoby St.), east of the SMART Right of Way (ROW). The site is comprised of five adjacent parcels with a combined area of 85.93-acres, including a densely forested 53.42-acre ridgeline parcel (Parcel E) with a private open space easement. MSS also leases a separate 2.78-acre parcel to the west from Golden Gate Bridge Highway and Transportation District. This property is undeveloped, subleased for storage uses, and located across SMART rail right-of-way with access from Jacoby Street.

The project site is surrounded predominantly by a combination of industrial and light industrial development to the north and east, the City of Larkspur to the south and the SMART ROW to the west.

Figure 1: Vicinity Map



BACKGROUND

MSS has been providing municipal solid waste collection and recycling services to the Marin community since 1948, and currently serves over 33,000 residential and commercial accounts in nine communities within Marin County. MSS provides residential and commercial trash pick-up, operates a transfer station, recycling center, nonhazardous materials resource center, household hazardous waste collection program, debris box rental, concrete and soil recovery, wood recovery, commercial food waste collection program, and green waste composting operations. The MSS facility land use currently is permitted under

Master Use Permit UP96-8 issued by the City of San Rafael (amending prior UP92-7) and a Planned Development (PD1580) zoning district. The most recent Master Use Permit (ZC09-001, UP09-020, ED09-031 and S09-002) adopted in 2015, consolidated 12 individual use permits that had been issued by the City for the facility operations over the years. This 2015 Master Use Permit reflected a shift from waste hauling to waste recovery and diversion, allowing use of anaerobic digestion and biomass conversion technologies, and specifically permitting the installation of an anaerobic digestion facility, processing 12,500 TPY (tons per year) of food waste and green waste, and a biomass conversion facility, processing 12,500 TPY of wood chips. Neither of these facilities have been installed to date.

PROJECT DESCRIPTION

Due to changes in technology, the 12,500 TPY anaerobic digestion and biomass conversion facilities approved as part of the 2015 Master Use Permit are no longer cost effective. To further goals of waste recovery and diversion, MSS is proposing to replace the entitled anaerobic digestion and biomass conversion facilities and with an updated biomass conversion facility with increased processing capacity and increased (2.0 MW) generation of bioenergy. The project would allow the diversion of 25,000 TPY of wood chips currently being hauled to a bioenergy facility in the Central Valley. The biomass conversion facility would be located on Parcel C (See plan set in Exhibit 2).

The 2.0 MW biomass conversion facility would process approximately 18,000 bone dry tons of wood chips per year or 25,000 wet tons of per year of recovered urban wood waste and forest waste removal and produce approximately a net amount (after parasitic load) 2.0 MW of electrical energy per hour. In addition, the facility would also produce approximately 20-30 MM BTU of waste heat and approximately 300-600 pounds of biochar per hour. There is no net increase in the 25,000 tons per year as permitted by the 2015 Master Use Permit. All MSS waste management facility operations are subject to strict County and State regulations and permitting requirements, including those enforced by the CalRecycle.

In March 2020, Marin County voters passed [Measure C](#), approving a 10-year parcel tax to fund proactive, state-of-the-art wildfire prevention and preparedness. A Joint Powers Agreement among 17 member agencies covering most of Marin County created the Marin Wildfire Prevention Authority (MWWPA) to coordinate fire prevention activities using Measure C funds. Funds will be used for fire protection and prevention services, including vegetation management (fuels reduction).

Wood waste derived from Measure C efforts would be received at this facility and would generate renewable energy. MSS intends to enter into a contract to sell up to 2.0 MW of this renewable energy to Marin Clean Energy.

ANALYSIS

San Rafael General Plan 2040 Consistency:

The recent General Plan update (General Plan 2040) changed the nomenclature of the predominant land use designation on the MSS Facility site from "Industrial" to "General Industrial." There are no General Plan policies or programs that require review and discussion for consistency, given that; the project primarily involves a minor change to existing permitted uses on MSS Facility site under the approved Master Use Permit, where it was determined to be consistent with applicable Industrial land use designation policies and programs.

Zoning Ordinance Consistency:

Chapter 22 – Use Permits

The proposed Master Use Permit Amendment amended project requires approval by the Commission to allow for the larger biomass conversion facility use on the MSS site with findings consistent with SRMC Section 14.22.080:

- A. That the proposed use is in accord with the general plan, the objectives of the zoning ordinance, and the purposes of the district in which the site is located;
- B. That the proposed use, together with the conditions applicable thereto, will not be detrimental to the public health, safety or welfare, or materially injurious to properties or improvements in the vicinity, or to the general welfare of the city;
- C. That the proposed use complies with each of the applicable provisions of the zoning ordinance.

The project proposes to allow a larger biomass conversion facility to meet community and MSS operational needs. There would be no net increase in the 25,000 tons per year as permitted by the 2015 Master Use Permit. Projected emissions from the proposed project will remain below CEQA thresholds of significant established by the Bay Area Air Quality Management District (BAAQMD) which has authority over the air quality emissions. All other uses on the MSS are not proposed to change and would continue to operate in compliance with the existing Master Use Permit approval.

ENVIRONMENTAL DETERMINATION

On July 20, 2015, the City Council adopted an Initial Study/Mitigated Negative Declaration (IS/MND) with Mitigation Monitoring and Reporting Program (MMRP) along with approving the planning entitlements (ZC09-001, UP09-020, ED09-031, S09-002), which included the current Master Use Permit. The project proposes to replace the previous entitled anaerobic digestion and biomass conversion facilities and replace it with a biomass conversion facility with increased efficiencies and capacity. Approved overall capacity would remain unchanged since the 12,500 TPY from the elimination of the anaerobic digestion facility would be added to the existing 12,500 TPY from the biomass conversion facility. As part of the application, the applicant submitted supplemental air quality data (see Exhibit 4). The air quality analysis demonstrates the projected emissions from the proposed project would remain below CEQA thresholds of significant established by the Bay Area Air Quality Management District (BAAQMD) as summarized in the Table below.

Pollutants	1 MW (Existing)	2 MW (Proposed)	CEQA Thresholds
ROG (Reactive Organic Gases)	3.36 TPY	6.73 TPY	10 TPY
NOx (Nitrogen Oxides)	1.76 TPY	3.53 TPY	10 TPY
PM10 (Pariculate Matter)	1.81 TPY	3.61 TPY	15 TPY

Therefore, pursuant to Section 15162 of the Guidelines of the California Environmental Quality Act (CEQA), planning staff has determined that this application is consistent and within the scope of the impact evaluated in the IS/MND prepared for the 2015 Master Use Permit and no further environmental review is required.

NEIGHBORHOOD MEETING / CORRESPONDENCE

No neighborhood meeting was required for the proposed project since it does not include a request for a General Plan Amendment, Rezoning or any other action requiring the preparation of an Environmental Impact Report (EIR). Notice of hearings for the project have been conducted in accordance with noticing requirements contained in Chapter 29 of the Zoning Ordinance. A Notice of Public Hearing was mailed to all property owners and occupants within a 300-foot radius of the project site, appropriate neighborhood groups (Canal Alliance and the Federation of San Rafael Neighborhoods), and all other interested parties

a minimum of 15 calendar days prior to the date of this hearing. Additionally, notice was posted on the project site, at the terminus of Jacoby St. along the Andersen Dr frontage, a minimum of 15 calendar days prior to the date of the Commission hearing.

As of the writing of this staff report, no public comment has been received.

OPTIONS

The Planning Commission has the following options:

1. Adopt resolution approving the Master Use Permit Amendment as presented (staff recommendation)
2. Adopt resolution approving the Master Use Permit Amendment with certain modifications or additional conditions of approval;
3. Continue the public hearing on the requested Master Use Permit Amendment to all allow the applicant or staff to address any of the Planning Commission's comments or concerns; or
4. Deny the requested Master Use Permit Amendment and direct staff to return with a revised resolution.

EXHIBITS

1. Draft Resolution
Attachment 1: Resolution No. 13976 approving Master Use Permit (UP09-020) with findings and conditions
2. Project Plans, dated April 26, 2021
3. Applicant Statement, dated August 3, 2021
4. Supplemental Air Quality Data, dated August 31, 2021

RESOLUTION NO. _____

**RESOLUTION OF THE CITY OF SAN RAFAEL PLANNING COMMISSION AMENDING THE
MASTER USE PERMIT (PLAN21-005/UP21-024) FOR MARIN SANITARY SERVICE (MSS) TO
REPLACE THE ANAEROBIC DIGESTION FACILITY AND INCREASE THE SIZE OF THE BIOMASS
CONVERSION FACILITY FROM 1.0 MW (MEGAWATT) TO 2.0 MW OF BIOENERGY CAPACITY
LOCATED AT 11050-1070 ANDERSEN DR./535-580 JACOPBY ST.
(APNS: 011-180-75, -76, 80, -81 & -82)**

WHEREAS, on July 20, 2015 City Council approved resolutions 13975 and 13976 adopting a mitigated negative declaration, approving a mitigation monitoring and reporting program (MMRP) and approving an Environmental and Design Review Permit (ED09-031), Master Use Permit (UP09-020), and lot consolidation for Amendment to the Master Plan for the Marin Sanitary Service (MSS) Facility located at 1050 Andersen Drive and 535-565 Jacoby Street; and

WHEREAS, on August 9 2021, MSS submitted zoning application PLAN21-005/UP21-024 to amend the Master Use Permit to allow the replacement of the anerobic digestion facility and increase the size of the biomass conversion facility from one mega-watt to two mega-watts; and

WHEREAS, on August 31, 2021, MSS submitted an air quality analysis that demonstrates that the projected emissions from the proposed project would remain below CEQA thresholds of significance established by the Bay Area Air Quality Management District (BAAQMD); and

WHEREAS, the potential impacts of the proposed project have been reviewed with the requirements of the California Environmental Quality Act (CEQA), and pursuant to Section 15162 of the CEQA Guidelines, the project is consistent and within the scope of the impact evaluated in the IS/MND prepared for the 2015 Master Use Permit (UP09-020) and no further environmental review is required; and

WHEREAS, on April 12, 2022, the San Rafael Planning Commission held a duly noticed public hearing on the proposed Master Use Permit Amendment PLAN21-005/UP21-024, accepting all oral and written public testimony and the written report of the Community Development Department Staff; and

NOW, THEREFORE, BE IT RESOLVED, that the Planning Commission hereby make the following findings related to the applications to amend the prior project approvals (Use Permit Amendment UP21-006 and Environmental and Design Review Permit Amendment ED21-022):

**Use Permit Amendment (PLAN21-005/UP21-024)
Findings**

- A. The Planning Commission exercised its independent judgment and determined that potential impacts of the proposed project have been reviewed with the requirements of the California Environmental Quality Act (CEQA), and pursuant to Section 15162 of the CEQA Guidelines, the project is consistent and within the scope of the impact evaluated in the IS/MND prepared for the 2015 Master Use Permit (UP09-020) and no further environmental review is required.

- B. The proposed amendment to the Master Use Permit is in accord with the General Plan, the objectives of the Zoning Ordinance, the specific purposes of Chapter’s 14.07 (Planned Development District), 14.22 (Use Permits), and 14.27 (Amendments) as follows:

- a. The proposed waste management facility uses are consistent with the underlying General Plan 2040 General Industrial land use designation, which supports the continuation of these existing activities on the site.
 - b. The proposed MSS Master Plan Amendment has been reviewed for consistency with the applicable zoning provisions, which assure that the zoning ordinance general purposes contained in SRMC Section 14.01.030 are satisfied.
 - c. The specific standards of the PD zoning have been satisfied based on the fact that the project has been rezoned to a revised PD by separate ordinance that includes development standards and zoning provisions that implement the underlying General Plan 2040 land use designations.
 - d. The specific purposes of the applicable zoning ordinance provisions have been satisfied based upon the evaluation of the project for consistency with all applicable standards referenced above, including public review of the project entitlements, and by confirmation in staff's report and through the public review process that the site and use regulations, have been considered and adequately addressed.
- C. As conditioned, the project minimizes adverse environmental impacts and will not be detrimental to the public health, safety or welfare, nor materially injurious to properties or improvements in the vicinity given that the project has been reviewed by the appropriate agencies and conditioned accordingly.

**PLAN21-005/UP21-024
Conditions of Approval**

Community Development Department, Planning Division

- 1. This Use Permit approves an amendment to the Master Use Permit for Marin Sanitary Service to remove the anaerobic digestion facility and increase the size of the biomass conversion from 1.0 MW (megawatt) to 2.0 MW of bioenergy capacity.
- 2. This Permit shall become effective on **April 20, 2022**, barring no appeal. This Use Permit Amendment shall run with the land and shall remain valid regardless of any change of ownership of the project site, subject to these conditions, provided that a grading permit or building permit is issued by the City and work commenced or a time extension request is submitted to the City's Community Development Department, Planning Division, within **two (2) years** of the effective date of this approval, or until **April 20, 2024**. Failure to obtain a grading permit or building permit or submit a time extension request by the specified date will result in the expiration of this Use Permit Amendment.
- 3. Except as modified herein, all conditions of approval of Master Use Permit (UP09-020) shall remain in full force and effect.
- 4. The project is subject to all requirements and standards of the Building Division, Public Works and Fire Departments.

The foregoing Resolution was adopted at the regular meeting of the City of San Rafael Planning Commission held on the **12th day of April 2022**.

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The Planning Commission's Action is final unless it is appealed to the City Council within five (5) working days pursuant to San Rafael Municipal Code Section 14.28.030 - Filing and time limit of appeals.

Moved by Commissioner _____ and seconded by Commissioner _____.

AYES: COMMISSIONERS

NOES: COMMISSIONERS

ABSENT: COMMISSIONERS

SAN RAFAEL PLANNING COMMISSION

ATTEST: _____
Leslie Mendez, Secretary

BY: _____
Jon Previtali, Chair

Attachment 1: Resolution No. 13976 approving Master Use Permit (UP09-020) with conditions of approval referenced herein.

RESOLUTION NO. 13976

RESOLUTION OF THE SAN RAFAEL CITY COUNCIL APPROVING AN ENVIRONMENTAL AND DESIGN REVIEW PERMIT (ED09-031), MASTER USE PERMIT (UP09-020), AND LOT CONSOLIDATION FOR AMENDMENT TO THE MARIN SANITARY SERVICE FACILITY MASTER PLAN LOCATED AT 1050 ANDERSEN DRIVE AND 535-565 JACOBY STREET
APN'S: 018-180-72 THROUGH 76

WHEREAS, Marin Sanitary Service (MSS) submitted zoning applications ZC09-001, UP09-020, ED09-031 and S09-002 to amend its current Master Plan in order to address minor changes to its operational use areas, open space lands, and an unpermitted expansion of mini-storage uses on its properties totaling 82.15 acres and located within the PD1580 and I zoning districts; and

WHEREAS, the existing outdoor storage uses on the 2.78 acre Golden Gate Bridge Highway & Transportation District (GGBHTD) lands may continue as interim uses until such time as these uses cease, which is anticipated to occur when SMART commences with the rail right-of-way improvements; and

WHEREAS, on June 23, 2015, the San Rafael Planning Commission held a duly noticed public hearing on the proposed Use Permit, Environmental and Design Review Permit and Lot Consolidation requests (UP09-020, ED09-031 and S09-002), accepting all oral and written public testimony and the written report of the Community Development Department staff.

WHEREAS, at its June 23, 2015 meeting the Planning Commission voted on a 5-1 vote (member Belletto opposed), to recommend that the City Council adopt findings as required pursuant to San Rafael Zoning Code and approve the requested Zoning Entitlements, subject to conditions; and

WHEREAS, by adoption of a separate resolution, the San Rafael Planning Commission has recommended that the City Council amend the 82.15 acre Marin Sanitary Service site from PD1580 and I zoning district to revised PD district; and

WHEREAS, by adoption of a separate resolution, the San Rafael Planning Commission has recommended that the City Council amend the zoning for the 2.78 acre Golden Gate Bridge Highway & Transportation District (GGBHTD) lands located at APN 016-141-03 from PD1580 to P/QP; and

WHEREAS, by adoption of a separate resolution, the City Council has adopted a Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program (MMRP) prepared for the MSS Master Plan Amendment Project as the CEQA environmental document for the project; and

WHEREAS, the City Council, by separate action, has passed an Ordinance approving the Marin Sanitary Service Master Plan Rezoning.

NOW THEREFORE BE IT RESOLVED, the City Council makes the following findings:

Use Permit Findings (UP09-020)

- A. The City Council has exercised its independent judgment and analysis, considered staff's recommendation and comments received during the public review period, and determined on the basis of the whole record before it that the Mitigated Negative Declaration for the project is appropriate and consistent with the provisions of CEQA in that:
- a. The project involves minor text and map amendments to an existing Planned Development District (PD) and minor revisions to use and operations of the existing Marin Sanitary Service municipal waste management facility with negligible change in intensity of use, and
 - b. Removal of unpermitted improvements in open space and work areas of the site has occurred and preservation of existing hillside open space areas and vegetation in the open space Area E is required as a condition of use permit and lot consolidation approval, and
 - c. Mitigation measures have been identified in a mitigation monitoring and reporting program prepared for the project, including future anticipated waste to energy conversion facility equipment, and will be required as conditions of the project approval to mitigate against any potential, though unlikely, environmental consequences that could occur to known biological resources and cultural resources as a result of site grading or tree removal associated with anticipated site work required to upgrade the site fire suppression equipment or similar and other impacts identified that may occur as a result of future potential equipment or improvements, and
 - d. There is no substantial evidence that the project will have a significant effect on the environment.
- B. The use as proposed and conditioned is in accord with the General Plan, the objectives of the Zoning Ordinance, the specific purposes of Chapter's 14.07 (Planned Development District), 14.16 (Site and Use Regulations), 14.18 (Parking Standards), 14.22 (Use Permits) , 14.25 (Design Review), and 14.27 (Amendments) as follows:
- a. The existing and future anticipated waste management facility uses, interim storage uses, and private open space uses are consistent with the underlying General Plan 2020 Conservation and Industrial land use designations which support the continuation of these existing activities on the site.
 - b. The proposed MSS Master Plan Amendment has been reviewed for consistency with the applicable zoning provisions which assure that the zoning ordinance general purposes contained in SRMC Section 14.01.030 are satisfied.
 - c. The specific standards of the PD zoning have been satisfied based on the fact that the project has been rezoned to a revised PD by separate ordinance that includes development standards and zoning provisions that implement the underlying General Plan 2020 Conservation and Industrial land use designations.
 - d. The specific purposes of the applicable zoning ordinance provisions have been satisfied based upon the evaluation of the project for consistency with all applicable standards referenced above, including public review of the project entitlements, and by confirmation in staff's report and through the public review process that the site and use regulations, parking standards, use permit and design review criteria and findings have been considered and adequately addressed.

- C. The use as proposed and conditioned is consistent with the applicable zoning provisions given that the Master Use Permit would comply with the PD district development standards adopted for the site that implement the underlying General Plan 2020 land use designation. Furthermore, the standards adopted for the site are entirely in keeping with the 36-foot maximum height limit, 0.38 maximum industrial floor area and 0.0 maximum open space floor area limitations, reasonable parking requirements, outdoor storage limitations, lot coverage and setback standards, landscaping and related development standards established by the Zoning Ordinance and General Plan 2020 for the site and adjacent developed industrial, commercial and open space areas.
- D. As conditioned, the project minimizes adverse environmental impacts and will not be detrimental to the public health, safety or welfare, nor materially injurious to properties or improvements in the vicinity given that the project has been reviewed by the appropriate agencies and conditioned accordingly.

Environmental and Design Review Permit Findings (ED09-031)

- A. The master design approval is in accord with the General Plan 2020 and the objectives of the Zoning Ordinance as outlined in Use Permit 09-020 Finding B above.
- B. The master design approval is in accord with the purposes of Chapter 14.25 (Design Review) and consistent with all applicable site, architecture and landscaping design criteria and guidelines for the subject PD district in which the site is located as follows:
 - a. The site development complies with the existing and amended PD district criteria and development plan established for concurrent zoning amendment ZC09-001, as further outlined in Use Permit 09-020 Finding C above.
 - b. The project would require enhancement and upgrade of the existing facility through new parking and landscaping improvements and no new construction is currently proposed that would alter the character of the site.
 - c. The design criteria in Chapter 14.25 would be satisfied based on the minimal change proposed and requirement that any further improvements shall be subject to subsequent design review and approval.
 - d. The building and improvements are appropriate for the proposed industrial and open space uses and compatible with surrounding developed commercial and industrial uses in the vicinity.
 - e. No significant work or alterations are proposed within the hillside, wooded open space of Area E.
 - f. Site access and circulation improvements would result in safe and efficient vehicle and emergency vehicle circulation.
 - g. Conditions of approval require ongoing site maintenance.
 - h. Upgrade to existing sites is encouraged in the Canal Neighborhood. There are no specific Canal Neighborhood design criteria that apply to the site.
- C. As conditioned, and discussed in Use Permit UP09-020 Finding A, the project design improvements minimize adverse environmental impacts.

- D. As conditioned, and consistent with the Use Permit UP09-020 Finding D, the project design will not be detrimental to the public health, safety or welfare, nor materially injurious to properties or improvements in the vicinity given that the project has been reviewed by the appropriate agencies and conditioned accordingly.

Lot Consolidation Findings (S09-002)

- A. Pursuant to San Rafael Municipal Code Chapter 15.05, the consolidation of Parcels A through E into one parcel is appropriate and consistent with the City Subdivision Regulations, the State Subdivision Map Act, the property revised PD zoning, and building code requirements given that it is required to address areas of noncompliance with zoning standards, to allow extension of utilities to parcels that are currently land-locked and to assure ongoing maintenance of the property and preservation of the open space portion of the site by the current single property ownership.
- B. As proposed and conditioned, the lot consolidation would not have any adverse environmental impacts or affects to the health, safety or welfare of the general public or surrounding properties, as discussed in Use Permit 09-020 Finding A and D above.

BE IT FURTHER RESOLVED, that the City Council of the City of San Rafael hereby approves the Master Use Permit, Environmental and Design Review Permit and Lot Consolidation applications, subject to the following conditions:

Use Permit Conditions (UP09-020)

Community Development Department, Planning Division

General Conditions

1. This Master Use Permit approval is granted for the continued operation of a waste management facility use on the subject property at 1050 Andersen Drive and 535-565 Jacoby Street, primarily established to provide municipal waste recovery, recycling, reduction, transfer and disposal of municipal waste material, and related services to San Rafael and surrounding communities within Marin County, as specified herein. This approval includes the future inclusion of new activities and technologies such as composting, waste to energy conversion equipment, etc., that are determined by the Community Development Director and local waste facility permitting agency to be consistent with the primary facility purpose to collect, process, manage and reduce municipal waste sent to sanitary landfills.
2. This Master Use Permit approval (UP09-020) shall supersede all prior use permit approvals granted for the approximately 82.15 acre Marin Sanitary Service (MSS) site, and shall apply to all existing and future uses on the property. Any future changes in uses of the site shall be subject to prior review and approval by the Planning Division for compliance with this use permit, the Master Development Plan, and to determine whether any amendment of the Master Use Permit shall be required.
3. The existing outdoor storage uses on the 2.78 acre parcel owned by the Golden Gate Bridge District, APN 018-141-03, may continue as an interim use until such time as SMART begins right-of-way work in the area and precludes crossing of the rail lines (or at such time as notice to vacate is given by the Bridge District).

4. The applicant shall obtain all required permits(s) from local and state agencies as required prior to construction of any additional facility improvements and for ongoing operations of the waste management facility; including but not necessarily limited to, the Marin County Environmental Health, State Waste Resources Control Board, Ca Integrated Waste Management Board, Regional Water Quality Control Board and Bay Area Air Quality Management District.
5. Copies of permits required from the CA Integrated Waste Management shall be provided to City upon request, prior to issuance of permits for construction of facility improvements.
6. All uses of the site shall be consistent with the Planned Development zoning approval ZC09-001, establishing the Master Plan and Zoning Standards for the subject site.
7. The owner shall obtain separate permits for construction and/or establishment of waste management facility uses and site improvements allowed consistent with this master use permit approval. This includes, but is not limited to, any required building permits, grading permits, encroachment permits and / or utility connections.
8. New structures and/or site improvements shall be subject to subsequent design review and approval as required by the Master Development Plan and/or zoning district standards or determined by the Community Development Director. This includes but is not limited to any new grading, new permanent structures for outdoor storage areas, caretaker unit, animal shelters, significant landscape modifications or new parking or lighting improvements.

Permitted Land Uses

9. Marin Sanitary Service (MSS) Waste Management Facility operations shall be permitted within the designated "work areas", Areas A through D as shown on the Master Use Permit Land Use Map (development plan). These work areas are generally located at the base of the property hillside slope, outside of and below the open space Area E, in previously filled and graded site areas. The work areas contain all structures, outdoor yard and materials processing areas, ancillary sales and storage of resource and recovery materials, and interim storage uses permitted as a part of the MSS facility operations.

Area E is a steeply upsloping and wooded portion of the site extending up to San Quentin Ridge and San Rafael corporate boundary to the south that shall be preserved and maintained as private open space.

General uses and activities permitted in the work and open space areas are as follows:

- Area A – Approximately 12.2 acres of MSS property area located at 1050 Andersen Drive, between Andersen Drive and Jacoby Street, containing the majority of the MSS waste management facility buildings (i.e., recycling center, transfer stations, resource recovery, household hazardous waste, metals and wood materials recovery, administrative offices, 72 covered truck parking and loading docks, etc.). The area contains approximately 237,716 square feet in building area and 54,307 square feet of covered parking structures. An educational classroom facility associated with the MSS use has historically been located on the upper floor of the recycling building.
- Area B – Approximately 5.12 acres south of Jacoby Street at the site entrance of Jacoby Street, permitting the following:
 - a) 395 portable container units proposed for public self-storage/contractor storage, as an interim use of the site area which shall be reserved for future operational

activities and uses. Changes in number of containers shall be subject to prior review and approval by the City to confirm compliance with these conditions of approval.

- b) Existing small animal husbandry pen and shelters housing approximately 50 ‘barnyard’ animals (e.g., swine, goats, horses used for stripping yard waste) as interim use of the site area.
 - c) Future MSS facility operations, including but not limited to inert processing, storage, recycling and ancillary sales of materials.
- Area C – Approximately 5.92 acres just east of Area A and Area B, used for inert processing operations including concrete recycling recovery and bulk storage of soil products (including interim retail soils sales use by A&S Landscape Materials), fire wood storage above a gabion wall, and ancillary sales of materials associated with and in support of recovery operations. No existing structures currently.

Area D – Approximately 8.03 acres at the west end of the site, permitting the following:

- a) Inert processing operations including bulk storage and soil recycling.
 - b) 54 portable container units for MSS operations.
 - c) 233 portable container units for public self-storage/contractor storage, as an interim use of the site area which shall be reserved for future operational activities and uses.
 - d) Changes in number of containers on-site shall be subject to prior review and approval by the City to confirm compliance with these conditions of approval.
 - e) 10,200 square foot Resource Recovery and Storage building. Ancillary sales of materials associated with and in support of recovery operations is also a part of operations.
 - f) Future MSS facility operational activities and uses
- Area E – Approximately 50.87 acres shall be preserved as private hillside open space, south of the operational “work” areas A through D. This Area contains paved fire roads, limited grazing, bee and animal keeping, and a 1,886 square foot existing storage shed located just above the 100-foot contour elevation near the common border of Area C and D. The following specific conditions apply to the open space Area E:
 - a) The open space boundary for Area E shall be permanently established to protect and secure the area as private open space, as shown on the approved development plan map that addresses existing encroachments, removal of unpermitted uses and activities, and installation of gates and markers to clearly demarcate the open space boundary.
 - b) The restriction on use of Area E as private open space shall be included in the revised property deed description.
 - c) The approximately 265,000 square feet of concrete paving placed on the fire roads and creating excess paved areas throughout the private open space Area E may be permitted to remain, provided that they shall not be expanded nor used for storage of any materials or containers in a permanent or temporary based manor.
 - d) Removal of concrete paving may be allowed subject to obtaining any required grading permits from the City.
 - e) The paved roadways permitted to remain in the open space area shall be maintained in good repair and condition. This shall include patching cracks, potholes and maintaining drainage controls. A grading permit shall be obtained for removal,

significant repair or replacement of paved roadway material and/or drainage systems.

- f) Limited structures for existing permitted animal keeping operations may be maintained, and may be replaced subject to prior review and approval by the Planning Division.

Implementation of Use & Ongoing

10. All five (5) MSS facility Parcels A through E shall be merged as one legal lot of record, pursuant to concurrent Lot Consolidation Approval S09-002. The lot consolidation deed shall describe the Open Space Area E boundary and limitations on use and access for this area, which shall be maintained as private open space with limited uses and improvements as described in use permit condition 8 above.
11. If the improved portion of Jacoby Street right-of-way (located at the westerly end of the site and within the current access gates) is abandoned and title is transferred to the applicant, this area shall be covered by the master use permit and generally be identified as a part of Area B.
12. The following parking requirements shall apply:
 - a) On-site parking for the use shall be increased from the pre-existing 198 spaces to 228 spaces, as indicated on approved project plans.
 - b) Additional parking for new or expanded buildings shall be required as determined by the Community Development Director based on review of the subject PD zoning standards and Municipal Code regulations.
 - c) Off-street parking spaces for employees and visitors shall be maintained clear of materials and/or storage and available for parking at all times.
 - d) The applicant shall install at least three (3) spaces for alternative fuel vehicles. Further, pre-wiring for electric vehicle charging stations shall be considered.
 - e) New or additional bicycle parking spaces shall be provided at 1050 Andersen Drive (Area A) to bring the bicycle parking up to code for the parking lot expansion. This shall require at least two (2) short-term parking spaces.
13. The following limitations on hours of operations shall apply to the MSS facility use:
 - a) On weekdays, MSS waste management facility shall be permitted to operate from 6:00 AM and close to the public no later than 4:00 PM Monday through Friday, with the following restrictions:
 - i. Signage shall be posted and maintained on the site access gates that states "Gates Close at 4:00 PM".
 - ii. No additional vehicles shall be permitted to enter the facility for waste management services after 4:00 PM.
 - iii. No further vehicle queuing shall be allowed if vehicles cannot be served by the 4:00 PM closing time.
 - b) On Saturday and Sunday the facility operations shall be permitted during normal daytime hours of 6:00 AM to 9:00 PM, and compliance with the City Noise Ordinance.

- c) Use of educational classroom facilities (currently established on the upper floor of the existing recycling facility building on Area A) may be re-opened after 6:30 PM Monday through Friday.

14. The following additional operational restrictions shall apply to the MSS facility use:

- a) On-site disposal or storage of waste material collected by MSS and intended for transfer to a landfill is not permitted.
- b) Open burning of waste material is not proposed, nor permitted.
- c) This use permit approval does not include approval for any off-site work areas.
- d) Perimeter fencing with privacy slat screening shall also be maintained between the site work areas and adjacent developed properties to the north, east and west, as necessary to screen site activities from public view.
- e) Materials, vehicles and containers stored within the approved work areas shall, in general, be kept no higher than twenty feet (20') above the ground surface.
- f) Appliances and other metal parts to be crushed shall have all liquids removed only in accordance with nationally accepted practices and federal, state and local laws and ordinances. All such liquids shall be collected in containers and prevented from entering sewers and storm drains, and disposed of off-site in accordance with state and federal standards for the materials.
- g) Stored (unused) debris containers shall be drained, covered and maintained to prevent retention of rainwater.
- h) Minor expansions and/or alterations of buildings and uses may be allowed to accommodate future waste management needs of the communities served by MSS and which are determined by the Community Development Director to be minor and consistent with the master use permit approval and development plan.
- i) Design review approval shall be required for new structures or improvements, as required by the Municipal Code, and/or as determined by the Community Development Director.
- j) One (1) caretaker unit may be provided on-site, subject to review and approval of the size and location by the Planning Department and issuance of a building permit.

15. The following noise, odor and hazardous materials controls shall apply to the use:

- a) The site activities shall not result in or generate noise levels that would exceed 70 dBA (Ldn) measured at the property exterior boundary lines.
- b) All machinery within buildings and vehicles within yard areas shall be properly maintained and muffled.
- c) MSS shall manage and control potential odors associated with its waste recovery, transfer and handling to assure that undue odors from waste management operations are not detectable off-site. Additional measures shall be required if the site generates future odor issues as a result of facility operations.
- d) Measures to control dust and debris shall be implemented at all times. Public contact with reclaimed water utilized for dust control purposes shall not be allowed.

- e) On-site composting activities shall be governed by state regulatory authorities including Regional Water Quality, Regional Air Quality, and subject to best management practices.
- f) All required local or state toxic waste permits from the Bay Area Air Quality Management District shall be maintained as required for the site. A “risk screen” which analyzes potential toxic emissions for the household hazardous waste collection center shall be prepared/maintained/updated, as required.
- g) Mitigations affecting the generation of odors associated with the facility operations, including within the on-site transfer station and materials recovery building, shall be consistent with mitigations identified in the Report of Station Information (solid waste permit) (submitted for prior UP96-8).
- h) Mitigations affecting the generation of noise associated with the facility operations, including within the on-site transfer station and materials recovery building, shall be consistent with mitigations identified in the Report of Station Information (solid waste permit) (submitted for prior UP96-8). Specifically, employees located within these facilities shall be provided ear plugs.
- i) Mitigations affecting the load checking program for illegal hazardous waste disposal within the on-site transfer station and materials recovery building, shall be consistent with mitigations identified in the Report of Station Information (solid waste permit) (submitted for prior UP96-8).
- j) Construction and daily operations of the facility shall be in accordance with the ‘Proposal to Establish a Household Hazardous Waste Collection Center and Operate a Mobile Satellite Facility’, prepared for the County of Marin (per prior UP96-8).
- k) The following measures have been required to incorporated into the permit and shall be enforced for the duration of the use and future modifications: (1) The hazardous materials collection area shall be covered with a metal roof with bins provided for materials; (2) Each hazardous material shall be stored in separate containers; (3) An employee training plan shall be prepared and implemented; (4) A separate drainage plan for the facility shall be prepared; (5) Appropriate fire extinguishing equipment shall be located on-site; (6) Customers shall remain in vehicles during the removal of the household hazardous waste materials.
- l) Recycling of motor vehicle oil, car batteries, latex paints shall be consistent with the Hazardous Materials Management Plan established for the operations of this facility. (per prior UP96-8)

16. The interim public and contractor storage container use shall be subject to the following conditions:

- a) Approval is granted to retain 628 containers for rent to the general public and/or contractors for personal storage use as an interim use of outdoor yard areas, subject to the payment of traffic mitigation fees for increased trips above the baseline level established by DPW (e.g., 240 existing storage containers as approved in 1992).
- b) An increase in the number of containers to remain on-site for public storage use may be requested, subject to review and approval by the City to confirm compliance with

standards and conditions of approval, which shall not exceed 705 total public and private storage containers.

- c) All containers including any additional storage containers proposed for use by MSS shall be subject to prior review and approval of placement by the City Community Development Department, Fire Department and Public Works Department.
- d) Public storage container use within Area B shall maintain a six-foot (6') high chain-link fence enclosure with privacy slat inserts around the use.
- e) Administrative design review shall be required for modification of container placement.

17. The ancillary animal husbandry area of the project shall be consistent with the following conditions.

- a) Pens shall be cleaned at least once a day to remove animal waste in solid bedding.
- b) Fresh straw/woodchips and/or sawdust "bedding" shall be applied to the area on a weekly or bi-weekly basis.
- c) The "bedding" and other solid waste material shall be deposited in a closed dumpster prior to disposal off-site to prevent flies and pests.
- d) Dumpsters shall be cleaned routinely to prevent fly breeding.
- e) The area shall be swept free of all debris, fecal material and food wastes before washing this area down.
- f) Food shall be adequately stored in an area that is kept clean and is sealed to prevent attraction of rodents.
- g) All activities within the animal husbandry area shall comply with the requirements or recommendations of the Marin Humane Society.

18. Site and building improvements, as well as all new required parking, landscaping, drainage, and associated proposed and required site improvements shall be installed and maintained in compliance with the requirements of concurrent approval ED09-031. This shall include, but not be limited to the following, as indicated on approved project plans and/or required herein:

- a) Install new drainage improvements, stormwater bio-swales and landscape improvements.
- b) Provide improved fire protection for the site (e.g., new 8" fire lines with three new fire hydrants in Area D, new fire hydrants in Area C, one new hydrant in Area B, or as otherwise approved by the Fire Department at time of issuance of required construction/grading permits).
- c) Install separation fencing, gates and/or posts to demarcate the open space boundary Area E from work areas, Area B through D.
- d) Provide signage on access gates into open space Area E identifying that the area is Restricted Private Open Space.
- e) Obtain a building permit and final inspections for the gabion wall constructed in Area C.
- f) Install landscape screening as indicated on approved plans.

- g) Install/maintain lighting for the site as required by project design approvals, ED09-031.
19. Prior to approval of installation of future bio-mass and/or anaerobic digestion equipment on the site, the applicant shall prepare and implement a Fire Safety Plan that outlines fire hazards, describes facility operations procedures to prevent ignition of fires, requires regular inspection of fire suppression systems, and provides worker training in safety procedures as well as protocols for responding to fire incidents. The Fire Safety Plan shall be reviewed and approved by the local fire enforcement agency. (Implement Mitigation Measure HAZ-1).
 20. Project environmental mitigation measures shall be implemented and traffic mitigation fees for the container storage uses shall be paid as identified in the design review conditions ED09-031.
 21. This amended Master Use Permit approval for MSS shall be valid for the duration of the use. However, within sixty (60) days from date of approval the applicant shall pursue all requirements necessary to address existing areas of noncompliance. All work shall then be pursued diligently to completion, in compliance with the approved phasing plan as outlined in ED09-031 conditions of approval.
 22. This Master Use Permit UP09-020 shall run concurrently with Master Design Review permit ED09-031 and Lot consolidation S09-002 approvals.

Environmental and Design Review Permit Conditions (ED09-031)

General Conditions of Approval

Community Development Department, Planning Division

1. The applicant shall submit a \$2,000.00 deposit to the Community Development Department, Planning Division for condition compliance and mitigation monitoring. This deposit shall be used to cover the full cost of staff time required to ensure established deadlines are satisfied, required permits are obtained, required improvements are installed, and environmental mitigation measures are implemented as required herein. This shall include annual monitoring required for the first four (4) years following project approval to confirm ongoing compliance with the MSS Master Plan is maintained. The applicant shall submit a monitoring report to the Community Development Department, Planning Division, by January 1 of each year beginning January 1, 2016, through January 1, 2020. The monitoring shall address Areas A through E to confirm all activities and improvements are being maintained and/or used in compliance with project approvals. This shall include the following components:
 - a. Container storage areas on Area B and Area D quantity and placement remains compliant with approvals.
 - b. Open Space Areas are being maintained free of storage of any equipment or materials, permitted roadways are in good repair and condition.
 - c. Barrier markers, fencing and landscaping are in place and in good condition.
 - d. Staff will conduct site visits as needed to confirm the monitoring report.

- e. Formal monitoring shall be continued after the initial four year period if deemed necessary by the Community Development Director. The schedule may be adjusted to bi-annual, and may be discontinued if good faith compliance has been demonstrated.
2. This Environmental and Design Review Permit approval (ED09-031) shall supersede all prior design permit approvals granted for Marin Sanitary Service (MSS) site. Any alterations or additions shall be subject to prior review and approval by the Planning Division for compliance with this approval and the Master Development Plan.
3. New structures and significant site improvements shall be subject to prior design review and approval by the City Planning Division. Changes to building colors, materials, details and fences, landscaping, lighting and parking lot improvements shall be subject to review by the Planning Division to assure compliance is maintained with the project approvals and City design criteria.
4. No signage is included as a part of this approval. Signage shall be subject to separate review and approval of a sign review permit.
5. All landscaping shall be maintained in a healthy and thriving condition, free of weeds and debris. Dead, dying or diseased plant materials shall be replaced with an equivalent size, type of planting at time of replacement.
6. Building, fencing and site improvements shall be maintained in good repair and condition at all times.
7. The conditions of ED09-031 shall be included in project plan sheets.
8. This Master Design Review Permit Approval (ED09-031) for the MSS facility shall be valid for the duration of the use. However, within sixty 60 days from approval of this MSS Master Plan Amendment project, the applicant shall pursue work to implement the project and address areas of non-compliance, and pursue work diligently to completion within 6 months but not more than 1 year from issuance of permits; including but not limited to construction of walls, parking improvements, container storage, bioswales, drainage, landscaping work and fire access and suppression improvements, and roadway abandonment, in accordance with the following phasing schedule:

The following work shall commence within 60 days of approval

- a. Payment of \$2,000 deposit for condition and mitigation monitoring.
- b. Installation of pipe markers, gates and signs defining the boundary of Area E Open space
- c. Construction of the approved storm drain diverting water from Jacoby Street system.
- d. Submittal of plans for permits for gabion wall review and approval. Pursue work and inspections within 6 months of permit issuance.
- e. Recordation of property consolidation documents.

The following work shall be initiated within 90 days of approval

- f. Submittal of plans for permits for installation of new fire lines on areas A, B, C & D, relocation of water meters and lines on Jacoby Street, and installation of fire sprinklers for Quonset Hut building (on Area D). Pursue work diligently within 6 months of permit issuance and not more than 1 year to completion.

- g. Submittal of plans for permits to complete Jacoby Street hammerhead turn around and Jacoby Street driveway to Area B. Pursue work diligently to completion within 6 months of permit issuance and not more than 1 year to completion.
- h. Initiation of removal and relocation of storage containers on Areas B & D, and pay traffic mitigation fees.
- i. Submittal of civil and landscape plans to City and MMWD for review and approval, and initiate installation of landscaping above the gabion wall. Pursue work to completion within 6 months of approval of final plans.
- j. Obtain permits to pursue concrete demolition work in open space lands.
- k. Submittal of plans for parking lot and landscaping improvements. Pursue work diligently to completion within 6 months and not more than 1 year from approval of permits for construction.

The following work shall be completed within 6 months from approval

- l. Recordation of documents for vacation of Jacoby Street and creation of easements.

Prior to Issuance of Grading and Building Permits/Commencement of Operations

Community Development Department, Building Division

- 9. Commencement of work and payment of fees shall be in accordance with the phasing schedule described in condition 8 above.
- 10. Building permits shall be obtained for placement of new containers, structures, parking improvements and for the gabion wall and retaining walls constructed on the property.
- 11. Designs of the existing walls built without prior permits are subject to engineering peer review.
- 12. Payment of required traffic mitigation fees in the current amount of \$4,246.00 per net new vehicle trip (above 1992 baseline conditions, to address increased trips from new public storage container uses to remain, as determined by the Department of Public Works) shall be required. The current fee payment is required for 154 net new trips, or \$653,884.00; based on the 1992 baseline less reduction for historic trips and containers to be removed. Fee payment shall be made either within 60 days of approval or prior to issuance of permits required for implementation of the project, or pursuant to a payment schedule as otherwise established by the Department of Public Works. (Implement Mitigation Measure TR-1).
- 13. A geotechnical investigation (soils report) shall be submitted for review by the City Building Division (and Public Works, if deemed necessary) prior to issuance of site grading and building permits.
- 14. Site grading activities and operations shall be subject to a statewide NPDES permit, erosion control plan and stormwater pollution prevention program requirements.
- 15. All mechanical equipment (i.e., air conditioning units, meters and transformers) and appurtenances not entirely enclosed within the structure (on side of building or roof) shall be screened from public view. The method used to accomplish the screening shall be indicated on the building plans and approved by the Planning Division prior to issuance of a building permit.

16. Prior to issuance of a building permit, the applicant is to comply with conditions of the Marin Municipal Water District for the landscaping improvements.
17. A building permit shall be obtained for permitted and approved site improvements, including the existing “bulkhead” and “gabion” retaining walls on Area C which have a combined height of approximately 41’ above finished grade, for parking and landscape modifications and for the approved interim container storage uses.
18. Grading, encroachment and other permits shall be obtained as required by the City for new utility improvements, firelines, as well as any grading required for parking, landscaping, driveway or site access modifications.
19. The owner shall comply with the requirements of the City and utility service providers for abandonment and vacation of a portion of improved and unimproved Jacoby Street right of way that extends past an existing access gate into the site.
20. The revised MSS facility project improvements require a pipeline extension agreement with Marin Municipal Water District (MMWD) for installation of infrastructure facilities and water service connection to new fire hydrants, and new water hookups and utility easements associated with abandonment of a portion of the improved Jacoby Street right of way.
21. The project landscaping plan shall be submitted to MMWD to assure compliance with the Water-Efficient Landscape Ordinance, adopted by the City of San Rafael by reference in its zoning regulations Chapter 14.16.
22. Plans submitted for building permit shall show site and parking modifications necessary to be compliant with ADA requirements; including provision of accessible container storage units in Area B and Area D.
23. Building techniques, materials, elevations, landscaping, site improvements and appearance of this project as presented for approval by the Planning Commission on updated plans date stamped approved July 20, 2015 and as conditioned herein, shall be the same as required for the issuance of permits required for construction and improvements proposed or required herein. Any future additions, expansions, remodeling, etc., shall be subject to the review and approval of the Community Development Director.

Public Works Department

24. A grading permit shall be obtained for proposed and required site work including but not limited to landscaping, parking lot improvements, pavement replacement or removal, installation of bio-swales, storm drainage improvements, utilities and fire lines.
25. The applicant shall submit documents and a \$4,000.00 deposit to the Department of Public Works for processing of the vacation of Jacoby Street right-of-way that extends through the site. Provide a plat, description and closure calculations for the vacation of roadway on site, and a written justification which delineates a public benefit for vacation of this roadway.
26. Bio-swale and storm drain improvements shall be implemented as indicated on approved project plans date stamp approved July 20, 2015, in compliance with the timelines established in this updated and amended master plan approval (permitting revisions to MSS facility work areas and expansion of storage container uses on the site).
27. An engineered site plan showing all existing and proposed site conditions shall be submitted with the application for a building permit.

28. A level B soils report shall be submitted with an application for building permits for new construction.
29. Work in the public right of way shall be approved by the Department of Public Works.
30. Site grading shall conform with standard grading permit requirements relating to erosion and dust control including submission and approval of the following: (1) An engineered site plan which shows all existing and proposed site conditions; and (2) A siltation and erosion control plan which includes a proposal for replanting and maintenance of graded slopes.
31. All grading activities shall be subject to issuance of a grading permit by the Department of Public Works and will be subject to statewide general construction activity NPDES permit issued by the Ca Regional Water Quality Control Board prior to issuance of grading permits. A stormwater pollution prevention plan shall also be prepared and submitted.
32. A drainage plan shall be submitted and approved prior to issuance of construction or grading permits.
33. The stormwater runoff plan will be subject to a statewide general construction activity NPDES permit, issued by the CA Regional Water Quality Control Board. This permit will require elimination of all non-stormwater discharges; development of a stormwater pollution prevention plan for erosion, runoff and materials disposal; and development of an ongoing monitoring plan. The stormwater pollution plan shall incorporate the following information: (1) The areas utilized for composting activities shall be bermed or otherwise managed to prevent pollution to the stormwater system and entry into the San Francisco Bay; (2) The animal husbandry yard area shall be managed in accordance with the CA Code of Regulations, Title 23, Chapter 15, Article 6 (Confined Animal Facilities) (or current regulations) to prevent pollution of stormwater with animal waste; (3) The household hazardous waste facility shall be constructed so that there is no potential contamination of sewer or stormwater systems in the event of a hazardous materials spill. The area shall be self-contained with no drainage to the sanitary or storm sewers. Site mitigation for potential hazardous waste spills will need to include a spill contingency plan, proper chemical storage and employee training plan; (4) Vehicle maintenance or wash areas shall not drain to the storm sewers. Any such discharges shall be recycled or plumbed to go to the sanitary sewer. Potential drainage from wash waters or rain water that traverses the transfer station or resource recovery center shall also be contained and prevented from entering the stormwater system. This permit shall be obtained prior to site grading or construction permits.
34. Final plans shall show parking space and aisles that meet minimum size dimensions of the municipal code, which requires a 9' x 19' standard space dimension. Further, all spaces must be located on the MSS private property.
35. The applicant shall provide traffic mitigation fee for additional trips generated by the increased storage container and use of the site (above established 1992 baseline condition); i.e., current fee of \$4,246.00 per trip for up to 234 trips (162 AM and 72 PM), minus credits that will be granted for containers that are required to be removed. Payment shall be calculated by the applicant and submitted to the Department of Public Works for review based on the final net new containers to remain. The payment shall be made at time of issuance of building or grading permit(s) for site work, but not less than six (6) months from date of zoning approval for the continued use; as required by the Department of Public Works.

36. Provide an accessible parking plan for storage containers, with compliant grades. Provide sections in the subject areas showing that containers are accessible.
37. Final plans shall be revised to remove any drive aisle obstructions.
38. Provide a minimum 26-foot aisle width as necessary for back-up dimension from parking 90-degree or angled spaces. All other aisle widths shall be as specified by Fire Department, and by Public Works or Community Development in accordance with Municipal Code Chapter 14.18.
39. Provide details for new driveway entrance to ministorage area which is shown as proposed across the drainage ditch and provide a driveway profile, for review and approval.
40. Final plans shall be provided clearly identifying container removal and final container placement.
41. Provide information on systems in place, or proposed or required to manage effluent from the animal husbandry area and the American Soil Product (and outdoor work areas) to control contaminants and prevent them from entering public storm drain systems and the San Francisco Bay. Plans that show the permanent filtration systems on the site are required. Additional filtration system(s) may be required for these areas as well as other areas of the site.
42. Include the standard City plan sheet "Pollution Prevention – It's Part of the Plan" in all construction documents. The applicant shall install all erosion control measures prior to any construction.
43. If existing access road paving is removed, revegetation shall be required with native seed or planting and shall be shown on final plans. A restoration detail shall be provided for any areas that are disturbed and that are proposed or required to be restored. Modify the legend and details for final plans as appropriate.

Fire Department

44. Fire line and fire hydrant improvements shall be implemented for the project as indicated on approved project plans dated stamp approved July 20, 2015, in compliance with the timelines established in this updated and amended master plan approval (permitting revisions to MSS facility work areas and expansion of storage container uses on the site). Permits for installation of the new lines and hydrants shall be pursued within the first (1st) year from date of project approval, and installation completed within two (2) years from date of approval.
45. The design and construction of all site alterations shall comply with the 2013 California Fire Code, as adopted and amended by the City of San Rafael Municipal Code.
46. Plans for final parking lot and access designs, and placement of container storage shall be submitted to the Fire Department for review and approval to review and approve final fire apparatus access and water supply improvements required to serve the premises, as proposed. Fire lane and access improvements shall be initiated within sixty (60) days of project approval and completed within a timely manner, as directed by the Fire Marshall.
47. An automatic fire sprinkler system for the Quonset hut approved under prior ED98-130 (identified as the Museum Building) was required as a condition of approval. The Fire Permit previously issued for installation of water tanks, fireline underground, fire hydrant and automatic sprinkler system that were approved and required but not installed for this building shall be addressed as a condition of this master plan amendment. Permits shall be pursued within sixty (60) days of project approval and all work pursued diligently to completion.

48. Final plan revisions for construction shall address the MMWD requirement for installation of a water meter and backflow preventer at the property line.
49. Marin Sanitary Service shall maintain an adequate water supply and fire suppression system throughout the life of the Resource Recovery Facility.

Police Department

50. All exterior lighting shall be to the satisfaction of the Police Department.
51. All lighting shall be on a master photo electric cell.

Marin Municipal Water District

52. Lot consolidation is required in order to extend water service to the currently landlocked parcels.
53. As a result of the proposed abandonment and vacation of a portion of the Jacoby Street right-of-way by the City of San Rafael, the District intends to abandon all water facilities outside of the public right of way. Based on information provided the facilities to be abandoned include two currently public hydrants HY-06169 and HY-06857. A service will be required to be installed at the new terminus of the water main within the Jacoby Street right-of-way. All costs associated with the service installation and property quitclaim shall be borne by the applicant (MSS).
54. Compliance with all indoor and outdoor requirements of District Code Title 13 – Water Conservation, is a condition of water service. Indoor plumbing fixtures must meet specific efficiency requirements.
55. Landscape plans shall be submitted and reviewed by MMWD to confirm compliance prior to issuance of permits by the City of San Rafael. The Code requires a landscape plan, irrigation plan and grading plan. Contact the Water Conservation Department for more information at (415) 945-1497 and/or online at www.marinwater.org.
56. Should backflow protection be required, said protection shall be installed as a condition of water service. Contact the Backflow Prevention Coordinator for more information at (415) 945-1559.

During Construction

57. Construction activities shall comply with City's Noise Ordinance.
58. If, during the course of construction, cultural, archaeological or paleontological resources are uncovered at the site (surface or subsurface resources) work shall be halted immediately within 50 meters (150 feet) of the find until it can be evaluated by a qualified professional archaeologist. The City of San Rafael Planning Division and a qualified archaeologist (i.e., an archaeologist registered with the Society of Professional Archaeologists) shall be immediately contacted by the responsible individual present on-site. When contacted, the project planner and the archaeologist shall immediately visit the site to determine the extent of the resources and to develop proper mitigation measures required for the discovery.
59. Parking supply for the use shall be provided as indicated on plans to increase on-site parking from 198 spaces to 228 spaces, as follows:
 - Area A – 177 spaces (increase from 158 spaces)
 - Area B – 21 spaces (increase from 15 spaces)
 - Area C – 18 spaces (no change)

Area D – 12 spaces (increase from 7 spaces)

Area E – No permanent parking spaces are proposed, required or permitted

60. New parking spaces shall comply with San Rafael Municipal Code Chapter 14.18 Parking Standards dimensions; i.e., meeting 'compact' parking and standard dimensions (8' x 16' compact and 9' x 19' standard) and maintain minimum required 20' drive aisle width and 26' backup space dimensions.
61. Fencing and barriers shall be installed as indicated on approved plans. This includes provision of separation fencing, gates and posts to demarcate the open space Area E boundary. Storage areas on Area B shall also be maintained within a six foot (6') high chain-link fenced yard with privacy slat inserts. Perimeter fencing shall also be maintained between the site and adjacent properties in good repair and condition. Privacy slats shall be installed and maintained as needed to screen outdoor operational use areas from public view or adjacent parking lots.
62. Landscape and grading improvements shall be implemented as shown on approved landscape plans, specifically as proposed and required to screen storage above Area C and restore the natural vegetated appearance of the adjacent hillside setting. Revegetated areas adjacent to the hillside open space Area E shall consist primarily of native trees and shrubs, planted in a random pattern, drip-irrigated and staked, where necessary.
63. Engineered bioswales covered predominantly with native grasses shall be provided to meet Storm Water Pollution Prevention Program (SWPPP) requirements, as indicated on approved project plans.
64. New drainage improvements along the main access road at the terminus of Jacoby Street shall be installed as indicated on approved plans.
65. Erosion control practices shall be implemented as indicated on approved plans.
66. The project mitigation measures required for the amendment to the MSS facility, including expansion of the interim public storage uses, legalization of improvements in former open space areas, providing fire suppression and landscaping improvement enhancements, etc. shall be implemented in accordance with the project mitigation measures, as follows:
 - a. Implement Mitigation AIR-1. During active construction, the applicant shall require construction contractors to implement all the BAAQMD's Basic Construction Mitigation Measures, listed below:
 - i. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day, or more often if needed to control fugitive dust.
 - ii. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
 - iii. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
 - iv. All vehicle speeds on unpaved roads shall be limited to 15 mph.
 - v. All roadways, driveways, and sidewalks to be paved shall be completed as

soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

- vi. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
 - vii. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
 - viii. Post a publicly visible sign with the applicant's telephone number and person to contact regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.
- b. Implement Mitigation Measure AIR-2. The applicant shall develop and comply with an Odor Impact Minimization Plan (OIMP) pursuant to the requirements of the California Code of Regulations, Title 14, Division 7, Chapter 3.1, Article 3, Section 17863.4. Once complete, the OIMP shall be submitted to the LEA for a 30-day period for review and comment.
 - c. Implement Mitigation Measure BR-1. Any tree removal or trimming work shall take place between September 1st and October 31st, which falls outside the breeding bird window and avoids both the maternity and hibernation period for bats. Tree removal can take place during this period without a breeding bird or bat roost survey. This does not include removing fallen trees, which can be removed at any time.
 - d. Implement Mitigation Measure BR-2. If brush clearing or ground disturbance is required within the Study Area, these activities shall be conducted outside of the breeding bird season which begins February 1st and lasts through August 31st. The exception is for clearing weedy brush, such as French broom, that overhangs existing fire roads. Brush may be removed to the outer extent of the road at any time of the year without pre-construction surveys, if the road is regularly disturbed by active traffic. Removal of brush outside the outer edge of the road or on roads not regularly disturbed by active traffic should have pre-construction surveys.
 - e. Implement Mitigation Measure BR-3. In the event that initial ground disturbance, vegetation removal or construction cannot be scheduled outside the breeding bird season (February through August), a wildlife biologist shall conduct a breeding bird survey at least fourteen (14) days prior to the onset of the activity to determine if nesting birds are present. In the event that nesting birds are identified to be present, further mitigation may be required as recommended by the biologist, including establishing buffers no less than fifty (50) feet from active nest until young birds have fledged the nest. Larger buffers may be required for nesting birds of prey or special status species. The consulting biologist will provide a specific buffer based on agency guidelines, which species has been identified as nesting within the area and the presence of natural visual and auditory buffers (such as large stands of trees or hillsides).

- f. Implement Mitigation Measure BR-4. If ground disturbance or tree removal occur during the bat roosting season (November 1st through August 31st), potential bat roosts shall be inspected for the presence of bats prior to the start of work. Potential bat roosts include cavities in trees, exfoliating bark, snags, and cracks in large rocks. If a maternity roost is detected, up to a two-hundred (200) foot buffer shall be placed around the maternity site, and once the roost is clear for removal, a replacement structure such as a 'bat box' should be created within the vicinity, as recommended by the wildlife biologist. In the event that bats are detected using a non-maternity roost site, one possible mitigation measure would be the placement of exclusion devices to potential entrance and exit hole after dusk once the bats have left the roost to forage.
- g. Implement Mitigation Measure CR-1. To mitigate potential damage to any recorded cultural resource during grading, excavation or soil disturbance activities in the vicinity of any recorded cultural resource, including activities to remove concrete improvements to the existing fire road network, archaeological investigation should be undertaken to determine the exact boundary of the remaining deposit, the condition of the remaining deposit and the potential for significance of the archaeological site. A Native American monitor should also be present. The procedures to follow for archaeological and Native American monitoring of a cultural resource site are presented in Cultural Resources mitigation measures CR-2 and CR-3.
- h. Implement Mitigation Measure CR-2. To mitigate potential damage to any recorded cultural resource during grading, excavation or soil disturbance activities in the vicinity of any recorded cultural resource, archaeological monitoring shall occur, based on the following procedures:
 - i. Monitoring will consist of directly watching the major excavation process. Monitoring will occur during the entire work day and will continue on a daily basis until the depth of excavation has been reached at which the cultural resource no longer is present. This depth is estimated as usually five feet (5') below existing grade but may require modification as determined by the monitoring archaeologist and the observed soil conditions.
 - ii. Spot checks will consist of partial monitoring the progress of excavation over the course of the project. Monitoring all spoils materials, open excavation, recently grubbed areas, and other soil disturbances will be inspected. The frequency and duration of spot checks will be based on the relative sensitivity of the exposed soils and active work areas. The monitoring archaeologist shall determine the relative sensitivity of the cultural resource site.
 - iii. If prehistoric human interments (human burials) are encountered within the native soils of the cultural resource site, all work shall be halted in the immediate vicinity of the find. The County Coroner, project superintendent, and the project planner (or a representative of the Lead Agency, City of San Rafael Community Development Department, Planning Division) shall be contacted immediately. The procedures to be followed at this point are prescribed by law.
 - iv. If significant cultural deposits other than human burials are encountered, the project shall be modified to allow the artifacts or features to be left in place, or the archaeological consultant shall undertake the recovery of the deposit or feature. Significant cultural deposits are defined as archaeological artifacts or

features that associate with the prehistoric period, the historic era Mission and Pueblo Periods and the American era up to 1900.

- v. Whenever the monitoring archaeologist determines that potentially significant remains or human burials have been encountered, the piece of equipment that encounters the suspected deposit will be stopped, and the excavation inspected by the monitoring archaeologist. If the suspected remains prove to be non-significant or non-cultural in origin, work shall recommence immediately. If the suspected remains prove to be part of a significant deposit, all work shall be halted in that location until removal has been completed. If human remains are found, the County Coroner (or designated representative) shall be contacted to evaluate the discovered remains and implement proper contacts with pertinent Native American representatives through the Native American Heritage Commission (NAHC).
 - vi. Equipment stoppages shall only involve those pieces of equipment that have actually encountered significant or potentially significant deposits, and should not be construed to mean a stoppage of all equipment on the site unless the cultural resource deposit covers the entire site.
 - vii. During temporary equipment stoppages brought about to examine suspected remains, the monitoring archaeologist shall accomplish the necessary tasks in due speed.
- i. Implement Mitigation Measure CR-3. To mitigate potential damage to any recorded cultural resource during grading, excavation or soil disturbance activities in the vicinity of any recorded cultural resource, Native American monitoring shall occur whenever archaeological monitoring is required or whenever prehistoric Native American cultural deposits are encountered or discovered. As recommended by the Native American Heritage Commission (NAHC), the Native American monitoring consultant shall have the following knowledge and abilities:
- i. Knowledge of local historic and prehistoric Native American village sites, culture, religion, ceremony and burial practices.
 - ii. Knowledge and understanding of California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097.9 et al.
 - iii. Ability to effectively communicate the meaning of Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.9 et al. to Marin Sanitary Services (MSS) representatives, including property owners, site managers, contractors and subcontractors, Native Americans, City of San Rafael Planning staff, and archaeological monitoring representatives.
 - iv. Ability to work well with local law enforcement officials and the NAHC to ensure the return of all associated grave goods taken from a Native American grave during grading, excavation or soil disturbance activities.
 - v. Ability to travel to known cultural resource sites within the traditional tribal territory.

- vi. Knowledge and understanding of California Environmental Quality Act (CEQA) Guidelines, Section 15064.5 and Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended.
- vii. Ability to advocate for the preservation in place of Native American cultural features through knowledge and understanding of CEQA mitigation measures, as stated in CEQA Guidelines Section 15126.4(b)(A)(B), and through knowledge and understanding of Section 106 of the NHPA.
- viii. Ability to read topographic maps and be able to locate known cultural resource sites and reburial locations for future inclusion in the NAHC Sacred Lands Inventory.
- ix. Knowledge and understanding of archaeological practices, including the phases of archaeological investigation.

The Native American monitoring consultant is required to:

- x. Ensure the presence of a Native American monitor during all earth disturbing activities in the vicinity of any recorded cultural resource or whenever prehistoric Native American cultural deposits are encountered or discovered.
- xi. Communicate orally and in writing with the archaeological monitoring consultant, City of San Rafael Planning staff, representatives for MSS representatives, including property owners, site managers, contractors and subcontractors, and any Native American organizations. The Native American monitoring consultant will be responsible for communicating any observations or recommendations to any Native American organizations, neighborhood groups, or individuals that have contacted the City of San Rafael to request listing. The contact list will be supplied to the Native American monitor.
- xii. Maintain a daily log of activities and file a report with the MSS representatives on each day that a Native American monitor is present.
- xiii. Prepare progress reports on any 'findings' and summarize the observations and recommendations made in the daily reports (i.e., human remains, associated grave goods, non-human bone fragments, beads, arrow points, and other artifacts). The progress reports will be submitted monthly or at the completion of all approved earth disturbing activities.
- xiv. Prepare a final written report at the completion of all approved earth disturbing activities, summarizing the observations and recommendations of the daily and monthly reports and making recommendations for future activities and procedures on the MSS site, as appropriate. The final report should describe the monitoring process, the discovery any Native American human remains and associated grave goods, and their final disposition. This report shall contain, at a minimum, the following information for each discovery of human remains and associated grave goods:
 1. Date of each find.
 2. Description of remains and associated grave goods.

3. Date of reburial, and the geographical location of reburial, including traditional site name if known.
- xv. The final report shall include a discussion of mitigation measures taken to preserve or protect Native American cultural features and shall be submitted to the archaeological monitoring consultant, MSS representatives, the City of San Rafael Planning staff, and the NAHC at the completion of all approved earth disturbing activities. Information from the report may be included in the NAHC Sacred Lands Inventory.
- xvi. Demonstrate the ability to identify archaeological deposits and potential areas of impact.
- xvii. Work with the Most Likely Descendant (MLD) if human remains are encountered. A MLD will be chosen by the NAHC if human remains are encountered. There is no guarantee that the Native American monitoring consultant will be named as the MLD. The chosen Native American monitoring consultant must be able to communicate with the MLD effectively, and to aid in carrying out any procedures or tasks undertaken or recommended by the MLD.
- j. Implement Mitigation Measure CR-4. In the absence of specific recommendations made by the archaeological monitoring consultant, the following general procedures shall be implemented during the finding of an artifact (i.e., any item or object over fifty years of age):
 - i. All contractors and subcontractors shall be required to inform all of their employees that no artifacts are to be removed from the area of the 'find' except through authorized procedures.
 - ii. Any artifacts found at or near a recorded cultural resource are to be turned over to, or brought to the immediate attention of, the archaeological monitoring consultant. In the absence of the archaeological monitoring consultant, the artifact shall be delivered to the Native American monitoring consultant, MSS representatives (i.e., property owners, site managers, contractor and subcontractor supervisors) or the City of San Rafael Planning staff.
 - iii. Whenever any artifact is found or reported, a tag should be included that indicates the following information:
 - iv. The identity of the finder and the date of discovery
 - v. The identity of the responsible individual to whom the artifact is given
 - vi. A description of the location where the artifact was found, the approximate distance and direction to the nearest measuring point, identification point on the project plans, or other reliable, accurate method of locating.
 - vii. A description of the artifact that will allow it to be identified if the tag and the artifact are separated.
 - viii. The artifact, if portable, should be transported to a safe location where it can be kept until it can be inspected by the archaeological monitoring consultant.
- k. Implement Mitigation Measure CR-5. In the event of the accidental discovery of historical or unique archaeological resources accidentally discovered during

construction or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

- i. In the event of accidental discovery of potential resources an immediate evaluation of the find shall be conducted by a qualified archaeologist. If the find is determined to be an historical or unique archaeological resource, contingency funding and a time allotment sufficient to allow for implementation of avoidance measures or appropriate mitigation should be available. Work could continue on other parts of the building site while historical or unique archaeological resource mitigation takes place.
- ii. In the event of discovery of human remains, the coroner of the county in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required. If the coroner determines the remains to be Native American:
 1. The coroner shall contact the Native American Heritage Commission within 24 hours.
 2. The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American.
 3. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98, or
 4. Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.
 - a. The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission.
 - b. The descendant identified fails to make a recommendation; or
 - c. The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.

Lot Consolidation Conditions (S09-002)

1. Marin Sanitary Service Parcels A through E shall be consolidated into one parcel. All necessary documents for consolidation of the lots, provision of easements and abandonment of

rights-of-way located within the property shall be submitted for review and recorded in a timely manner.

2. The applicant shall provide a plat map, description, deeds and closure calculations for the lot line adjustment for review by the Department of Public Works and Planning Division.
3. The recorded deed consolidating parcels A through E (aka 1050 Andersen Drive and 535-565 Jacoby Street; APN's 018-180-72, -73, -74, -75 & -76) shall include a restriction on use of the Open Space Area E (aka, Parcel E; APN 018-180-76), as private open space.
4. The final plat documents required to merge the properties into a single parcel shall be submitted by the applicant to the City of San Rafael for review within 60 days of approval, and executed by recordation with the Marin County Recorder generally within 6 months. Lot consolidation approvals are valid for a maximum period of two (2) years from date of approval.

I, ESTHER C. BEIRNE, Clerk of the City of San Rafael, hereby certify that the foregoing resolution was duly and regularly introduced and adopted at a regular meeting of the Council of said City on the 20th day of July, 2015, by the following vote, to wit:

AYES: Councilmembers: Bushey, Colin, McCullough & Mayor Phillips

NOES: Councilmember: None

ABSENT: Councilmembers: Gamblin



ESTHER C. BEIRNE, City Clerk



PLAN21-005 - Exhibit 2
 PC April 12, 2022

REVISIONS	DATE	ISSUE FOR

AR
 PROCESS SOLUTIONS

PROJECT DEVELOPED BY
AR PROCESS SOLUTIONS, LLC

PO Box 478
 San Rafael, CA 94901
 Contact Info: Mike Ferguson
 415-458-5732
 m.ferguson@arprocess.com



Marin Sanitary Service
 CONSULTING - DESIGN - CONSTRUCTION

MARIN SANITARY ELECTRIC COMPANY
 NEW GASIFICATION PLANT
 565 JACOBY STREET
 SAN RAFAEL, CALIFORNIA 94901

PRELIMINARY
 NOT FOR
 CONSTRUCTION
 OR PERMIT

DATE PLOTTED	DATE PRINTED
MSSC-20	04-29-21
SCALE	1" = 30'

SHEET NAME
 SITE 1 - 30
 LAYOUT
 SHEET NUMBER
C1.2

SITE 2 LAYOUT
 SCALE: 1" = 30'-0"

4/26/2021 7:15:08 PM



HHW FACILITY
METALS & WOOD
RECOVERY CANOPY

COVERED TRUCK PARKING
20 SPACES

SITE PLAN

REVISIONS	
DATE	REVISION

AR
PROCESS SOLUTIONS

PROJECT DESIGNED BY
AR PROCESS SOLUTIONS, LLC

PO Box 476
Biloxi, MS 39513
Contact: Bill Wray (Phone)
414-336-2233
bill@arprocessolutions.com



Marin Sanitary Service
CONSULTING, DESIGN, CONSTRUCTION, O&M

MARIN SANITARY ELECTRIC COMPANY
NEW GASIFICATION PLANT
565 JACOBY STREET
SAN RAFAEL, CALIFORNIA 94901

PRELIMINARY
NOT FOR
CONSTRUCTION
OR PERMIT

DATE	BY	APP'D

SHEET NAME
SITE I - 20
LAYOUT

SHEET NUMBER
C1.1

4/26/2021 7:14:59 PM

SITE I LAYOUT
SCALE: 1" = 20'-0"



DATE: August 3, 2021

TO: City of San Rafael

FROM: Evan Edgar, Consultant Engineer for Marin Sanitary Service

SUBJECT: Use Permit Modification to increase biomass conversion facility to 2 MW and remove the anaerobic digestion facility

Project Name: Marin Sanitary Services Facility (MSS) Master Use Permit, Development Plan and Zoning Amendments

Location: Marin Sanitary Services Facility (MSS) is located on Andersen Drive and at the terminus of Jacoby Street (1050 Andersen Drive and 535-565 Jacoby Street), San Rafael, Marin County, California, APNs: 018-180-72, -73, -74, -75 & -76. A separate vacant parcel leased by MSS and owned by the Golden Gate Bridge District is located west of the MSS site, south of Jacoby Street and separated from Jacoby Street by SMART rail right of way, at APN 018-141-03.

Property Description: Due to technology improvements and policy changes, MSS proposes to remove the anaerobic digestion facility designed for 12,500 tons per year (TPY) of food waste and green waste and replace that with an increase in size of biomass conversion facility from 1.0 mega-watt (MW) to 2.0 MW, which would need an additional need 12,500 TPY of wood chips. The anaerobic digestion facility at just 12,500 TPY was deemed a demonstration project which is no longer economically feasible at that scale. Likewise, the biomass conversion facility is not economically feasible at just 1 MW, and an increase to 2 MW, is right sized for community scale. A total of 25,000 TPY of wood chips are available today and being hauled to central Valley location for bioenergy. Plus, new tons from the Measure C fire mitigation program and SB 1383 (75% diversion of all organics from landfills by 2025), would ensure adequate flow of material.

The MSS project site is comprised of five (5) adjoining parcels located at the end of Jacoby Street with approximately 82.15 acres in total area. The five parcels were established through prior review and action by the Planning Division in 1995, at which time the Planning Division approved several lot line adjustments to consolidate MSS buildings and facility operations and designate the upper portion of the site as private hillside open space area. Four (4) parcels are developed and used for MSS operations (Parcels A – D). These parcels are relatively level and comprise 31.28 acres. The fifth parcel (Parcel E) is a densely forested, 50.87-acre, hillside site with an average cross-slope of 39%. The upper slopes of the site include a visually significant ridgeline, San Quentin Ridge, which also provides a boundary line for the San Rafael corporate limits with the City of Larkspur. MSS also leases a separate 2.78-acre parcel to the west from Golden Gate Bridge Highway and Transportation District. This property is undeveloped, subleased for storage uses, and located across SMART rail right-of-way with access from Jacoby Street.

Marin Sanitary Service (MSS) has been providing municipal solid waste collection and recycling services to the Marin community since 1948, currently serving over 33,000 residential and commercial accounts in nine communities within Marin County. MSS provides residential and commercial trash pick-up, operates a transfer station, recycling center, nonhazardous materials resource center, household hazardous waste collection program, debris box rental, concrete and soil recovery, wood recovery, commercial food waste collection program, and green waste composting operations. The MSS facility land use currently is permitted under Master Use Permit UP96-8 issued by the City of San Rafael (amending prior UP92-7) and a Planned Development (PD1580) zoning district. MSS waste management facility operations are also subject to strict County and State regulations and permitting requirements, including those enforced by the California Integrated Waste Management Board.

The most recent master use permit (ZC09-001, UP09-020, ED09-031 and S09-002) adopted in 2015, consolidated 12 individual use permits that had been issued by the City for the facility operations over the years. The main buildings associated with MSS operations are located on Parcel A, with additional operational activities and functions located on Parcels B through D. Parcel B is primarily used for an interim public self-storage use, comprised of metal storage containers (operated as San Rafael Storage). A small ancillary animal keeping/husbandry area housing swine is also located in on parcel B. MSS public storage containers have also been located on Parcel D. The City has currently only permitted up to 240 public storage containers on Parcel B. This was expanded by MSS from 1997 to 2005 with approximately 752 containers placed on-site for personal storage, contractor storage and MSS storage uses. A resource recovery and storage shed also has been permitted on Parcel D, which is also used for MSS operations activities. An interim soils product sales use has been established on Parcel C (operated by American Soils Products) that complements composting recovery operations. Finally, wood storage has been established in various outdoor site locations to complement recovery operations.

The 2015 master use permit amendment also recognized the ongoing goals and need for MSS to address existing and future waste reduction and resource recovery mandates and keep pace with industry innovation and technology, which has been reflected in food waste diversion practices, change in onsite processing of waste streams as well as curbside collection methods. As part of MSS ongoing recovery and waste diversion efforts, MSS has realized a dramatic shift in the industry from waste hauling to conversion of waste to energy (e.g., through Biomass Conversion and Anaerobic Digestion technologies). MSS recently partnered with Central Marin Sanitation District to collect and deliver food waste to CMSD which convert this material to energy on the CMSD site (which converted existing facility structures to food digesters that produces methane which powers an on-site generator). MSS is also actively pursuing the ability in the near future to divert and reduce waste sent to landfills by converting wood chips to energy on-site within the existing permitted waste management facility areas using new technologies (e.g., Biomass Conversion); that would be regulated by the Bay Area Air Quality Management District (BAAQMD) and will be part of the current CalRecycle and County Health permits. A self-contained anaerobic digestion unit to make renewable power from bio-methane generated from food and green waste will likely be installed in the near future, which could supply up to 2.1million kwh power per year to meet the entire facility energy demand or up to 160,000 of gallons equivalents of renewable natural gas to fuel a fleet of 16 heavy-duty vehicles. The hours of operations of the Transfer Station and the proposed anaerobic digestion facility will be harmonized to allow 24 hours activity to occur among the inter-related technologies to allow the handling of organic feedstocks within the Transfer Station. The hours of operations of MRRC and the proposed biomass conversion facility will also be harmonized to allow 24 hours activity to allow the handling of wood chips to the biomass conversion facility.

Physical changes that would occur as a result of the amendment and update to the MSS waste management facility site and operations would include, a) adding an anaerobic digestion facility of up to 12,500 tons per year of food waste and green waste within the footprint of MSS Transfer Station or as a stand-alone facility in Parcel C, (b) adding a 1 mega-watt wood chip biomass conversion facility as a stand-alone facility in

Parcel D. Current entitlements include the following facilities with flexibility where to locate these facilities.

This Use Permit Modification plans to increase biomass conversion facility to 2 MW and remove the anaerobic digestion facility.

Anaerobic Digestion Facility for food waste and green waste

A self-contained anaerobic digestion facility generates renewable power from bio-methane (also known as “biogas”) from the digestion of food waste and green waste will be installed in the near future within the existing MSS Transfer Station area or as a stand-alone unit, or on Parcel C that would include 8,500 square feet on new structures. Food waste and green waste may be sourced from both commercial, multi-family, and residential sources. The facility which could supply up to 2.1 million kilo-watt power per year to meet the entire facility energy demand or up to 160,000 of gallons equivalents of renewable natural gas to fuel a fleet of approximately 16 heavy-duty vehicles. The hours of operations of these facilities will be harmonized to allow 24 hours activity to occur among the inter-related technologies where food waste and green waste may be processed in-door the MSS Transfer Station of the stand-alone AD Facility 24 hours per day. Anaerobic digestion is considered a form of composting in the Public Resources Code where the material will count as 100% landfill diversion and the energy generated would be considered renewable. Composting is a permitted activity on the site. The facility would not expand the daily tonnage or daily traffic of the existing operations and expects to continue providing service for its nine (9) Marin communities within the existing operational site areas. The Solid Waste Facility Permit will need to be revised to accommodate operating this facility and possibly increasing the permitting area from 8.5 acres to 9.0 acres.

The anaerobic digestion (AD) facility would be capable of processing up to 12,500 tons per year of food waste and green waste, or an average of 50 tons per day, into bio-methane (gaseous product generated by the degradation of organic matter under anaerobic conditions) that would be cleaned and converted into renewable compressed natural gas (RNG) or generate renewable energy from a combined heating and power (CHP) unit. A detailed Project Description with Site Map and renderings is provided in Attachment __. The Anaerobic Digestion Emissions Estimate Report and Odor Impact Minimization Plan has also been prepared and provided in Attachment __.

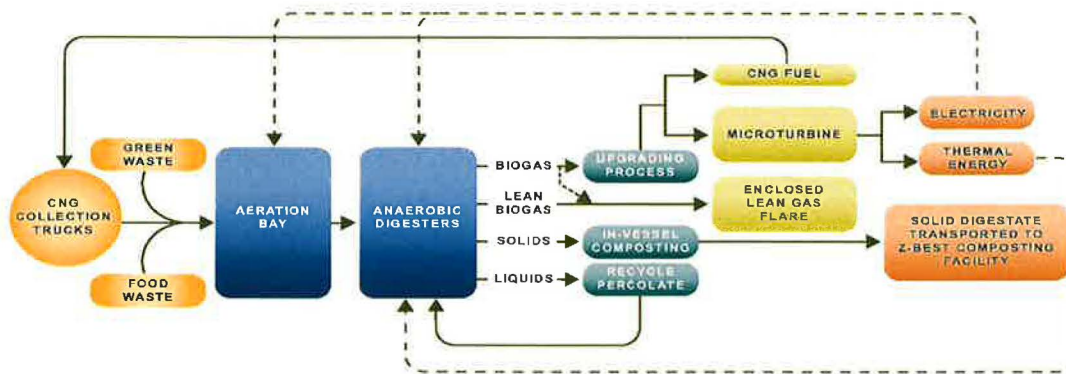
The smaller stand-alone AD facility on Parcel C option would only process 5,000 tons per year and includes an Access Hall (acting as an enclosed mixing area with aeration) of 6,800 square feet where the food waste and green waste is received and stored, 4 anaerobic digesters with a percolate tank of 1,500 square feet, an environmental control device, an emergency generator. This would generate 15 million cf/yr of methane that would then be harnessed to produce combined heating and power (CHP) to generate 832,200 kilo-watt hours per year of renewable energy and would be used to power on-site operations.

The larger stand-alone AD facility option within the MSS Transfer Station option includes an Access Hall and has 8 anaerobic digesters instead of 4, allowing up to 12,500 tpy of material to be processed annually. This would generate 41 million cf/yr of methane that would then be harnessed to produce combined heating and power (CHP) to generate 2,080,000 kilo-watt hours per year of renewable energy and would be used to power on-site operation. The amount of CHP generated annually at the increased capacity would be enough to support the electricity needs of the entire facility with the balance being sold to the electricity grid

The larger stand-alone AD facility option of 12,500 tpy could converted the biogas into a transportation fuel instead of renewable energy where the biogas would enter a biogas upgrade system and would produce renewable compressed natural gas (RNG). The amount of RNG generated annual would be 160,000 diesel gallon equivalent (DGE) that could be used to supply approximately 16 collection vehicles or other CNG vehicles in the community.

The overview of system operations is as follows as shown in the figure below:

- The source-separated organic waste will be delivered to an enclosed building on negative air pressure aeration bay, or access hall, to control odors and emissions.
- The food waste and green waste is mixed at a ratio of 2:1 and loaded into one of the digesters.
- The fermentation process begins in which feedstock is inoculated with percolate to begin the digestion process.
- Electrical power would be supplied by a combination of the boiler system, micro-turbine and/or grid-supplied power.
- A biofilter is used to clean the exhaust gases to reduce emissions by 90% and minimize odors.
- The biogas rendered from the upgrading process is submitting to a combined heating and power (CHP) process rendering renewable electricity and thermal energy that will feed back into the anaerobic digestion process.
- Alternatively, the biogas generated is purified to transportation fuel quality CNG using a biogas upgrade to produce carbon negative renewable CNG. The compression and fueling system is designed to integrate with the AD Facility to provide the transportation fuel.
- The solid digestate would be transported to a permitted compost facility for maturation.



The AD system uses a Zero Waste Energy (ZWE) Smartfarm design, where received feedstock is subject to an inoculated percolate to promote anaerobic digestion. The Smartfarm system utilizes a sub-grade percolate tank, motors and fans to promote the decomposition process. Each of the digester cells are fabricated from steel to avoid erosion and minimize cost of manufacturing over using pour-in-place concrete cells.

The purpose of aeration (for up to one day) of the blended materials would be to initiate aerobic composting and rapidly increase the temperature of the material to between 120 to 130°F. Then, heated liquid percolate would be circulated through the organics to initiate and promote anaerobic digestion. The liquid percolate would be the liquid by-product of previous AD cycles and serves to inoculate and increase the moisture content. The organics would then be loaded into the AD system for the recovery of biogas. Biogas would be recovered and sent to a BioCNG system that would upgrade the biogas to fuel quality (about 99% methane) and produce a waste gas of 40% methane. The waste gas would be used to operate a microturbine or boiler unit. The heat from the microturbine or boiler unit would be used to heat the percolate and maintain the organics at thermophilic (>122°F) temperatures. The fuel quality biogas would be compressed and stored. Air would be drawn through the material through negative aeration to strip ammonia. This off-gas would be passed through an acid scrubber to remove ammonia, and then passed through a biofilter to oxidize emissions and minimize odors, trace ammonia, and volatile organic compounds (VOCs). Exhaust air streams that would be treated in the biofilter include aeration bay exhaust air, digester start-up and termination air, and acid scrubber exhaust air. After a retention time of about 21 days, biogas generation would be exhausted and the digestate would

be removed from the AD system and immediately hauled to a nearby permitted compost facility for further curing as a compostable material.

There would also be an enclosed lean gas flare (LGF), which would destroy low quality lean biogas (methane content below 20% and higher than 1%) generated towards the termination of the AD process cycle, when the majority of the biogas generation has been exhausted. The LGF would be intermittently operated 3 to 4 hours per digester termination, which would occur every 2.5 to 3 days.

In June 2011, the California Department of Resources Recycling and Recovery (CalRecycle) adopted the Anaerobic Digestion Initiative (AD Initiative), a comprehensive program to foster the development of anaerobic digestion facilities (AD facilities) which convert organic solid wastes into sources of energy and can produce valuable compost feedstocks, soil amendments and other products. A statewide Program Environmental Impact Report (Program EIR) was prepared for the AD Initiative, evaluating impacts of the development of AD facilities and requiring mitigation to reduce significant impacts to a less-than-significant level, and the EIR was certified by CalRecycle. The Program EIR and associated documents can be found and downloaded at:

<http://www.calrecycle.ca.gov/SWFacilities/Compostables/AnaerobicDig>

The Program EIR determined that on a programmatic level all the impacts of AD facilities could be mitigated to a less-than-significant level with implementation of the mitigation measures. Individual projects could result in localized impacts that would need to be analyzed in a tiered CEQA document. The Program EIR was used as a reference to mitigate the impacts of this project.

The City of South San Francisco adopted the Mitigated Negative Declaration (MND) (SCH #2012092007) for the Blue Line Biogenic CNG Facility project in December of 2012. The Initial Study/Mitigated Negative Declaration (IS/MND) evaluated the impacts of developing an Anaerobic Digestion (AD) Facility that would be capable of processing 10,000 tpy of food waste and green waste into biogas (gaseous product generated by the degradation of organic matter under anaerobic conditions) that would be cleaned and converted into biogenic compressed natural gas (CNG). The IS/MND indicated that the other CEQA Checklist environmental resources areas had no potential for significant impacts. The IS/MND was used as a reference to mitigate the impacts of this project.

Biomass Conversion Facility

A stand-alone biomass conversion facility may be placed inside of the MRRC or on Parcel C and would operate 24-hour per day and utilized up to 40 tons per day of clean wood chips processed within MRRC. The hours of operations will be 24 hours per day. The biomass conversion facility would generate up to 7,500 kilo-watt hour per year and is rated at 1 megawatt of renewable energy for sale off-site after all on-site needs are met. The proposed biomass conversion facility would be constructed of metal and would feature colors and materials similar to the current color scheme.

The facility would utilize proven gasification technologies that convert biomass into a synthetic natural gas (“syngas”) through the process of thermo-chemical conversion. This syngas would then be used to fuel a specially modified natural gas Genset that would provide renewable electricity and heat to the structures and equipment on-site. The biomass gasification process is a thermo-chemical one that “cooks” biomass in an oxygen-starved environment. By depriving the fuel of sufficient oxygen, the biomass does not burn but

rather gives off a hydrogen-rich syngas. As the biomass gives off the syngas, it is transformed into biochar and ash of approximately 3 to 7 percent of the volume of biomass fuel. The syngas is then captured, cleaned by a series of scrubbers and filters, and cooled before being sent as fuel to the Genset. The power units are based on a spark-ignited engine Genset. Depending on the model chosen, the engines are capable of providing up to one megawatt (net) operating on syngas. The applicant would customize the system to allow syngas carburetion for this engine and provide standard paralleling switchgear for electrical output with up to one megawatt per hour. A detailed Project Description with Site Map and renderings is provided in Attachment A. The Emissions Estimate Report has also been prepared and provided in Attachment A. A photo of the Merced facility is shown in the adjacent figure.



Biochar and ash would be removed from the conversion chamber using pumped slurry. This slurry is cooled and then filtered. The resulting char byproduct is separated out using a special mechanical separator. The water is again filtered, cooled and recirculated. Biochar is used as a soil amendment, sequestering carbon in the soil for up to 1,000 years.

This type of project is defined as a “biomass conversion facility” in Public Resources Code 40106 (a) with the passage of SB 498 (Lara, 2014) which means biomass conversion is the production of heat, fuels, or electricity by non-combustion thermal conversion technologies, such as gasification, using specific biomass feedstocks. Biomass conversion of these specific feedstocks allows the facility to be California renewable power eligible and count towards 100% landfill diversion. Biomass conversion facilities are not required to obtain a solid waste facility permit from the local health department or the State. However, any solid waste facility, such as MRRC, that sends wood chips to a biomass conversion facility must report the amount of tons to the State. The solid waste facilities may be inspected by the LEA to ensure that reporting occurs. The biomass conversion facility operator shall file an annual report to the state on where the wood chips are received from. Operating biomass conversion systems using gasification technologies have experience qualifying electricity as renewable power by the California Energy Commission.

Transmission lines are proposed to connect to the AD Facility and the biomass conversion facility. A feed-in tariff is available for selling excess electricity back to utility during off-peak periods. As such, the project includes construction of transmission lines.

Project Description:

Due to technology improvements and policy changes, MSS proposes to remove the anaerobic digestion facility designed for 12,500 tons per year (TPY) of food waste and green waste and replace that with an increase in size of biomass conversion facility from 1.0 mega-watt (MW) to 2.0 MW, which would need an additional need 12,500 TPY of wood chips. The anaerobic digestion facility at just 12,500 TPY was deemed a demonstration project which is no longer economically feasible at that scale. Likewise, the biomass conversion facility is not economically feasible at just 1 MW, and an increase to 2 MW, is right sized for community scale. A total of 25,000 TPY of wood chips are available today and being hauled to central Valley location for bioenergy. Plus, new tons from the Measure C fire mitigation program and SB 1383 (75% diversion of all organics from landfills by 2025), would ensure adequate flow of material.

The facility will utilize approximately 18,000 bone dry tons of wood chips per year or 25,000 wet tons of per year of recovered urban wood waste and forest waste removal and produce approximately a net amount (after parasitic load) 2.0 MW of electrical energy per hour. In addition to this the facility will also produce approximately 20-30 MM BTU of waste heat and approximately 300-600 pounds of biochar per hour. There is no net increase in tons of the 25,000 tons per year for the 2015 use permit will now be directed to the 2.0 MW biomass conversion facility.

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

There is no proposed increase in traffic, operating hours, or size of facility. The only change is to switch out technologies where the air emissions for the proposed 2.0 MW biomass conversion facility will be comparable to the anaerobic digestion and 1.0 MW biomass conversion facilities. The City certified a Negative Declaration for these technologies in 2015 along with a host of other issues, and an updated air emission study is submitted here.

Site Plan

The proposed site plan showing the location of the 2,0 MW biomass conversion facility on Parcel C is attached. Current entitlements include the following facilities with flexibility where to locate these facilities.

Physical changes that could have occurred as a result of the use permit amendment included a) adding an anaerobic digestion facility of up to 12,500 tons per year of food waste and green waste within the footprint of MSS Transfer Station or as a stand-alone facility in Parcel C, (b) adding a 1 mega-watt wood chip biomass conversion facility as a stand-alone facility in Parcel D. The biomass conversion facility will be relocated to where the stand-alone anaerobic digestion facility would have been placed, and the proposed anaerobic digestion facility would no longer be part of the project.

Air Emissions

The project total emissions from the 2015 Use Permit are below using the higher number – shaded in grey below - from either the AD-5,000 TPY to CHP, the AD-12,500 TPT to CHP, or the AD-12,500 TPY to CNG, added to that of the biomass conversion facility. The Air Quality Section of the 2015 Negative Declaration is attached as a reference.

Pollutant	Threshold	Project TPY	AD – 5,000 TPY CHP	AD – 12,500 TPY CHP	AD – 12,500 TPY CNG	Biomass Conversion
ROG	10 tons per year	3.57	0.3	1.74	0.47	1.83
NOX	10 tons per year	5.97	1.4	4.2	0.36	1.77
PM10	15 tons per year	0.08	0.08	0.00	0.01	0.08

The 2015 entitled addition of either size of anaerobic digestion facility or the biomass conversion facility falls below thresholds of significance established by the BAAQMD. Further, it is reasonably anticipated that MSS will continue to comply all required state and local permitting requirements and local policies including the City’s GHG reduction strategies would remain applicable to development within the City that is consistent with the City General Plan 2020. Therefore, impacts were determined in 2015 to be less-than-significant due to compliance with the BAAQMD guidelines, City CCAP and GHG strategy and ongoing regulatory and permitting oversight of multiple state, regional and local agencies

The 2MW Authority to Construct Application Narrative is attached for the proposed project with the following information. The project emissions are below the CEQA thresholds with the NOx decreasing from 5.97 TPY to a minimum of 3.53 TPY based upon control emissions, but not to exceed 5.97 TPY, and the ROG increases from 3.57 TPY to 6.73 TPY.

Pollutant	IC Engine		Cooling Tower		Flare		Feedstock Dryer		Total for 2 MW
	Emission Factor	Total Emissions	Emission Factor	Total Emissions	Emission Factor	Total Emissions	Emission Factor	Total Emissions	
	(lb/hr)	TPY	(lb/hr)	TPY	(lb/hr)	TPY	(lb/hr)	TPY	TPY
VOC	0.364	1.59	0.27	1.18	0.74	0.09	0.11	0.49	6.73
NOx	0.38	1.66	N/A	-	0.80	0.10	N/A	-	3.53
CO	2.56	11.21	N/A	-	4.37	0.55	N/A	-	23.52
PM10	0.1	0.44	ND	-	0.09	0.01	0.31	1.36	3.61
SOx	0.03	0.00	N/A	-	N/A	-	N/A		0.00

2015 MITIGATED NEGATIVE DECLARATION

AIR QUALITY

Would the project:

- a. Conflict with or obstruct implementation of the applicable air quality plan?

Discussion:

The project would continue an existing sanitary service facility use, including the legalization of ancillary mini storage uses which would be reduced in scope. A 12,500 ton per year anaerobic digestion facility and a 1.0 mega-watt biomass conversion facility are proposed.

A self-contained anaerobic digestion facility to generate renewable power from bio-methane generated by digesting food and green waste will likely be installed in the near future. Food waste and green waste may be sourced from both commercial, multi-family, and residential sources. The facility which could supply up to 2.1 million kilo-watt power per year to meet the entire facility energy demand or up to 160,000 of diesel gallons equivalents (dge) of renewable natural gas to fuel a fleet of approximately 16 heavy-duty vehicles. A stand-alone biomass conversion facility may utilize up to 40 tons per day of clean wood chips processed within MRRC. The biomass conversion facility would generate up to 7,500 kilo-watt hour per year and is rated at 1 megawatt of renewable energy for sale off-site after all on-site needs are met.

This proposed use would be subject to County and State oversight of waste management operations which assure the facility is operated in compliance with health and safety regulations intended to avoid adverse impacts to air quality, odor, and water quality impacts. Further, the project has been subject to evaluation

to ensure project activities would comply with the City’s climate change action plan. Based on continuation of existing uses, and compliance with the City of San Rafael’s climate change action plan, no impacts would result.

(Sources: 1, 5, 6, 7)

Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Discussion:

The proposed draft use permit conditions UP09-020 would incorporate current requirements referencing the Bay Area Air Quality District approvals required for facility operations, the anaerobic digestion facility, and the biomass conversion facility (i.e., Use Permit Conditions of Approval 3, and 14e and f). The waste management facility is subject to continuous oversight by several agencies to assure compliance with regional water quality, air quality and waste management practices. As discussed in Section XVII of this initial study, MSS operates under state permitting authority CalRecycle. Additional concurrent permitting and oversight is provided by the State Water Resources Control Board and Regional Water Quality Control Board (Stormwater Pollution Prevention Plan or SWPPP), the California Air Resource Board (Portable Equipment Registration Program), the regional Bay Area Air Quality Management District, the California Department of Toxic Substances Control (Permanent Household Hazardous Waste Facility, Marin County Certified Unified Program Agency or CUPA), Cal Recycle and the Marin County Environmental Health Services Division (Solid Waste Facility Permit; Enforcement Agency Notification for Inert Debris Processing Facility and Green Waste Composting).

MSS is a “waste stream processor” or transfer station providing solid waste collection and recycling services. Waste that cannot be recycled is transported to the local Redwood Landfill. The project does not propose improvements or operational changes to MSS that would increase solid waste disposal needs. To the contrary, MSS continues to operate an aggressive recycling program, helping the public and the municipalities it serves to decrease waste production with the goal of reaching “zero waste”. Consistent with the MSS program, the facility intends to pursue an anaerobic digestion facility and a biomass conversion facility that would convert food waste and green waste into biomethane and convert clean wood chips recycled at the facility to syn-gas fuel for a generator on the site. This would considerably reduce the amount of organic waste that might otherwise be transported to Redwood Landfill, converting it to energy, compost and carbon. AB 1826 (Chesbro, 2014) mandates the collection of commercial organic waste and will limit the amount of organic waste that can be landfilled. A low emission syn-gas electrical generator with proven low emissions history would be used to convert the biomethane and the syn-gas into energy. As an option, the biomethane may be converted to renewable natural gas which has less emissions than converting the biomethane to energy as provided in the Emissions Estimate Report. A similar operation has been successfully implemented at the nearby Central Marin Sanitation District for conversion of food waste to energy, in partnership with MSS which collects and transfers clean food waste to CMSD for conversion to energy.

Because of the current recycling operations and the proposed facilities, the project would not impede implementation of the 2009 City of San Rafael Climate Change Action Plan. MSS supports the 2009 City of San Rafael CCAP through its local waste reduction and recycling strategies. The City also has adopted a Greenhouse Gas Reduction Strategy as Appendix E to the 2009 CCAP, along with General Plan 2020 Sustainability Element policies and related zoning code amendments in response to SB 97, and changes by the (BAAQMD) in 2010 to update its CEQA Air Quality Guidelines for the Bay Area; requiring that projects address new state climate change and GHG reduction requirements (consistent with AB32 goals). The GHG Emissions Reduction Strategy plan provides an opportunity to revisit and recalculate the numerous programs contained in the City’s Climate Change Action Plan (CCAP). The GHG Emissions

Reduction Plan has been adopted as an alternative to conducting a project-by-project GHG analysis, consistent with the BAAQMD Guidelines, to examine emissions and reduction strategies at a community-wide level. This is encouraged by BAAQMD as a more proactive means of achieving desired air quality changes. The amended CCAP GHG Reduction Strategy plan was reviewed by BAAQMD and meets its requirements for a Qualified Greenhouse Gas Reduction Strategy. The City meets the BAAQMD requirement, as a Qualified Greenhouse Gas Reduction Strategy, because it includes; an emission inventory and projections required by SB375, target reductions, application of GHG reduction measures, a checklist to require implementation of measures in a project, monitoring and updating the GHG inventory and reduction measures every 3-5 years before 2020, requires the annual reporting on progress of implementation of CCAP / GHG Reduction Plan programs, and regular monitoring of community-wide GHG levels to assure that Plan objectives are being met. A project that is consistent with and covered by the City adopted GHG Reduction Strategy Checklist ensures compliance with the local Air Quality Plan, the General Plan Sustainability Element and the CCAP and ordinances adopted to implement these policies. No further analysis of air quality impacts is required for a project that is consistent with the CCAP and GHG reduction strategy. Thus, the subject project impacts would be less-than-significant given that the land use remains compliant with the local Air Quality Plan, and the project would not conflict with the City 2009 CCAP and GHG reduction strategy. However, additional information is provided below, for informational purposes. The MSS Climate Action Management Plan is provided as an attachment and further discussed in Section VII – Greenhouse Gas Emissions.

The AD Facility may only be built to 5,000 TPY to make electricity in a CHP unit to run the MSS facility, or up to 12,500 TPY to make electricity or renewable natural gas (RNG) to run a carbon negative fleet of 16 CNG vehicles. The emissions from each option is presented below, where one or the other will be built. For the purposes of the analysis, the highest emission amount will be used to present a worst-case emissions scenario.

Organic material used for anaerobic digestion would be off-loaded in the enclosed Access Hall for mixing prior to being loaded into an enclosed anaerobic digestion bunker within 48 hours of receipt. The Access Hall will be enclosed, subject to negative aeration pressure and designed to capture all emissions generated during short-term storage of the organic feedstock. The ventilation system would then discharge the air to a biofilter for cleaning prior to being emitted to the atmosphere.

Biofiltration is a well-known treatment technology that has consistently documented destruction efficiencies of over 90% for VOCs as referenced in the studies note below. A pilot-scale experiment done at California State University, Fresno, demonstrated a 99% destruction efficiency for VOCs. Tests conducted at the Inland Empire Regional Compost Facility resulted in a measured VOC destruction efficiency of 94%. Additionally, the South Coast Air Quality Management District (SCAQMD) published a list of operational biofilters and estimated destruction efficiencies that can be found at: http://www.aqmd.gov/rules/doc/r1133/app_c_biofilter.pdf.

Likusta, a manufacturer of odor control/biofilter systems, provides guaranteed control efficiencies of 90% for VOCs.

Additionally, very high destruction efficiencies for methane and nitrous oxide have also been demonstrated. A pilot-scale experiment done at California State University, Fresno, demonstrated a 99.7% destruction efficiency for methane and 97.1% for nitrous oxide.

For this analysis, the following biofilter destruction efficiencies are used:

VOCs:	90%
Methane:	90%
Nitrous Oxide:	90%

AD Facility – 5,000 TPY to CHP option: The installation of an anaerobic digestion facility will process up to 5,000 tons per year of food waste and green waste to generate combined heating or power (CHP) to be utilized as electricity within the physical plant. Anaerobic digestion significantly reduces contaminant concentrations associated with decomposing material because emissions are managed in a controlled environment and passed through a biofilter. This facility, as proposed at 5,000 tons per year, would emit the following estimated criteria pollutants annually:

- 0.3 tons of volatile organic compounds (ROG)
- 2.2 tons of carbon monoxide (CO)
- 1.4 tons of NO_x (nitrogen oxides)
- 0.08 tons of PM₁₀ (coarse dust particle pollution)
- 0.08 tons of SO_x (sulphur oxides)

AD Facility – 12,500 TPY to CHP option: The installation of an anaerobic digestion facility will process up to 12,500 tons per year with similar biofilter controls, and would emit the following estimated criteria pollutants annually:

- 1.74 tons of volatile organic compounds (ROG)
- 9.7 tons of carbon monoxide (CO)
- 4.2 tons of NO_x (nitrogen oxides)
- 0.00 tons of PM₁₀ (coarse dust particle pollution)
- 2.3 tons of SO_x (sulphur oxides)

AD Facility – 12,500 TPY to CNG option: The installation of an anaerobic digestion facility would process up to 12,500 tons per year of food waste and green waste to generate either combined heating or power (CHP) to be utilized as electricity within the physical plant or compressed natural gas (CNG) for use as fuel for collection vehicles. Anaerobic digestion significantly reduces contaminant concentrations associated with decomposing material because emissions are managed in a controlled environment and passed through a biofilter. This facility, as proposed at 12,500 tons per year producing CNG, would emit the following estimated criteria pollutants annually:

- 0.47 tons of volatile organic compounds (ROG)
- 1.05 tons of carbon monoxide (CO)
- 0.36 tons of NO_x (nitrogen oxides)
- 0.01 tons of PM₁₀ (coarse dust particle pollution)
- 0.08 tons of SO_x (sulphur oxides)

Biomass Conversion Facility: The addition of a biomass conversion facility would convert an estimated annual 14,600 tons of clean wood material (40 tons per day) to char and ash through a thermo-chemical process and generate 1 megawatt of electricity; with a net (excess) of 0.75 Megawatts above that required to operate the system itself (0.75MW * 24 hours = 18 MWh.day)¹. The biomass conversion facility, using Phoenix Energy gasification technology, is designed to recover gases in tars given off in the heating process, which substantially lessen gas contaminant concentrations that would potentially be emitted as a result of the conversion process. The facility, as proposed, would emit the following estimated criteria pollutants annually:

- 1.83 tons of volatile organic compounds (ROG)

¹ A megawatt (Mw) is a unit of measuring power that is equivalent to one million watts. One megawatt is equivalent to the energy produced by 10 automobile engines. A megawatt hour (Mwh) is equal to 1,000 kilowatt hours (Kwh). It is equal to 1,000 kilowatts of electricity used continuously for one hour. It is equal to the amount of electricity used by 330 homes during one hour.

- 9.28 tons of carbon monoxide (CO)
- 1.77 tons of NOx (nitrogen oxides)
- 0.8 tons of PM10 (coarse dust particulate pollution)
- 0.48 tons of SOx (sulphur oxides)

MSS would use the energy generated by the biomass conversion facility to offset its energy consumption. As proposed, this facility would offset an estimated 1,826 MTCO₂/metric tons of carbon dioxide emissions annually (e.g., avoided emissions). Conversion of wood waste to energy also reduces the volume of waste that is sent to landfills and reduces potential greenhouse gas emissions that may be generated from decomposition of these materials if deposited in the landfill. The biochar from the biomass conversion facility, averaging 1,000 tons per year, will be used as a soil amendment and be sequestered in the soil for up to 1,000 years. Any additional offset amount that might be realized by biochar sequestration and the diversion of wood waste from the landfill has not been quantified as a part of this analysis.

Pursuant to the Bay Area Air Quality Management District CEQA Guidelines Updated May 2011 (Page 2-1 of the Guidelines) if a project would generate GHG emissions above the threshold level established in the guidelines Tables 2-1 (Air Quality CEQA Thresholds of Significance), it would be considered to contribute substantially to a cumulative impact and would be considered significant.

Pollutant	Threshold
ROG	10 tons per year
NOX	10 tons per year
PM10	15 tons per year
Local CO	9.0 ppm (8-hour average), 20.0 ppm (1-hour average)
GHGs –Stationary Sources	10,000 MT of CO ₂ e/yr

A project would have a cumulative considerable impact if the aggregate total of all past, present, and foreseeable future sources within a 1,000-foot radius from the fence line of a source, or from the location of a receptor, plus the contribution from the project, exceeds the following:

- Non-compliance with a qualified Community Risk Reduction Plan; or
- An excess cancer risk levels of more than 100 in one million or a chronic non-cancer hazard index (from all local sources) greater than 10.0; or
- 0.8 µg/m³ annual average PM_{2.5}.

The project total emissions are below using the higher number – shaded in grey below - from either the AD-5,000 TPY to CHP, the AD-12,500 TPT to CHP, or the AD-12,500 TPY to CNG, added to that of the biomass conversion facility.

Pollutant	Threshold	Project	AD – 5,000 TPY CHP	AD – 12,500 TPY CHP	AD – 12,500 TPY CNG	Biomass Conversion
ROG	10 tons per year	3.57	0.3	1.74	0.47	1.83
NOX	10 tons per year	5.97	1.4	4.2	0.36	1.77
PM10	15 tons per year	0.08	0.08	0.00	0.01	0.08

The proposed addition of either size of anaerobic digestion facility and the biomass conversion facility falls below thresholds of significance established by the BAAQMD. Further, it is reasonably anticipated that MSS will continue to comply all required state and local permitting requirements and local policies including the City’s GHG reduction strategies would remain applicable to development within the City that

is consistent with the City General Plan 2020. Therefore, impacts would be less-than-significant due to compliance with the BAAQMD guidelines, City CCAP and GHG strategy and ongoing regulatory and permitting oversight of multiple state, regional and local agencies.



PLAN21-005 - Exhibit 4
PC April 12, 2022

August 31, 2021

Steve Stafford
Senior Planner
City of San Rafael
1400 5th Avenue, 3rd floor
San Rafael, CA 94901

RE: Master Use Permit Modification Application – Marin Sanitary Service
Additional of a 2 MW Biomass Conversion Facility – Air Quality Data

Dear Mr. Stafford:

The purpose of this letter is to provide supplemental Air Quality Data to support the Master Use Permit Modification Application by Marin Sanitary Service to add a 2 MW Biomass Conversion Facility. The following information is attached:

- Permit Application for an Authority to Construct with the San Joaquin Valley Air Pollution Control District (SJVAPCD) for a 2 MW biomass conversion facility by North Fork Community Power.
- Notice of Final Action by SJVAPCD to issue the Authority to Construct – Facility Number: C-8980 for North Fork Community Power

Marin Sanitary Services plans to use the same vendor, Phoenix Energy, and same technology that is being used at North Fork Community Power. The North Fork facility is being constructed and plans to be completed in the Fall 2021. Interconnection and commissioning will occur in the Spring 2022. This Air Quality Data is comparable to what is being proposed at MSS and should be used in your review of the project.

The City adopted a mitigated Negative Declaration (MND) in 2015 at MSS for an 0.25 MW anaerobic digestion facility and a 1.0 MW biomass conversion facility. In the MND, the emissions profile from these facilities was presented and analyzed with air emissions falling below the thresholds of significance established by the BAAQMD. The impacts were determined in 2015 to be less-than-significant due to compliance with the BAAQMD guidelines. The project plans to drop the anaerobic digestion facility and increase the biomass conversion facility to 2 MW.

The proposed project emissions for the 2 MW biomass facility will remain below the CEQA thresholds with the NO_x decreasing from 5.97 TPY to a minimum of 3.53 TPY based upon control emissions, but not to exceed 5.97 TPY, and the ROG increases from 3.57 TPY to 6.73 TPY.

Project Background

Due to technology improvements and policy changes, MSS proposes to remove the anaerobic digestion facility designed for 12,500 tons per year (TPY) of food waste and green waste and replace that with an increase in size of biomass conversion facility from 1 mega-watt (MW) to 2 MW, which would need an additional need 12,500 TPY of wood chips. The anaerobic digestion facility at just 12,500 TPY was deemed a demonstration project which is no longer economically feasible at that scale. Likewise, the biomass conversion facility is not economically feasible at just 1 MW, and an increase to 2 MW, is right sized for community scale. A total of 25,000 TPY of wood chips are available today and being hauled to central Valley location for bioenergy. Plus, new tons from the Measure C fire mitigation program and SB 1383 (75% diversion of all organics from landfills by 2025), would ensure adequate flow of material.

The facility will utilize approximately 18,000 bone dry tons of wood chips per year or 25,000 wet tons of per year of recovered urban wood waste and forest waste removal and produce approximately a net amount (after parasitic load) 2 MW of electrical energy per hour. In addition to this the facility will also produce approximately 20-30 MM BTU of waste heat and approximately 300-600 pounds of biochar per hour. There is no net increase in tons of the 25,000 tons per year for the 2015 use permit will now be directed to the 2.0 MW biomass conversion facility.

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

There is no proposed increase in traffic, operating hours, or size of facility. The only change is to switch out technologies where the air emissions for the proposed 2 MW biomass conversion facility will be comparable to the anaerobic digestion and 1 MW biomass conversion facilities. The City certified a Negative Declaration for these technologies in 2015 along with a host of other issues, and an updated air emission study is submitted here.

Site Plan

The proposed site plan showing the location of the 2 MW biomass conversion facility on Parcel C. Current entitlements include the following facilities with flexibility where to locate these facilities. Physical changes that could have occurred because of the use permit amendment included a) adding an anaerobic digestion facility of up to 12,500 tons per year of food waste and green waste within the footprint of MSS Transfer Station or as a stand-alone facility in Parcel C, (b) adding a 1 mega-watt wood chip biomass conversion facility as a stand-alone facility in Parcel D. The biomass conversion facility will be relocated to where the stand-alone anaerobic digestion facility would have been placed, and the proposed anaerobic digestion facility would no longer be part of the project.

Air Emissions

The project total emissions from the 2015 MND are below using the higher number – shaded in grey below - from either the AD-5,000 TPY to CHP, the AD-12,500 TPT to CHP, or the AD-12,500 TPY to CNG, added to that of the biomass conversion facility.

Pollutant	Threshold	Project TPY	AD – 5,000 TPY CHP	AD – 12,500 TPY CHP	AD – 12,500 TPY CNG	Biomass Conversion
ROG	10 tons per year	3.57	0.3	1.74	0.47	1.83
NOX	10 tons per year	5.97	1.4	4.2	0.36	1.77
PM10	15 tons per year	0.08	0.08	0.00	0.01	0.08

The 2015 MND of either size of anaerobic digestion facility and the the biomass conversion facility falls below thresholds of significance established by the BAAQMD. Further, it is reasonably anticipated that MSS will continue to comply all required state and local permitting requirements and local policies including the City’s GHG reduction strategies would remain applicable to development within the City that is consistent with the City General Plan 2020. Therefore, impacts were determined in 2015 to be less-than-significant due to compliance with the BAAQMD guidelines, City CCAP and GHG strategy and ongoing regulatory and permitting oversight of multiple state, regional and local agencies

The 2MW Authority to Construct is attached for a similar project with the following information in the table below. MSS plans to use the same vendor, Phoenix Energy, and same technology that is being used at North Fork Community Power. The project emissions remain below the CEQA thresholds with the NOx decreasing from 5.97 TPY to a minimum of 3.53 TPY based upon control emissions, but not to exceed 5.97 TPY, and the ROG increases from 3.57 TPY to 6.73 TPY.

Emissions Calculations for NFCP

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

ND = not determined N/A = not applicable

Emissions above based on following operating hours

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

Should you have any questions, please phone me at (916) 444-5345.

Sincerely,

A handwritten signature in black ink, appearing to read "Evan WR Edgar". The signature is written in a cursive, somewhat stylized font.

Evan WR Edgar
Principal Civil Engineer