ZERO WASTE MARIN

MARIN COUNTY HAZARDOUS AND SOLID WASTE MANAGEMENT JOINT POWERS AUTHORITY

Belvedere Corte Madera County of Marin Fairfax Larkspur Mill Valley
Novato Ross San Anselmo San Rafael Sausalito Tiburon

AGENDA: AB 939 LOCAL TASK FORCE MEETING

DATE Thursday, July 10th, 2025

TIME 10:00am – 11:15am

LOCATION 1600 Los Gamos Drive, Suite 210, San Rafael CA 94903

CALL TO ORDER

1. Open Time for Public Comment (Information Only) 5 Minutes.

CONSENT CALENDAR

2. Approve LTF Meeting Minutes from May 8, 2025 (Action) 1 Minute.

REGULAR AGENDA

3. FY 25/26 Budget Explanation
    a. Recommendation: Information Only
4. Recommendation from Subcommittee: Deconstruction
    a. Recommendation: Review and Discussion
5. Subcommittee Updates - 15 Minutes.
    a. Recommendation: Information Only
6. Final Waste Characterization Study Report - 10 Minutes.
    a. Recommendation: Review and Discussion
7. Suggested Agenda Items - 2 Minutes.
    a. Recommendation: Information Only
8. Adjournment

Agendas & Staff Reports also available at https://zerowastemarin.org/

For disability accommodations please phone **(415) 473-4381** (Voice), CA Relay 711, or e-mail Zero.Waste@MarinCounty.gov at least five business days in advance of the event. The County will do its best to fulfill requests received with less than five business days' notice. Copies of documents are available in alternative formats, upon request.

ZERO WASTE MARIN

MARIN COUNTY HAZARDOUS AND SOLID WASTE MANAGEMENT JOINT POWERS AUTHORITY

Belvedere Corte Madera County of Marin Fairfax Larkspur Mill Valley
Novato Ross San Anselmo San Rafael Sausalito Tiburon

OPEN TIME FOR PUBLIC COMMENT – ITEM 1

TO Local Task Force

FROM Casey Fritz, Senior Planner

SUBJECT Open Time for Public Comment

DATE July 10, 2025

The public is welcome to address the Local Task Force at this time on matters not on the agenda that are within its jurisdiction.

Please be advised that pursuant to Government Code Section 54954.2, the LTF is not permitted to discuss or act on any matter not on the agenda unless it determines that an emergency exists, or that there is a need to take immediate action which arose following posting of the agenda.

RECOMMENDATION
Receive public comment. Information Only.

ZERO WASTE MARIN

MARIN COUNTY HAZARDOUS AND SOLID WASTE MANAGEMENT JOINT POWERS AUTHORITY

Belvedere Corte Madera County of Marin Fairfax Larkspur Mill Valley
Novato Ross San Anselmo San Rafael Sausalito Tiburon

APPROVE LTF MEETING MINUTES – ITEM 2

TO Local Task Force

FROM Casey Fritz, Senior Planner

SUBJECT Approve LTF Meeting Minutes from May 8, 2025

DATE July 10, 2025

Please find attached the Draft Action Minutes from the last meeting on May 8, 2025.

RECOMMENDATION
Adopt a motion to receive and file the Action Minutes.

Board Chair: Please confirm the vote on this item by reading the following items out loud after the vote.

Motion:

Second:

Ayes:

Nos:

Abstentions:

2
MARIN COUNTY HAZARDOUS AND SOLID WASTE MANAGEMENT JOINT POWERS AUTHORITY

LTF Meeting Minutes
Thursday, May 8, 2025
10:00 am – 11:15 am
In Person: 1600 Los Gamos Drive, Suite 211 San Rafael, CA

LTF BOARD MEMBERS PRESENT

Special Districts
Chair, Dale McDonald, Las Gallinas Valley Sanitary District
Garrett Toy, Tamalpais Community Services District
Kevin McElroy, Bolinas Public Utilities District
Angela Beran, Las Gallinas Valley Sanitary District

Environmental Organizations
Kyle LaRue, Conservation Corps North Bay

Haulers
Greg Christie, Bay Cities Refuse
Justin Wilcock, Marin Sanitary Service
Celia Furber, Recology Sonoma-Marin

Public
Matt McCarron, Novato
Jinesse Reynolds, Ross Valley
Deirdre Fennessy, Unincorporated
Chuck Hornbrook, Southern Marin
Marisa Nordstrom, San Rafael

STAFF PRESENT

Kimberly Scheibly (Executive Director)
Casey Fritz (Staff)
Andrew Shelton (Staff)
Meilin Tsao (Staff)
Justin Newsome (Admin)

MARIN COUNTY HAZARDOUS AND SOLID WASTE MANAGEMENT JOINT POWERS AUTHORITY

Call to Order Regular Meeting
Regular session was called to order at 10:02 a.m.

1. **Open Time for Public Comment (Items not on the agenda)**
   Marisa Nordstrom has been confirmed as the San Rafael representative on behalf of the public.

2. **Approval of the March 6, 2025 Local Task Force Minutes (Action)**

   Motion to approve the LTF Meeting Minutes from March 6, 2025
   First Jinesse Reynolds, Ross Valley
   Second Matt McCarron, Novato

   Vote Count

Dale McDonald: Aye	Justin Wilcock: Aye
Garrett Toy: Aye	Celia Furber: Aye
Kevin McElroy: Aye	Matt McCarron: Aye
Susan Hopp: Aye	Jinesse Reynolds: Aye
Kyle LaRue: Aye	Deirdre Fennessy: Aye
Greg Christie: Aye	Chuck Hornbrook: Aye

Ayes: 12 Noes: 0 Absent: 0 Abstain: 0

Motion passed

3. **Legislative Update**
   ZMW Staff Meilin Tsao shared Wednesday March 7th Director Zoe Heller was approved and added to the Senate Rules Committee where important upcoming timelines for CalRecycle were confirmed for SB54 (The Senate Rules Committee website is where the session can be found).

   May 23rd - CalRecycle will finalize new draft regulations
   May 27th - CalRecycle public workshop 10a-4p.
   May 27th-30th CalRecycle will submit new Economic Analysis

   Additionally, updates to be made to refill/reuse based on cost to public with public guidance documents to be created. April 4th CalRecycle provided a statement on the extended polystyrene foam foodware ban, it's official banned as of January 1, 2025.

   ZWM staff are currently tracking 18 bills and watching an additional 10 bills in the legislature. Five of the bills did not pass the policies committee by May 2nd and some will become 2-year bills, emphasis on the Disposable Vape Ban. ZWM Staff Casey Fritz noted bills that with the 2-year legislative cycle, bills that get moved still has a chance to get passed in the 2nd year of the cycle.

The Northern California Recycling Association will be hosting Advocacy Day on Wednesday May 21st.

Lastly, ZMW Staff Tsao reported the National Organics Standard Board met on the BPI Petition to include all compostable plastics under one testing mechanism to be included in organic compost. If AB1201 moves forward all compostable plastics will not be able to be labeled compostable starting in 2026.

The LTF had a brief conversation regarding AB1201.

4. Results of the County-Wide Waste Characterization Study

ZMW Staff Tsao opened with noting the update to the self-haul explanation (section 5) will include more detail to the overview. A discussion was opened to the LTF for feedback. It was added the feedback deadline will be Friday, May 16th. Feedback included: 1) Desire to get more people to compost, 2) prioritizing larger points of emphasis, 3) add note for timestamp, 4) add data on "bulky items", 5) ask haulers for procedure for bulky items, and 6) move summary to the top for public reading.

5. Presentation from Olyns: Reverse Vending Machines (Information)

Olyns presented on the Reverse Vending Machines in Marin County. A Q&A session was held after the presentation.

6. Final Report from Reusables at the Farmers Market Pilot Program

ZMW Staff Fritz shared the data from the 9 participating vendors. Highlighting items that were returned, items that did not; 68% of the items were returned. Customer feedback was 50% were not of the area, adding suggestions that would garner more of their participation. Single use waste reduction was stated to be important by 75% and 84% were supported continuing the program. Vendor feedback shared said reduction of waste was a big benefit and time was reported to be consuming to share information with customers. ZMW Staff Fritz commented on thoughts for future consideration for reuseable programs.

7. Subcommittee Reports

Infrastructure and End Markets reported their focus on a variety of issues: Vape pen disposal, diaper disposal, lithium-ion batteries. Their next meeting will focus on prioritizing the top actionable projects.

Compliance and Regulations had no report.

Outreach and Education reported their focus on composting and the struggle on number of bins compared to tenants, highlighting the habit of tenants dumping items in the wrong bins if there are not adequate bins to meet disposal needs. While the signage is good for smaller multi-family dwellings, the larger multi-family dwellings can use an update. Valet living was shared as a service to assist in hauler items from one's front

door to the proper waste location. Magnetic educational signage for in-home was suggested as an item that would be beneficial.

Construction and Demolition reported the California Carpet Stewardship Program, and the San Mateo presented to the subcommittee. C&D subcommittee is looking into options to building awareness.

8. Recommend Agenda Items for the next LTF Meeting

LTF suggested after the Board approves the Waste Characterization Study there be a collaborative effort for long range planning. Additionally, a presentation of the budget.

9. Adjournment

Chair McDonald adjourned the meeting at 11:21 a.m.

ZERO WASTE MARIN

MARIN COUNTY HAZARDOUS AND SOLID WASTE MANAGEMENT JOINT POWERS AUTHORITY

Belvedere Corte Madera County of Marin Fairfax Larkspur Mill Valley
Novato Ross San Anselmo San Rafael Sausalito Tiburon

FISCAL YEAR 25/26 BUDGET EXPLANATION – ITEM 3

TO Local Task Force

FROM Kimberly Scheibly, Executive Director

SUBJECT FY 25/26 Budget Explanation

DATE July 10, 2025

ZWM Executive Director Kimberly Scheibly will provide a high-level overview of the budget for Fiscal Year 2025/26, which runs from July 1, 2025 – June 30, 2026. This budget has been approved by the Joint Powers Authority Board as of May 2025.

RECOMMENDATION
Information only. Receive and file.

Kimberly Schibsby

May 15, 2025

Marin Hazardous and Solid Waste Joint Powers Authority (Zero Waste Marin) Approved FY2025-2026 Budget

Org	Object	Description	2026 Approved	Contract Amt for FY26	Vendor	Narrative
80218601	521220	Clothing & PPE	$ 500	NA	Various	Clothing for ZWM public events
80218601	521410	Food for Workshops/Trainings	$ 1,000	NA	Various	For Board and Staff workshops
80218601	521615	General Liability Insurance	$ 33,355	NA	Alliant	Insurance for JPA
80218601	521810	Vehicle Maintenance	$ 4,000		County Fleet	Reimbursement to County for maintaining ZWM vehicle
80218601	522210	Professional Memberships & Sponsorships	$ 15,000	NA	Various	Professional Memberships and Sponsorships of Waste Advocacy Organizations
80218601	522410	Office Supplies	$ 1,200	NA	NA	Through County Green Procurement
80218601	522510	Professional Service Contracts	$ 355,000	NA	NA	Various PSCs
				$ 230,000	Agromin	Compost (SB1383)-Procurement of Recovered Organic Waste Products to help Members meet 2025 Annual Procurement Requirement. 2024 65% of target. 2025 100% of target.
				$ 50,000	SCC Engineers	County wide Organics Capacity Study (SB1383)
				$ 75,000	R3	Organizational Reassessment Implementation. Public Workshop on WCS and ZW Planning. Regulatory & Program Support.
80218601	522512	General Service Contracts	$ 100,000	NA	West Marin Compost	Compost (SB1383-Procurement of Recovered Organic Waste Products to help Members meet 2025 Annual Procurement Requirement
80218601	522545	Legal Support	$ 15,000	$ 5,000	County Counsel	Legal Review of County Contracts & Agreements
				$ 10,000	Outside Counsel	Legal Review of Staffing and JPA agreements
80218601	522585	Outside Accounting for Audit	$ 37,000	NA	Pisenti & Brinker	Annual Audit JPA Financial Statements. P&B
80218601	522735	County Salaries & Benfits, County Administrative Overhead & Fiscal Support	$ 1,318,839	NA	County	Salary & Beneift reimbursement to County via PSC includes 15% overhead ($172,022.53)
80218601	522925	Rent at Los Gamos	$ 25,000	NA	County	Rent at Los Gamos per staffing agreement.
80218601	522935	Software and Cloud based Subscriptions	$ 134,500	$ 120,000	SMART1383	SMART1383 Contract
				$ 10,000	Mobius	Website hosting and support
				$ 4,500	MiniExtensions, Airtable, Doodle, Zoom	Other monthly cloud-based subscription services
80218601	523210	Training/Professional Development	$ 15,000	NA	Misc	Professional Development-Trainings and Conferences
80218601	523445	Mileage & Routine Travel	$ 1,500	NA	Misc	Mileage reimbursement for use of personal vehicle
			$ 2,056,894			

80218601	900010	APPROP FOR CNTNGNCY GENERAL	**$ 205,689**
			$ 2,262,584

REVENUE

Org	Object	Description	2026 Proposed Budget	Narrative
80218601	441115	INVT INC-INT POOLED	$ 1,000	Interest
80218601	451970	STATE-OTHER	$ 275,000	Grant Monies from State for SB1383
80218601	461510	INT WASTE MGMT AS FEE	$ 1,786,584	IWM Assessments from Franchised Haulers and Disposal facilites per JPA agreement (based on tons disposed in landfills-AB939).
80218601	470310	MISC REV	$ 200,000	Encumbered funds from FY25
			$ 2,262,584	

Zero Waste Marin Approved Budget FY2025-2025

Org	Object	Description	2026 Proposed	Proposed Contract Amt.	Vendor TBD	Narrative
80228601	521220	Clothing and PPE	$ 500	NA	Various	ZW Branded materials. For HHW education outreach events.
80228601	522310	Sharps & Needles Program MOU	$ 97,850		County EHS	Support for the Sharps and Needles Program via Environmental Health Services. Increased by COLA per EHS
80228601	522430	Printing Services	$ 10,000			Facility Brochures & printed materials in English & Spanish.
80228601	522510	Professional Service Contracts	$ 502,000			Professional Service Contracts
				$ 60,000	Clean Earth	Toxic Away Days West Marin (Pt. Reyes, Bolinas)
				$ 200,000	Revolt	Fluorescent bulbs and batteries Haz waste collection at businesses
				$ 5,000	Sweetser & Associates	Consultant to review the program, agreements, and all regulatory compliance needs.
				$ 15,000	Vendor TBD	New Pilot Programs for E-Waste/Vapes
				$ 85,000	Soluna	Bilingual outreach & education on proper disposal of HHW and Used Motor Oil. Partially funded through State grant ~$63,500
				$ 25,000	CPSC - Marine flares	Marin Marine Flares O&E, State Reporting
				$ 37,000	Clean Harbors-Marine Flares	Marin Flares Collection & Disposal
				$ 75,000	CPSC - Solar Panels Phase 2	Solar Panels O&E, Management of collection & disposal, Reporting
80228601	522530	Advertising & Marketing Social Media/Ads	$ 1,500	NA		Advertising toxic away days in West Marin.
80228601	522540	PSC-Graphic Design	$ 2,500		Erin Duckhorn	Advertising for HHWFacility
80228601	522545	Legal Services	$ 5,000		County Counsel	New HHW Facility Agreement and Operations Plan
80228601	522555	Professional Services Management Contract-HHW Facility Operations	$ 1,843,262		MRRRA	PSC with MRRRA for operation of HHW Facility anticipated costs for reimburseable expenses (labor, disposal, admin overhead) and revenue receieved from VSQGs and EPR programs.
80228601	522585	Outside Accounting for Audit	$ 10,000		Pisenti & Brinker	Audit of Facility Financial Records
80228601	522735	County Salaries & Benfits, County Administrative Overhead & Fiscal Support	$ 192,117		County DPW	Salary/Beneift/Overhead reimbursement to County via PSC
80228601	522930	Public HHW Bulb & Battery Containers	$ 7,500	NA	Various	HHW Giveaways
			$ 2,672,229			
80228601	900010	APPROP FOR CNTNGNCY GENERAL	**$ 267,223**			
			$ 2,939,452			

Org	Object	Description	2026 Proposed Budget	Narrative
80228601	441115	INVT INC-INT POOLED	$ 2,000	Interest
80228601	451970	STATE-OTHER	$ 125,500	CalRecycle grant funding for Used Motor Oil & Marin Flare Disposal Programs
80228601	461510	INT WASTE MGT AS FEE	$ 2,611,952	IWM Assessments from Franchised Haulers and Disposal facilites per JPA agreement
80228601	470310	MISC REVENUES	$ 200,000	Encumbered funds from FY25
			$ 2,939,452	

Zero Waste Marin Approved FY2025-2026 Budget

Org	Object	Description	2026 Approved	Contract Amt for FY26	Vendor	Narrative
80238601	522430	Printing & Mailing Services	$ 75,000.00		County Print Shop, Fast Signs	Printing and Mailing of O & E materials per state mandates
80238601	522510	Professional Service Contracts	$ 675,000.00			Professional Service Contracts
			$ -	$ 52,500.00	ExtraFood	Edible Food Recovery Mini Grant funded with SB1383 grant $
			$ -	$ 52,500.00	SF Marin Food Bank	Edible Food Recovery Mini Grant funded with SB1383 grant $
				$15,000	R3 - C&D	Contract support for Construction & Demolition outreach at Members.
			$ -	$30,000	TBD	Waste Reduction and Composting Climate Impact Reduction O&E
			$ -	$100,000	Reuse Alliance	Repair Fairs & Clothing Swaps Countywide
				$50,000	TBD	Reusables Pilots
			$ -	$75,000	SEI CC fellows	Member Agency Staff SB1383 Support
			$ -	$300,000	SEI ZWSP	Increased to add more schools the program and continued support to those enrolled.
80238601	522512	General Trade Service Contracts	$85,000		Trash Bin Cleaners	ZW Schools Program-Contracted service to clean organics carts. NORTHBAY CLEANING COMPANY
80238601	522520	Translation Services	$5,000	County		Support for translation services.
80238601	522530	Professional Services for Advertising & Marketing	$220,000			
				$210,000	Most Likely To	PSC: Print, bus shelter, and other outlets for zero waste educational campaigns including social media.
				$10,000	Various	Social media support boosts and ads placed directly by ZWM.
80238601	522540	Professional Services for Graphic Design	$ 10,000.00			Graphic design for professional printing of materials and website.
80238601	522930	Infrasture support & reusables giveaways	$ 260,000.00			Equiptment for compliance & reusable itesms to give away.
				$ 60,000.00	Various	Reusable items for member and community events
				$ 100,000.00	Various	Sorting equipment (waste station containers, signage, supplies, etc.) to help business with SB1383 compliance.
				$ 100,000.00	Various	Sorting equipment (waste station containers, signage, supplies, etc.), Green Team t-shirts, hats, compostable foodware, trash grabbers.
80238601	522935	Cloud based Subscriptions	$ 500.00		CANVA	Canva subscription for inhouse design.
			$ 1,330,500			
80238601	900010	APPROP FOR CNTNGNCY GEN	**$ 66,525**			
			$ 1,397,025			

Org	Object	Description	2026 Proposed	Narrative
80238601	441115	INVT INC-INT POOLED	$ 1,000	Interest
80238601	451970	STATE-OTHER	$ 292,548	Calrecycle Local Assistance Grant for SB1383 Year 2
80238601	461510	INT WASTE MGMT AS FEE	$ 1,038,477	IWM Assessments from Franchised Haulers and Disposal facilites per JPA agreement (based on tons disposed in landfills-AB939)
80218601	470310	MISC REV	$ 65,000	Encumbered funds from FY25
			$ 1,397,025	

ZERO WASTE MARIN

MARIN COUNTY HAZARDOUS AND SOLID WASTE MANAGEMENT JOINT POWERS AUTHORITY

Belvedere Corte Madera County of Marin Fairfax Larkspur Mill Valley
Novato Ross San Anselmo San Rafael Sausalito Tiburon

RECOMMENDATION FROM SUBCOMMITTEE – ITEM 4

TO Local Task Force

FROM Casey Fritz, Senior Planner

SUBJECT Recommendation from C&D Subcommittee: Deconstruction

DATE July 10, 2025

The Construction & Demolition Subcommittee has submitted a formal recommendation using the LTF Recommendation template provided by staff. This recommendation focuses on deconstruction in Marin County, and proposes a schedule of outreach, support for reuse infrastructure, and an eventual deconstruction ordinance.

The Subcommittee will present their recommendation; LTF members and ZWM will then discuss the recommendation and ask any questions of the Subcommittee. ZWM will then evaluate feasibility and cost before responding to the recommendation.

RECOMMENDATION
Information only. Receive and file.

TEMPLATE: Local Task Force Recommendation to Zero Waste Marin JPA Board

Recommendation Title:	Deconstruction Educational Campaign
Recommending Subcommittee:	Construction & Demolition (C&D) Subcommittee
Prepared By:	Justin Wilcock

Description of Recommended Action or Program:

The subcommittee is interested in promoting deconstruction in the County of Marin. After presentations by organizations such as Green Lynx, Urban Machine as well as research and conversations with the City of Palo Alto, the County of San Mateo and reviewing meetings of the Bay Area Deconstruction Working Group (BADWG), the committee identified specific challenges and identified specific measures to address these.

Two primary challenges with deconstruction in Marin County and local jurisdictions:

- **Awareness** - as part of the construction and demolition industry general contractors, home owners, and permitting desks are unaware of the deconstruction business
- **Space and markets** - currently Marin County does not have a location or non-profit to manage the inventory and promotion of used home material similar to San Francisco (Builders Resources), Sonoma (Reuse Alliance), and Alameda (The Reuse People) Counties.

We recommend the following to address awareness with the conclusion that volume will increase the likelihood to create locations and markets in Marin for deconstructed material

1- Recommend to ZWM that one of the 2026 FY pilot programs include an outreach campaign on deconstruction.
   a. This would entail developing marketing materials citing the environmental and financial benefits of deconstruction and a request to the building desks that they add a question on their building/demolition permit application if the applicant considered or did not consider deconstruction
   b. Include a before and after survey for building desks, contractors and permit holder as part of the campaign to determine the current level of recognition, understanding of, and support for deconstruction and then end with a closing survey to determine if education was successful.

   c. Campaign materials would be displayed at building desks at all member jurisdictions.
   d. The campaign could also include partnerships with local building organizations such as the Marin Builders Association.

2- Once the outreach campaign has successfully been deployed, the subcommittee recommends that ZWM devote resources to advertising, supporting and building up the deconstruction and reuse infrastructure in Marin County. The intended timeline for phase two would be the two years after phase 1.
3- Once the infrastructure is in place to support a robust deconstruction program, then ZWM should consider the development and promotion of a model ordinance for deconstruction of certain projects in Marin County. The subcommittee hopes that within 4-5 years of outreach and education, and infrastructure development, that a model ordinance can be developed and promoted throughout the county.

Year 1	Years 2-3	Years 4-5
Outreach Campaign and Survey	Continued Outreach and Infrastructure development	Model Ordinance Development and Outreach Campaign for Adoption by Marin County Cities.

Why This is Being Suggested:

Construction and demolition (C&D) waste is a land use issue and has energy/GHG impacts.

In the United States, construction and demolition (C&D) activities account for approximately 600 tons of total waste generated in 2018.[1]

What is the waste breakdown:

- Demolition contributes the largest portion—over 90% of total C&D waste.[2]
- Residential structures (homes) contribute significantly to this stream, with wood, drywall, roofing, and flooring being the most common materials.
- Recycling and diversion rates can vary widely—from less than 30% to more than 80%—depending on: 1) local ordinances , 2) availability of recycling facilities, and 3) project planning.

Energy/GHG impacts:

[1] https://www.epa.gov/smm/sustainable-management-construction-and-demolition-materials
[2] https://www.epa.gov/smm/sustainable-management-construction-and-demolition-materials

- Raw materials for buildings and construction account for more than 35% of global primary energy use and nearly 40% of energy-related CO_2 emissions.[3]
- When deconstructing and reusing building material, a significant benefit is having the material used locally. Added transportation will decrease the energy benefits of reuse.

Why pursue a deconstruction/reuse awareness campaign

- Given the amount of waste, C&D waste takes up landfill space and may have other uses in the community and can prolong the life of the landfill
- For energy, Life Cycle Inventory studies have indicated recovering softwood framing lumber and hardwood flooring for reuse instead of making new products displaces a considerable amount of production energy use.[4]
- Building awareness and volume will assist in market economics and theoretically increase local use of reused building material.

What are the Barriers to Wider Deconstruction Adoption:

Despite many benefits, several factors limit the widespread success of residential deconstruction:

- **Higher Upfront Costs:** Deconstruction is more labor-intensive than straight forward demolition and waste stream separation, making it more expensive in the short term. Without improved information at the municipal and county levels, strong financial incentives or policy support, many property owners and general contractors may opt for cheaper, faster demolition.
- **Lack of Skilled Workforce:** There is a limited pool of trained professionals who specialize in careful dismantling and materials recovery and valuation of materials.
- **Insufficient Infrastructure:** Many regions lack local markets, warehousing, and processing facilities for salvaged materials, making reuse more challenging.
- **Limited Public Awareness:** Homeowners and developers often aren't aware of the financial, environmental, and community benefits of deconstruction.
- **Regulatory Gaps:** Without clear mandates or incentives, builders may not have motivation to choose deconstruction over demolition.
- **Time Constraints:** Deconstruction typically takes longer than demolition, which can be a disadvantage in time-sensitive projects.

Deconstruction is a practical and impactful solution for diverting waste from landfills, reducing environmental harm, supporting local economies, and fostering community resilience. As more homeowners, contractors, and municipalities become aware of the practice and recognize its value, deconstruction will become a key strategy in building a sustainable future in our communities.

---

[3] https://corrim.org/wp-content/uploads/2022/08/LCA-LaminatedStrandLumber-NA.pdf
[4] https://www.fpl.fs.usda.gov/documnts/fplrp/fpl_rp672.pdf

ZERØ WASTE MARIN

Additional Details:

Proposed Timeline of Actions:
-June 2025 LTF meeting- propose recommendation to LTF committee.
-Upon acceptance by LTF, present at next JPA meeting to include this in the 2026 FY pilot project list.
-Upon approval by the JPA board, use an existing marketing team or hire a new marketing consultant and begin developing the marketing campaign including the development of a market survey.
-In the Fall of 2025 begin distributing materials to building desks.
- Begin collecting survey data.
- In Fall 2025 reach out to builders groups to discuss opportunities to set up educational presentations during their 2026 programming.
- End of 2026 fiscal year, evaluate the effectiveness of the campaign (engagement through QR codes, interviews with building desk staff to see what interest the information sparked, review of survey data or if a Y/N question is added to the demolition permit) and make recommendations on additional education campaigns or movement to phase 2, infrastructure development.

Evaluation of Equity Impact of Proposed Action or Program:

- Job creation and workforce development- Deconstruction requires trained labor and skill development. It can lead to stable careers and higher wages for skilled workers.
- It provides access to affordable building materials.
- It can foster local business through community-based business development.
- Deconstruction reduces landfill waste lessening the burden on local communities and landfills.

Estimated Fiscal Impact of Proposed Action or Program:
We believe this could be completed with a marketing design budget below $5000, and then a printing budget less than $5000 (this would depend on the recommendations from the marketing consultant). Add another $1000-2000 for additional marketing or events for a total estimated budget of $12,000.

Comments by Zero Waste Marin Staff:

Recommendation by Zero Waste Marin Executive Director:

Recommended next steps:	

ZERØ WASTE MARIN

Appendix - California Rules and Requirements for C&D Waste

What are California's Rules?

In California, the management of construction and demolition (C&D) debris is governed by the California Green Building Standards Code (CALGreen), which mandates that at least 65% of nonhazardous C&D waste be diverted from landfills through recycling or salvage for reuse. This requirement applies to most new construction projects, as well as certain additions and alterations to existing buildings.

Key Compliance Options:

1. **Construction Waste Management Plan (CWMP):** Develop and implement a plan that identifies the materials to be diverted, methods of diversion, and facilities to be used.

2. **Use of Certified Waste Management Companies:** Engage companies that can provide verifiable documentation demonstrating compliance with the 65% diversion **requirement.**

3. **Waste Stream Reduction Alternative:** For certain projects, compliance can be achieved if the total waste generated does not exceed specified weight thresholds per square foot.

Local Jurisdiction Variations:

While CALGreen sets the statewide minimum standards, local jurisdictions may adopt more stringent requirements. Also there is no model or requirement for awareness and educational approach within each jurisdiction.

Marin County requires a minimum of 65% diversion. The County has two locations that will receive C&D materials for recycling, Redwood landfill and Marin Sanitary Service. Marin Sanitary Service runs a C&D recovery facility that has a 3rd party verified diversion of 70% of material from the landfill[5]. Material sent here is separated by material type and recoverable materials are repurposed or recycled. In addition to diverting material, the county requires projects over 5,000 square feet to submit a C&D Waste Management Plan. Our recommendation for awareness and education in the county and the local jurisdictions is above.

In **Alameda County**, C&D waste must meet diversion rates between 65% and 75%, depending on the material. Contractors are required to submit a Waste Management Plan and use certified

[5] https://www.sfenvironment.org/construction-demolition-registered-facilities

recycling facilities to ensure compliance. The county supports education through community partnerships and training workshops, measuring success by tracking permit compliance and facility diversion data.

The **City of Alameda** mandates diversion of 65% to 95% of C&D materials. A Waste Management Plan with specific diversion targets must be submitted and approved before work begins. Educational resources are distributed through city programs and events, with success monitored via project-level reporting and audit checks.

In **San Francisco**, at least 65% of all C&D debris must be diverted from landfills. Contractors must use registered haulers and facilities and track compliance using the Green Halo platform. Education and outreach are conducted by the Department of the Environment, with performance tracked through Green Halo reports and citywide waste diversion statistics.

Sonoma County mandates 100% diversion of inert materials and 65% for other C&D debris. All projects are tracked through the Green Halo system. Sonoma promotes awareness via digital platforms and stakeholder engagement sessions. Success is measured using Green Halo metrics and reduction in landfill-bound material.

In **San Mateo County**, the diversion requirement is at least 65%. Contractors submit a C&D Waste Reduction Plan and deposit. Cities within the county provide education through sustainability guides, city websites, and workshops. Compliance rates and deposit refunds are used to track program effectiveness.

Palo Alto has gone beyond just a C&D ordinance and has a mandated deconstruction ordinance. This ordinance requires any owner doing a complete building destruction to survey the building for salvageable materials, disassemble the structure, and separate all materials for reuse and recycling.

ZERO WASTE MARIN

MARIN COUNTY HAZARDOUS AND SOLID WASTE MANAGEMENT JOINT POWERS AUTHORITY

Belvedere Corte Madera County of Marin Fairfax Larkspur Mill Valley
Novato Ross San Anselmo San Rafael Sausalito Tiburon

SUBCOMMITTEE UPDATES – ITEM 5

TO Local Task Force

FROM Casey Fritz, Senior Planner

SUBJECT Subcommittee Updates

DATE July 10, 2025

Subcommittees were established in the November 2023 Local Task Force meeting with a goal of facilitating more focused discussion and recommendations. The Subcommittees formed included:

- Infrastructure & End Markets
- Compliance & Regulations
- Outreach & Education
- Construction & Demolition

At each meeting, Subcommittees will report on their recent activities and any upcoming recommendations or projects.

RECOMMENDATION
Information only. Receive and file.

ZERO WASTE MARIN

MARIN COUNTY HAZARDOUS AND SOLID WASTE MANAGEMENT JOINT POWERS AUTHORITY

Belvedere Corte Madera County of Marin Fairfax Larkspur Mill Valley
Novato Ross San Anselmo San Rafael Sausalito Tiburon

FINAL WASTE CHARACTERIZATION STUDY REPORT – ITEM 6

TO Local Task Force

FROM Meilin Tsao, Waste Management Specialist

SUBJECT Final Waste Characterization Study Report

DATE July 10, 2025

ZWM undertook a Waste Characterization Study (WCS) during the 2024/25 Fiscal Year; this Study aimed to understand the composition of landfill loads being disposed of by Marin County residents and businesses. The study data collection took place in the winter of 2024/25, and was analyzed and compiled into a report in spring 2025.

ZWM staff have been directed by the JPA Board to develop an implementation plan for the recommendations made in the WCS and would like consistent feedback from the LTF.

RECOMMENDATION
Form a temporary Subcommittee with at least the Chair or Vice Chair as members to provide feedback to ZWM staff on implementing the recommendations included in the Waste Characterization Study.

Final
Zero Waste Marin
Waste Characterization Study Report

Zero Waste Marin
1600 Los Gamos, Suite 210
San Rafael, CA 94903
(415) 464-7491

SCS ENGINEERS

01224157.00 | June 03, 2025

4683 Chabot Drive, Suite 200
Pleasanton, CA 94588
925-426-0080

Table of Contents

Section Page

Exhibits

Figures

Tables

Appendices

1.0 EXECUTIVE SUMMARY

The Marin County Hazardous and Solid Waste Management Joint Powers Authority, better known as Zero Waste Marin (ZWM), selected SCS Engineers (SCS) to conduct a physical characterization study of the waste generated within Marin County's geographic boundaries. The goal of this project is to understand the level of recoverable material in the landfill waste stream generated in the county by commodity type. The study began in the winter of 2024 over a two-week sampling period to establish the composition of the material being sent to landfill within the county. The data collected during the study will guide ZWM as staff expands and/or develops new waste diversion and reduction programs.

Based on information provided by Zero Waste Marin, SCS developed a sampling protocol that detailed the field procedures, sampling plan, and material categories for sorting. SCS coordinated with Marin County waste haulers to haul specific routes to Redwood Landfill. The routes were identified and rerouted based on the collection data provided by each hauler. The material selected shows a distribution across the county for commercial, multi-family, and residential sectors. Roughly eight 200-pound samples were selected per day from landfill loads for two non-consecutive weeks in December 2024 and January 2025 (Monday through Friday), totaling 80 samples. These 80 samples were sorted into 74 material categories.

Each sample's composition was calculated by dividing each material component's weight by the entire sample weight. The individual material compositions for each sample were averaged to derive the overall summary of material composition in **Table 1**.

Table 1. Material Composition by Sector Type

Material Type	Overall	Commercial	Multi-Family	Residential	Self-Haul
Paper	12.6%	12.8%	12.3%	12.5%	4.2%
Glass	2.3%	2.8%	2.9%	1.6%	2.0%
Metal	2.9%	2.8%	4.0%	2.7%	6.0%
Plastic	14.9%	15.4%	13.6%	14.6%	2.6%
Food	23.9%	25.2%	24.8%	22.2%	0.7%
Yard Waste	2.7%	3.5%	3.9%	1.3%	4.4%
Other Organics	8.6%	7.6%	5.9%	10.6%	7.4%
Textiles	6.2%	6.7%	6.4%	5.5%	6.3%
Inerts	0.9%	0.8%	0.6%	1.1%	30.3%
HHW	3.3%	4.4%	3.9%	1.9%	14.1%
Other	21.6%	18.0%	21.7%	25.9%	22.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

A total of 60 percent of the sorted material could be diverted from landfills through available programs within the county. Of this material, 35 percent is compostable. Compostable material includes the food, yard waste, and the other organics categories. The top recyclable and compostable material categories are listed in **Table 2**.

Table 2. Top Recyclable and Compostable Materials Found in the Landfill Stream

Top Recyclable Materials Found	Top Compostable Materials Found
Mixed Paper	Not Donatable – Food (Non-Meat): fruits, vegetables, baked goods
Cardboard	Inedible Food Scraps: bones, peels, shells
Other Magnetic Metal	Other Compostable Paper

Based on these findings, SCS recommends that ZWM focus its waste reduction and diversion programs towards the compostable material found in the landfill waste stream. Of the compostable material found in the waste stream, 24 percent is food. Focusing outreach and education efforts on the diversion of food waste will have the greatest impact on the waste stream within the county. It is recommended that ZWM focus this outreach towards the commercial sector as it was found to have the highest levels of food waste in the waste stream.

Additionally, the visual characterization of self-hauled waste identified that majority of incoming loads contained a mix of materials. The two largest recoverable materials found within the sampled self-haul loads at the Marin Resource Recovery Center are bulky items and yard debris and trimmings. SCS recommends ZWM educate residents and junk haulers on the importance of separating their self-haul loads for disposal. This will help reduce the amount of recoverable material sent to landfills.

2.0 INTRODUCTION

Zero Waste Marin is comprised of representatives from Marin's 11 cities and towns, Belvedere, Corte Madera, Fairfax, Larkspur, Mill Valley, Novato, Ross, San Anselmo, San Rafael, Sausalito, Tiburon; and the Unincorporated County of Marin. ZWM's mission is to protect natural resources by promoting source reduction of waste through reuse, repair, and more mindful purchasing.

ZWM selected SCS Engineers to conduct a physical characterization of the waste generated within the county. The primary objectives of the study were to:

1. Identify the level of recoverable material in the landfill waste stream generated in the county, by commodity type.

2. Identify if specific business sector types are contributing substantial quantities of recyclable and compostable materials to the waste stream.

3. Collect data in compliance with SB 1383 (2016) and AB 2346 (2024) that will help inform ZWM's waste diversion programs and outreach efforts.

The physical waste characterization began in the Winter of 2024 over a two-week sampling period to establish the composition of the material being sent to landfill within the county. While the study provides a valuable snapshot of waste generation and disposal behaviors, it is important to recognize that waste composition can vary seasonally due to changes in consumer behavior, weather conditions, and holiday-related activities. For example, winter months may see increased food waste due to holiday gatherings or reduced yard waste due to dormant landscaping. These seasonal influences should be considered when interpreting the findings and applying them to year-round waste diversion planning and program development.

SCS coordinated efforts with the haulers servicing in-county households and businesses.

1. Bay Cities Refuse
2. Marin Sanitary Service
3. Mill Valley Refuse Service
4. Recology Sonoma Marin
5. Tamalpais Community Services District

These haulers conducted special routing to allow SCS to conduct the detailed waste characterization. The study included commercial, multi-family, and single-family residential waste delivered to Redwood Landfill.

Over the two weeks of sampling at Redwood Landfill, a total of 80 samples were collected and sorted into 74 material categories. The study methods and results detailed below will inform ZWM staff of focus areas for waste reduction and diversion strategies.

3.0 METHODOLOGY

Based on information provided by ZWM staff and waste haulers in the county, SCS developed a sampling protocol that detailed the field procedures, sampling plan, and material categories for sorting. SCS selected eight 200-pound samples per day from loads bound for the landfill for two non-consecutive weeks (Monday through Friday), totaling 80 samples.

3.1 SAMPLING PLAN

ZWM identified four waste sectors to be included in the study.

1. Commercial Waste - Waste collected by a waste hauling company from businesses, institutions, and public venues. For this study, collection vehicles were rerouted for sampling to Redwood Landfill for disposal.

2. Single-Family Residential Waste - Waste collected by a waste hauling company from single-family residences (including townhouses or buildings with up to four residential units). It typically arrives at the solid waste facility in side-loading packer trucks.

3. Multi-Family Residential Waste - Waste collected by a waste hauling company from multi-family properties such as apartments and condominiums with more than four residential units. Waste from multi-family properties is typically collected along with commercial waste in

front-loading packer trucks; however, special routes were arranged to collect solely from multi-family properties for this study.

4. **Self-Hauled Waste** - Waste that is brought to solid waste facilities by the resident or business that generated it. This sector also includes contractors such as landscaping companies and renovators that deliver waste generated during their business operations.

SCS created a sampling plan based on the 2023 annual collection data provided by the five waste haulers within the county. Samples were selected to be representative of the waste generated in each jurisdiction within the county. The percentage of material generated by each business sector and jurisdiction was calculated based on the provided data. This percentage was then used to identify the number of samples for each sector to be included in the study, of which all jurisdictions with over one percent of the total percentage were represented. Jurisdictions with one percent or fewer of the reported tons were not included in the sampling plan. This was done to keep the sampled material representative of the material disposed within the county.

Table 3 outlines the collection data reported by each hauler and displays the sample distribution amongst the waste generator sectors. **Table 4** outlines the sampling plan by jurisdiction based on the data provided.

Table 3. Sample Selection

Sector	Tons Collected	Percent of Total	Number of Samples
Commercial	48,713	48%	38
Multifamily	12,030	12%	10
Residential	40,168	40%	32
Overall	100,911	100%	80

Bulky item collection data was provided by the five franchised waste haulers. However, due to the variability in the data provided, it is outlined separately in **Section 5.4.**

Table 4. Jurisdiction Sample Selection

Sector	Tons Collected	Percent of Total	Planned Number of Samples	Number of Samples Pulled
Belvedere	717	1%	0	0
Corte Madera	3,599	4%	3	3
Fairfax	2,075	2%	1	1
Larkspur	6,171	6%	4	3
Mill Valley	5,241	5%	4	4
Novato	23,318	23%	19	19
Ross	883	1%	0	0
San Rafael	30,060	30%	24	24
Sausalito	2,374	2%	2	3
San Anselmo	3,922	4%	4	4
Tiburon	3,002	3%	3	3
Unincorporated	19,549	19%	16	16
Total	**100,911**	**100%**	**80**	**80**

3.2 FIELD METHODS

SCS relies on proven protocols and a trained crew to ensure meticulous fieldwork and consistent results. The team consisted of two SCS field managers and six hand sorters. Both Field Managers have experience supervising waste characterization studies. It is standard for one Field Manager to collect samples while another supervises the team of hand sorters.

3.2.1 Sample Selection

The SCS Sampling Manager oversaw the selection and collection of each waste sample. The five waste haulers provided special truck routing to Redwood Landfill for inclusion in the waste characterization study. The Sampling Manager monitored trucks entering the facility. This individual utilized the site-specific sampling plan to identify which trucks to stop for further waste screening. Based on the sampling plan, the Sampling Manager stopped trucks and interviewed the driver to obtain details on the waste contained in the vehicle and the city of origin. If the sample met the criteria for sampling and sorting, the Sampling Manager would direct the driver of the truck to a designated area where the entire waste load would be discharged.

SCS staff worked closely with the scale house at Redwood Landfill and each of the five haulers to identify trucks to collect samples. Drivers that conducted special routing procedures to capture specific waste streams were

automatically routed to the designated sampling area by the scale house. After the truck was safely emptied, the SCS Sampling Manager visually inspected the waste to confirm the load should be sampled.

Once the truck emptied its contents in the designated sampling area, SCS supervisors followed the steps below to obtain a sample:

- The SCS sampling supervisor visually divided the waste load into eight subsections. A section is randomly chosen for sampling. At this point the supervisor directed facility staff operating a skid steer to scoop a sample from the selected section.
- The Sampling Manager arranged a collection of 32-gallon containers to capture the sample. The sample was dumped from the skid steer onto the containers, as shown in **Figure 1.**
- Once the sample is adequately placed in the containers, the Sampling Manager weighed each container until a weight of approximately 210-215 pounds was calculated. SCS sampling protocol includes extra sample material if some is lost during the sorting process.
- The team of hand sorters then assisted the Field Manager to transport the containers to the sorting area and place the sample on the table.
- SCS noted sample origin, sector, hauling company, date of collection and sorting, and any unique information about the sample on the data form.

3.2.2 Sorting Procedure

SCS uses the hand sort procedure based on the ASTM procedure D 5231- 92. The waste samples were placed on a sorting table and separated by hand into the 74 pre-determined material type categories as follows.

Figure 2. Sorting Table

- The work crew loaded each sample onto the sorting table as shown in **Figure 2**. The team then hand-sorted the materials into the material categories defined in **Appendix A**. Large, heavy, or bulky waste items were placed directly into the appropriate container for subsequent weighing.
- Plastic bags of trash were opened, and work crew members manually segregated each item of waste until all the identifiable components were placed into the proper container. The remaining material was swept off the platform and placed in a separate container for “mixed residue”.
- Upon completion of sorting each sample, the containers of segregated materials were moved to the scale where the SCS site manager checked each category for homogeneity, weighed,

and recorded the net weight on the waste sample record. Measurements were made to the nearest 0.01 pound.

- After the weight of each waste material had been recorded, the materials were placed into designated areas for landfill disposal.

3.3 DIVERSION ANALYSIS

Each of the 74 material categories was classified into one of four divertibility groups:

Divertible Materials - This includes materials for which source reduction programs or methods, collection programs, and/or recycling infrastructure exist.

Compostable Materials - This includes green waste materials that are appropriate for municipal composting programs.

Potentially Divertible - This includes materials for which methods and/or technology exist for recycling, reuse, or other beneficial uses, although programs to collect and process the materials are limited or nonexistent in Marin County.

Other Materials - This includes materials that do not fit any of the definitions above and that are not easily diverted from disposal.

Table 5. Material Diversion Classifications

Material Components	Divertible	Compostable	Potentially Divertible	Other
PAPER				
Uncoated Corrugated Cardboard	X			
Newspaper	X			
White Ledger	X			
Mixed Paper	X			
Aseptic Cartons / Gable-top			X	
Paper/Fiber Food Service Ware				X
Remainder/Composite Paper				X
GLASS				
CRV Glass Bottles and Containers	X			
Non-CRV Glass Bottles and	X			
Other Glass				X
METAL				
Steel/Tin Cans	X			
Aluminum Cans – CRV	X			
Aluminum Cans – Non-CRV	X			
Other Ferrous	X			
Other Non-Ferrous	X			
Remainder/Composite Metal				X
PLASTIC				
PETE Bottles – CRV	X			
PETE Bottles – Non-CRV	X			
PET Thermaforms	X			
HDPE #2 Colored Containers	X			
HDPE #2 Neutral Containers	X			
PP #5 Containers	X			
Other Plastic Containers (3, 4, 6, 7)	X			
Bioplastics				X
Recyclable Plastic Film			X	
Nonrecyclable Film				X
Durable Plastic Items	X			
Expanded Polystyrene				X
Remainder/Composite Plastic				X
FOOD				
Potentially Donatable – **Vegetative**		X		
Potentially Donatable - **Eggs**,		X		
Potentially Donatable – **Meat**		X		
Potentially Donatable -		X		
Potentially Donatable - **Packaged**		X		
Not Donatable – **Meat**		X		
Not Donatable – **Non-meat**		X		
Inedible		X		

Material Components	Divertible	Compostable	Potentially Divertible	Other
YARD WASTE				
Leaves and Grass		X		
Chips, Prunings, Trimmings		X		
Branches, Stumps		X		
Other Recycleable Wood		X		
OTHER ORGANICS				
Manure		X		
Other Compostable Paper		X		
Remainder/Composite Organic				X
Clean Dimensional Lumber		X		
Clean Engineered Wood		X		
Pallets & Crates		X		
TEXTILES				
Cloth and Clothing			X	
Shoes, Purses, Belts			X	
Carpet			X	
Other				X
INERTS				
Concrete			X	
Asphalt			X	
Clean Gypsum Board			X	
Rock, Soil, and Fines			X	
Remainder/Composite Construction & Demolition			X	
HAZARDOUS & E-WASTE				
Paint	X			
Vehicle and Equipment Fluids			X	
Used Oil and Oil Filters	X			
Large Rechargeable Batteries	X			
Household Batteries	X			
Universal Waste Electronic Devices (UWED)	X			
Covered Electronic Waste	X			
Fluorescent Tubes	X			
Treated Wood Waste				X
Propane Gas Cylinders	X			
Pharmaceuticals	X			
Sharps	X			
Vapes			X	
All Other HHW				X
RESIDUE/OTHER				
Bulky Items				X
Tires	X			
Remainder/ Composite Special Waste				X
Mixed Residue/Other				X

4.0 RESULTS

The material weights were gathered in the field and recorded into a spreadsheet database. Each sample's composition was calculated by dividing each material component's weight by the entire sample weight. The individual material compositions for each sample were averaged to derive the overall summary of material composition. The detailed sample results display the 10 major material categories and 74 subcategories, with a 95 percent confidence interval, and are shown in **Appendices B - E**. The confidence interval provides a range for which with 95 percent confidence the composition of that material will fall. For materials with a confidence interval greater than the composition the lower limit should be interpreted as 0.0%.

4.1 OVERALL MSW

A summary of average material compositions is displayed in **Exhibit 1**. As shown in **Exhibit 1**, Food Waste, Other Materials, and Plastic were the dominant material classes found in Marin County's overall municipal solid waste (MSW) stream. The largest contributors to the Food Waste category were "Not Donatable – Non-meat" (10.0 percent) and "Inedible Food" (8.3 percent). The Other Material category is largely comprised of "Mixed Residue" (20.8 percent). Nonrecyclable plastic film made up half (7.0 percent) of the plastics found in the waste stream.

Exhibit 1. Overall MSW Composition

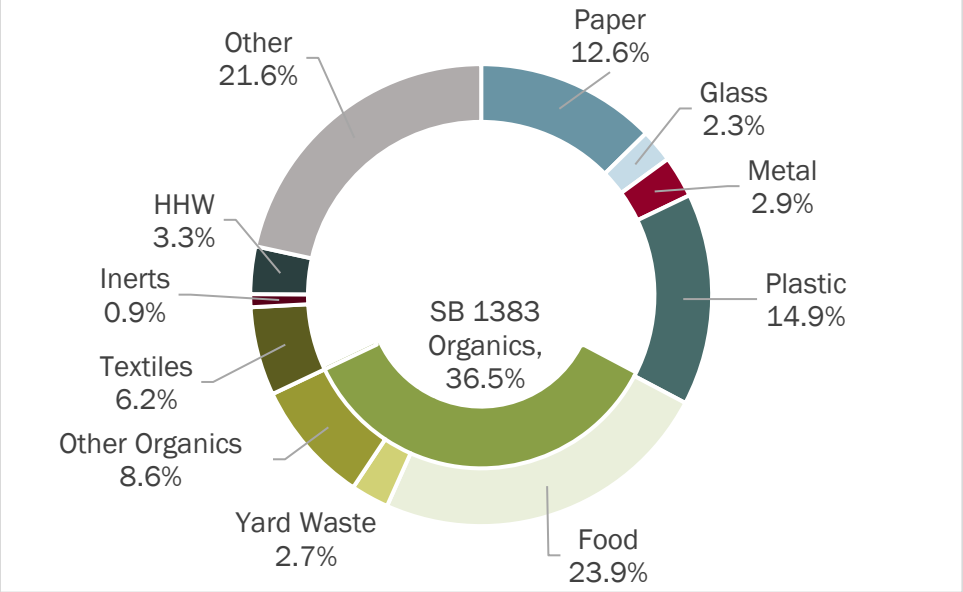


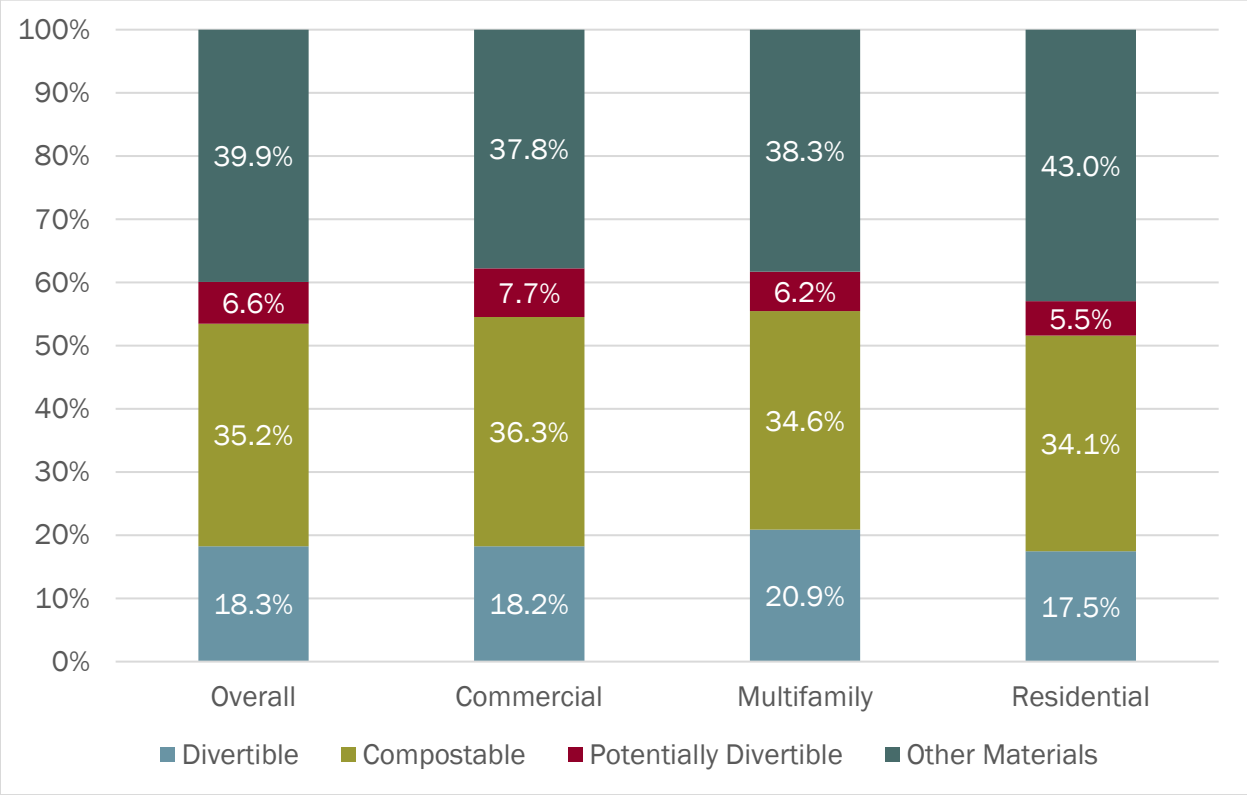
Table 6 identifies the top ten material types found in the County's waste stream.

Table 6. Top Ten Material Compositions

Rank	Composition	Material Type	Diversion Classification
1	20.8%	Mixed Residue/Other	Other Material
2	10.0%	Not Donatable – Food Non-meat	Compostable
3	8.3%	Inedible Food	Compostable
4	7.1%	Other Compostable Paper	Compostable
5	7.0%	Nonrecyclable Film	Other Material
6	4.7%	Mixed Paper	Divertible
7	3.2%	Paper/Fiber Food Service Ware	Other Material
8	3.2%	Cloth and Clothing	Potentially Divertible
9	2.1%	Potentially Donatable – Vegetative (Perishable/Fresh)	Compostable
10	1.8%	Remainder/Composite Plastic	Other

As shown in **Exhibit 2**, about 60 percent of the overall Marin County waste stream can be classified as divertible, potentially divertible, or compostable.

Exhibit 2. Overall Diversion Assessment



4.1.1 SB 343 Considerations

SB 343 prohibits the use of the chasing arrows recycling symbol on packaging unless the material is considered to be recyclable in at least 60 percent of California recycling programs as determined through a waste characterization study conducted by CalRecycle. The 2024 preliminary findings of this study identify the percent of California's population with collection access for each material type. A majority of the ZWM material categories classified as divertible align with the findings of CalRecycle's SB 343 waste study.

Materials that are not recyclable countywide are detailed below:

- Aseptic / Gable top containers are classified as potentially divertible in ZWM's study. CalRecycle's *SB 343 Revised Preliminary Findings Report* found that 72 – 74 percent of California's population has access to recycling collection programs accepting Aseptic / Gable top containers.

Aseptic / Gable top containers will continue to be sold in California with the chasing arrows symbol on their packaging and marketed for recycling under SB 343. A complete list of material types and associated recycling accessibility rates can be found in **Appendix B.** The highlighted grey material categories are determined to be captured in less than 60 percent of California recycling programs.

The information provided above reflects the category list of materials designated recyclable in the SB 343 Final Findings Report released April 4, 2025.

4.2 COMMERCIAL MSW

As shown in Exhibit 3, Food Waste, Other Materials, and Plastic were the dominant material classes found in Marin County's commercial waste stream. The largest contributors to the Food Waste category were "Not Donatable – Non-meat" (10.4 percent) and "Inedible Food" (9.2 percent). The Other Material category is largely comprised of "Mixed Residue" (16.6 percent). Nonrecyclable plastic film made up half (7.3 percent) of the plastics found in the waste stream.

Exhibit 3. Commercial MSW Composition

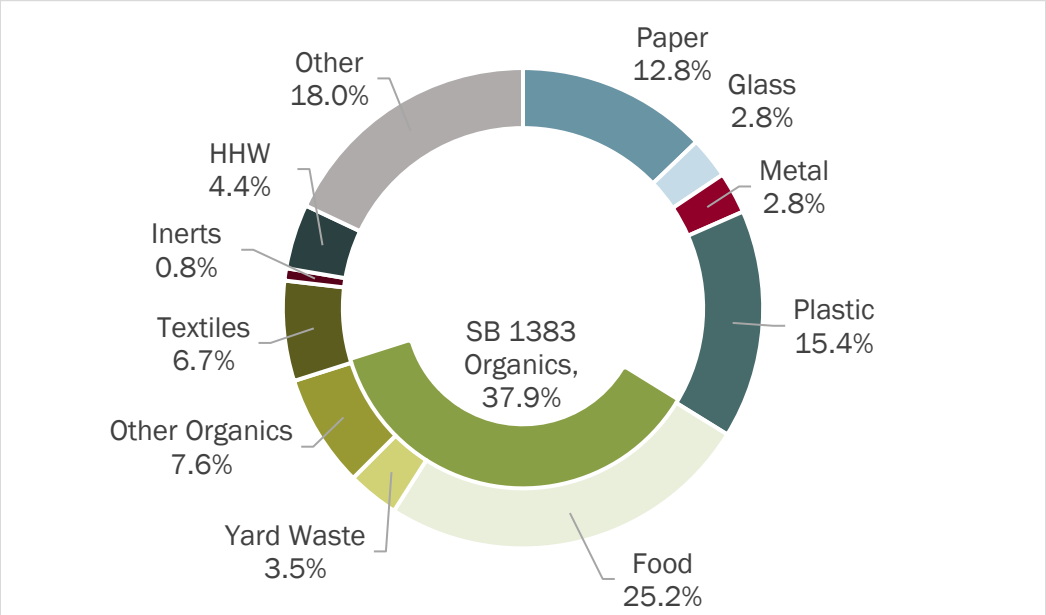


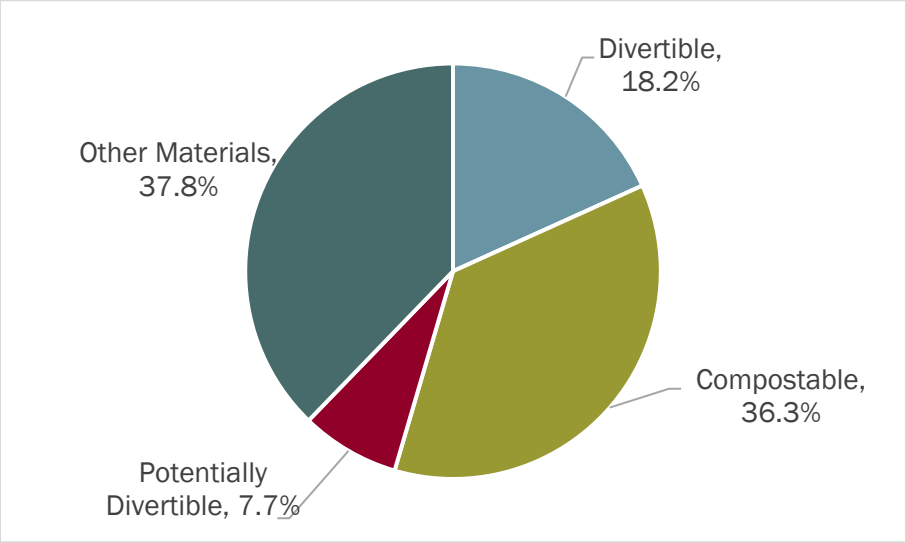
Table 7 identifies the top ten material types found in the County's commercial waste stream.

Table 7. Top Ten Commercial Material Compositions

Rank	Composition	Material Type	Diversion Classification
1	16.6%	Mixed Residue/Other	Other Material
2	10.4%	Not Donatable – Non-meat	Compostable
3	9.2%	Inedible Food	Compostable
4	7.3%	Nonrecyclable Film	Other Material
5	6.8%	Other Compostable Paper	Compostable
6	4.0%	Cloth and Clothing	Potentially Divertible
7	4.0%	Mixed Paper	Divertible
8	4.0%	Paper/Fiber Food Service Ware	Other Material
9	2.9%	Potentially Donatable – Vegetative (Perishable/Fresh)	Compostable
10	2.1%	Leaves and Grass	Compostable

As shown in **Exhibit 4**, about 62 percent of the commercial Marin County waste stream can be classified as divertible, potentially divertible, or compostable.

Exhibit 4. Commercial Diversion Assessment



4.3 MULTI-FAMILY MSW

As shown in **Exhibit 5**, Food Waste, Other Materials, and Plastic were the dominant material classes found in Marin County's multi-family residential waste stream. The largest contributors to the Food Waste category were "Not Donatable – Non-meat" (11.7 percent) and "Inedible Food" (6.1 percent). The Other Material category is largely comprised of "Mixed Residue" (21.7 percent). Nonrecyclable plastic film made up just over half (7.3 percent) of the plastics found in the waste stream.

Exhibit 5. Multi-Family MSW Composition

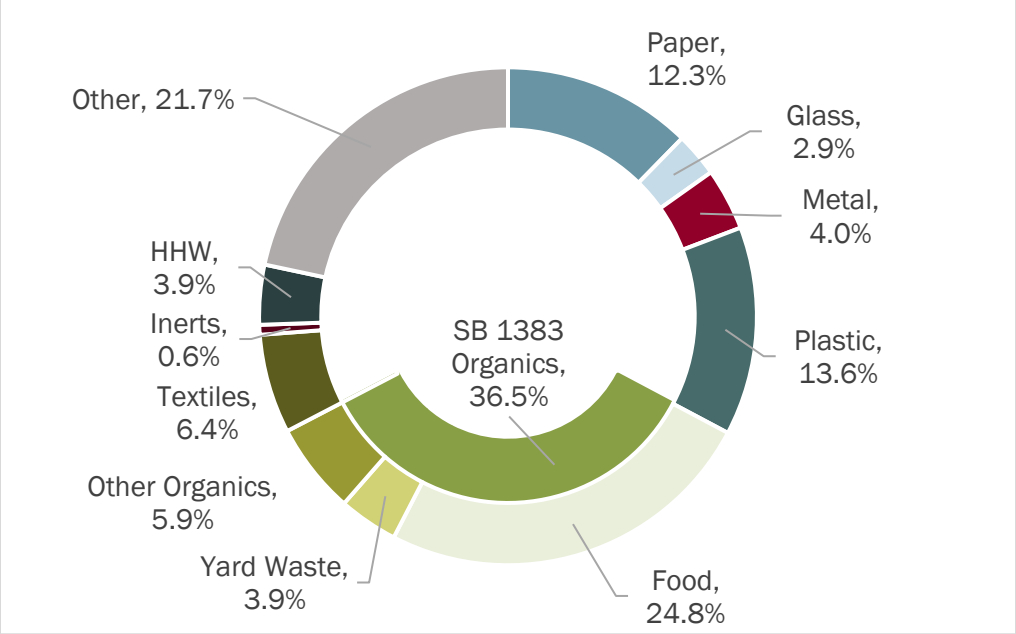


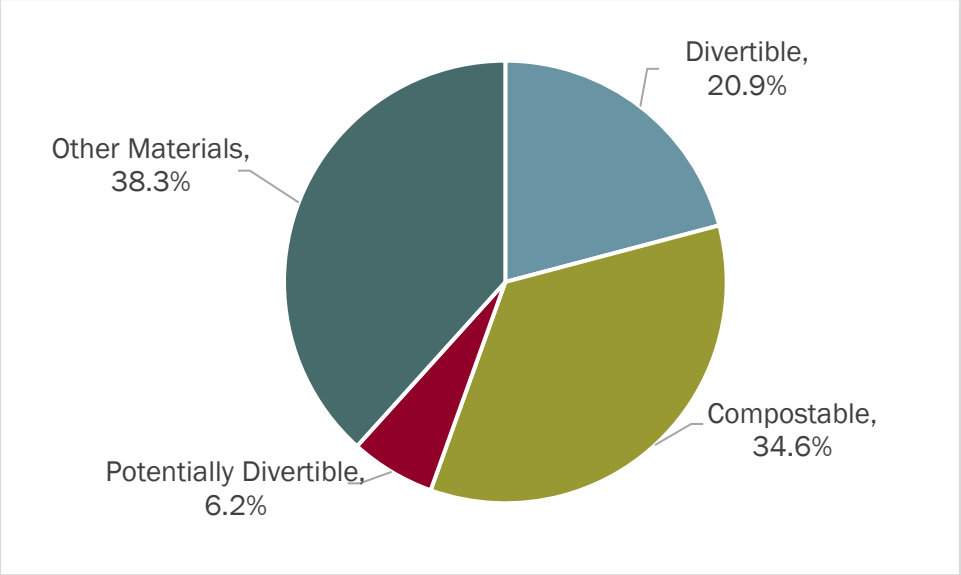
Table 8 identifies the top ten material types found in the County's multi-family residential waste stream.

Table 8. Top Ten Multi-Family Material Compositions

Rank	Composition	Material Type	Diversion Classification
1	21.7%	Mixed Residue/Other	Other Material
2	11.7%	Not Donatable – Non-meat	Compostable
3	6.1%	Inedible Food	Compostable
4	5.3%	Other Compostable Paper	Compostable
5	5.1%	Mixed Paper	Divertible
6	5.1%	Nonrecyclable Film	Other Material
7	3.2%	Cloth and Clothing	Potentially Divertible
8	2.9%	Paper/Fiber Food Service Ware	Other Material
9	2.9%	Not Donatable – Meat	Compostable
10	2.9%	Leaves and Grass	Compostable

As shown in **Exhibit 6**, about 62 percent of the Marin County multi-family waste stream can be classified as divertible, potentially divertible, or compostable.

Exhibit 6. Multi-Family Diversion Assessment



4.4 SINGLE-FAMILY RESIDENTIAL MSW

As shown in **Exhibit 7**, Other Materials, Food Waste, and Plastic were the dominant material classes found in Marin County's single-family residential waste stream. The Other Material category is largely comprised of "Mixed Residue" (25.6 percent). The largest contributors to the Food Waste category

were “Not Donatable – Non-meat” (9.1 percent) and “Inedible Food” (7.9 percent). Nonrecyclable plastic film made up half (7.3 percent) of the plastics found in the waste stream.

Exhibit 7. Residential MSW Composition

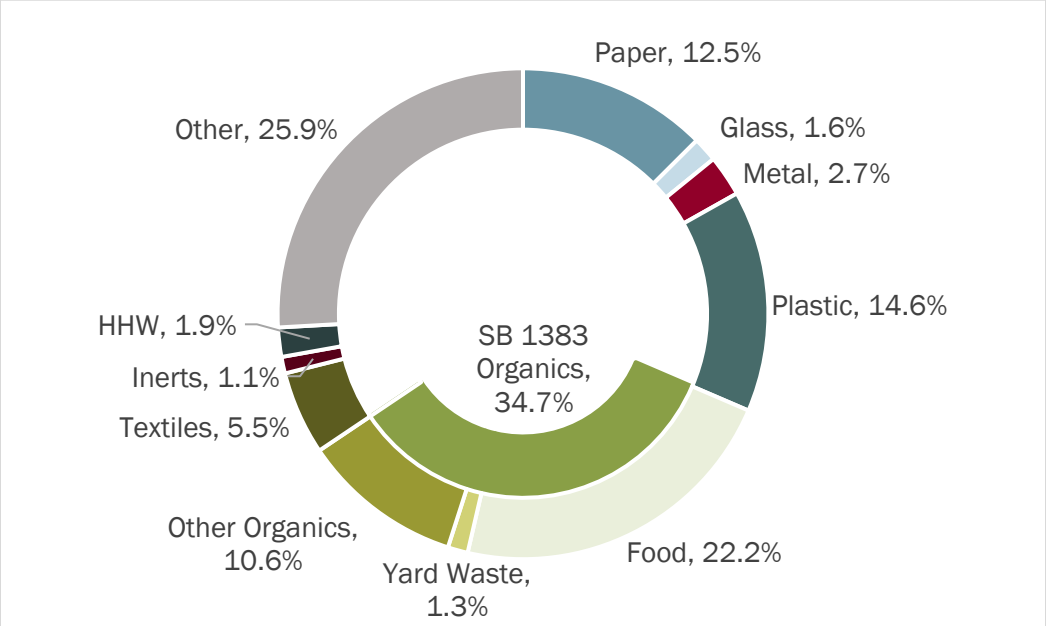


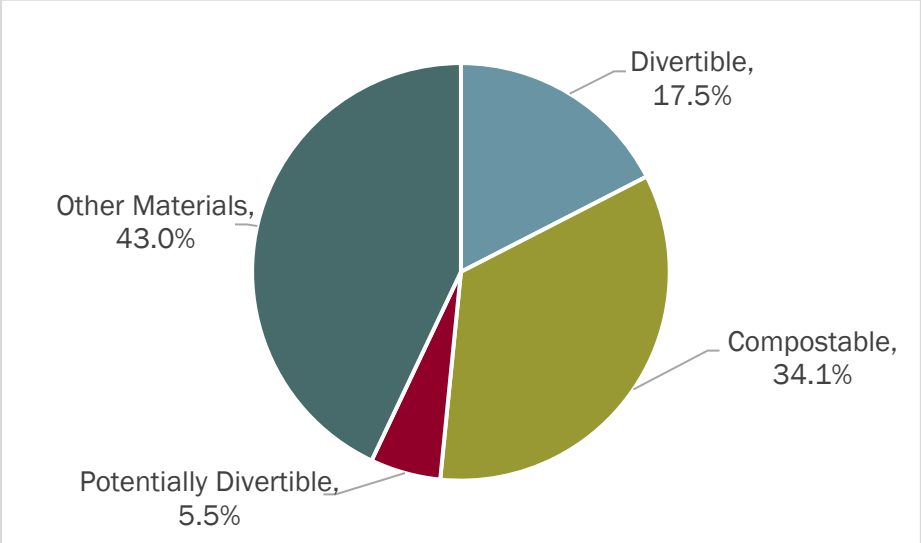
Table 9 identifies the top ten material types found in the County’s single-family residential waste stream.

Table 9. Top Ten Single-Family Material Compositions

Rank	Composition	Material Type	Diversion Classification
1	25.6%	Mixed Residue/Other	Other Material
2	9.1%	Not Donatable – Non-meat	Compostable
3	8.0%	Other Compostable Paper	Compostable
4	7.9%	Inedible Food	Compostable
5	7.3%	Nonrecyclable Film	Other Material
6	5.4%	Mixed Paper	Divertible
7	2.5%	Paper/Fiber Food Service Ware	Other Material
8	2.2%	Other Textiles	Other Material
9	2.1%	Cloth and Clothing	Potentially Divertible
10	2.0%	Remainder/Composite Plastic	Other Material

As shown in **Exhibit 8**, about 57 percent of the Marin County single-family waste stream can be classified as divertible, potentially divertible, or compostable.

Exhibit 8. Single-Family Diversion Assessment



4.5 JURISDICTIONAL ASSESSMENT

The compositions of the samples for each jurisdiction, including Unincorporated Marin County (Unincorporated) were calculated by dividing each material component's weight by the weight of the entire sample. The samples sorted for each jurisdiction were then averaged and the percentages are displayed in **Exhibit 9.**

It's important to note that the design did not encompass every jurisdiction in Marin County. The results presented below should be interpreted with discretion regarding specific jurisdictions. While the results provide valuable insights into the targeted locations, they may not hold true for each jurisdiction within the county due to the parameters of this study. Additionally, due to relative waste generation, only one sample for Fairfax was collected.

Exhibit 9. Jurisdiction MSW Composition

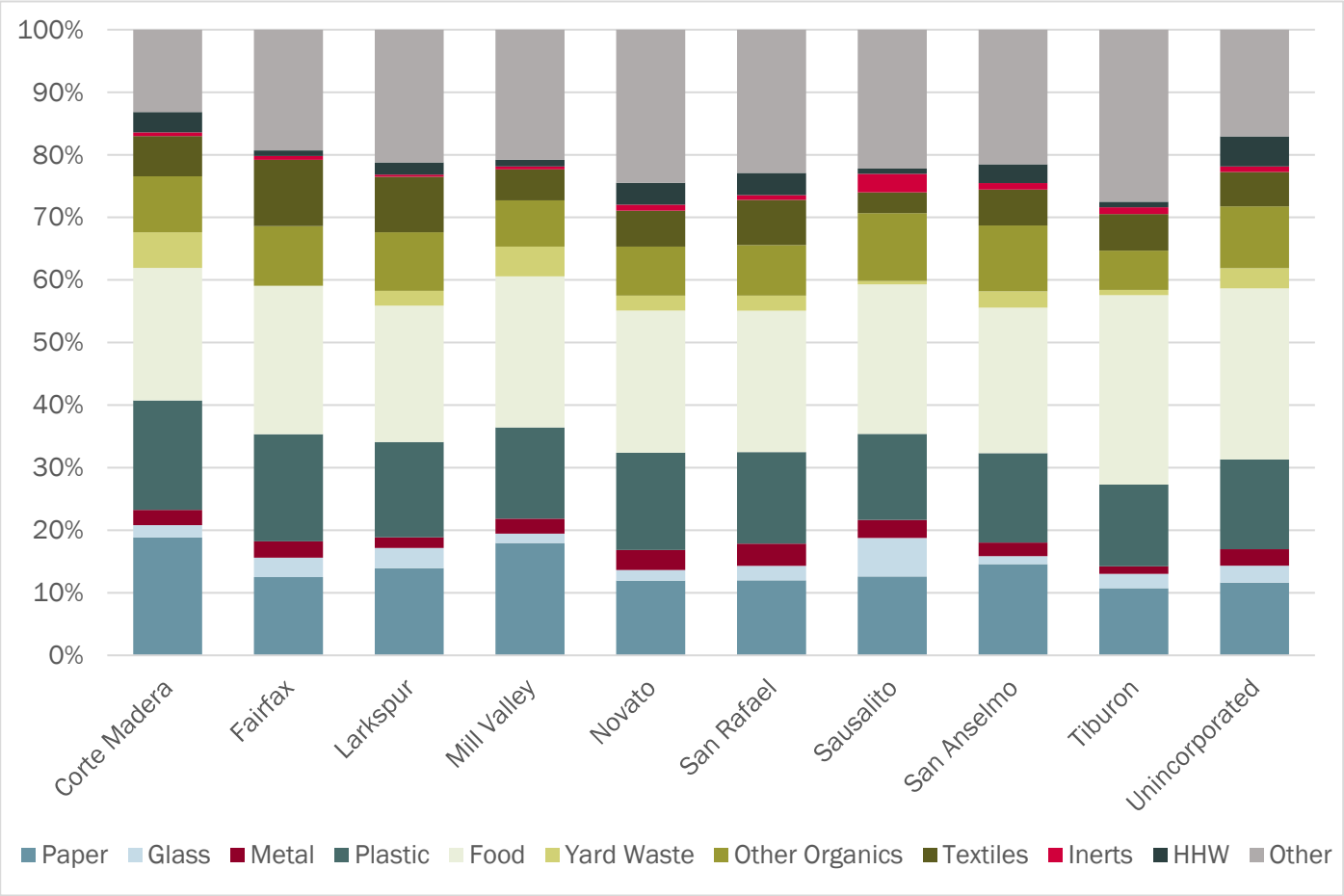
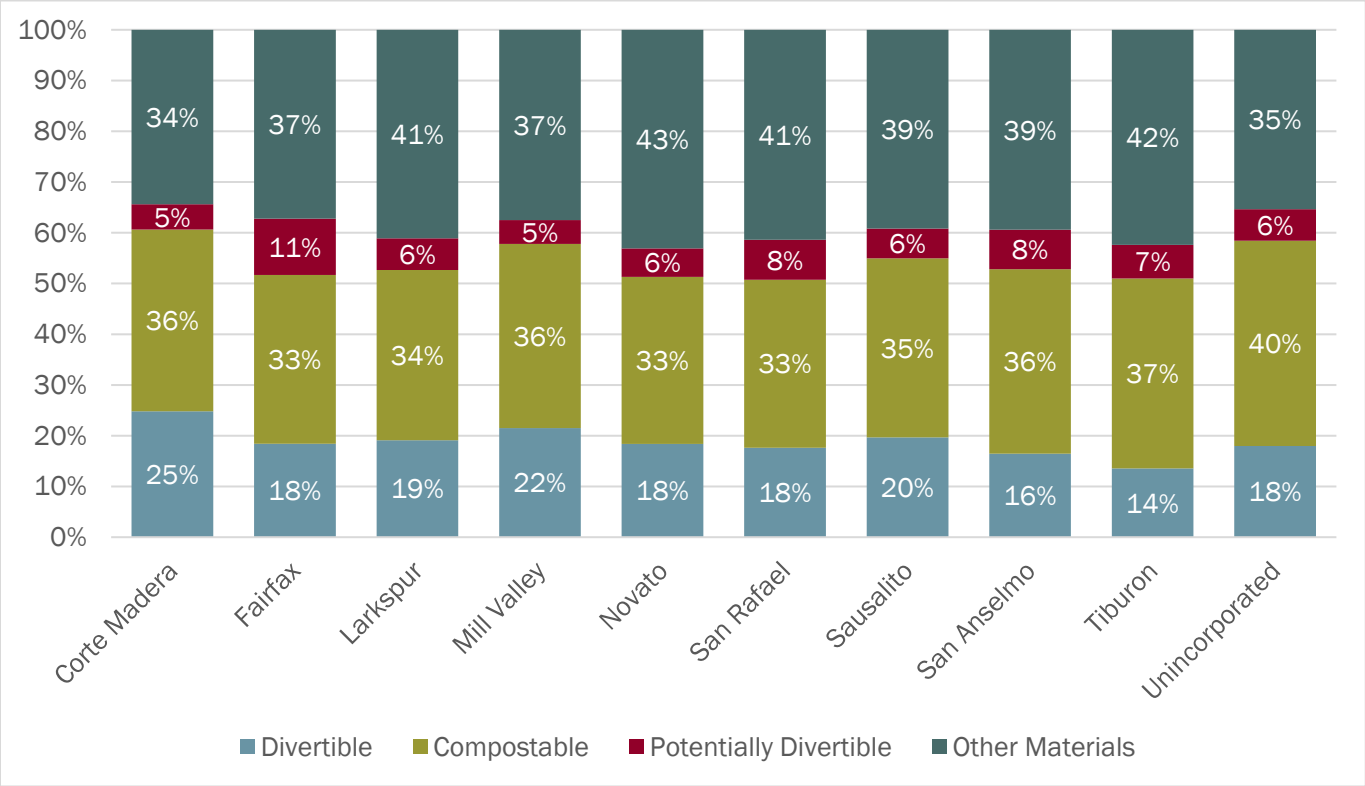


Exhibit 10 displays the divertibility of the collected material for each jurisdiction.

Exhibit 10. Jurisdiction Diversion Assessment



5.0 VISUAL CHARACTERIZATION

A visual waste characterization was conducted from March 10 – 14, 2025 at the Marin Resource Recovery Center (MRRC). The original scope of work for the ZWM waste characterization study planned for the visual characterization to take place at Redwood Landfill in Novato to capture the material hauled directly to landfills for disposal outside of the five franchised haulers. WM expressed concerns about safety hazards on the landfill face and declined to include the visual audits as a part of the broader waste characterization study conducted onsite.

The visual characterization of self-hauled material is an important component to fully understand waste generation and disposal in Marin County, as these materials are not captured in the hand-sort process.

Self-haul loads are typically bulky materials and waste from construction and demolition, and landscaping projects that are not conducive to manual sorting. Obtaining a 200-pound sample of this material would skew the waste characterization results due to the size and weight of the materials in the waste load. **Figure 3** shows an example of a sample included in the visual waste characterization at MRRC.

Figure 3. Example of C&D visual sample.

5.1 RESULTS

Roll-off containers and self-hauled loads were visually characterized into the 38 material types listed in the visual data sheet **Appendix F.** A total of 58 waste loads that originated in the county were visually characterized at MRRC. **Table 11** displays the number of samples included in the study from each jurisdiction. Due to the location of the facility and nature of self-haul loads, not every jurisdiction was captured in the visual characterization.

Table 10. Selected Visual Samples

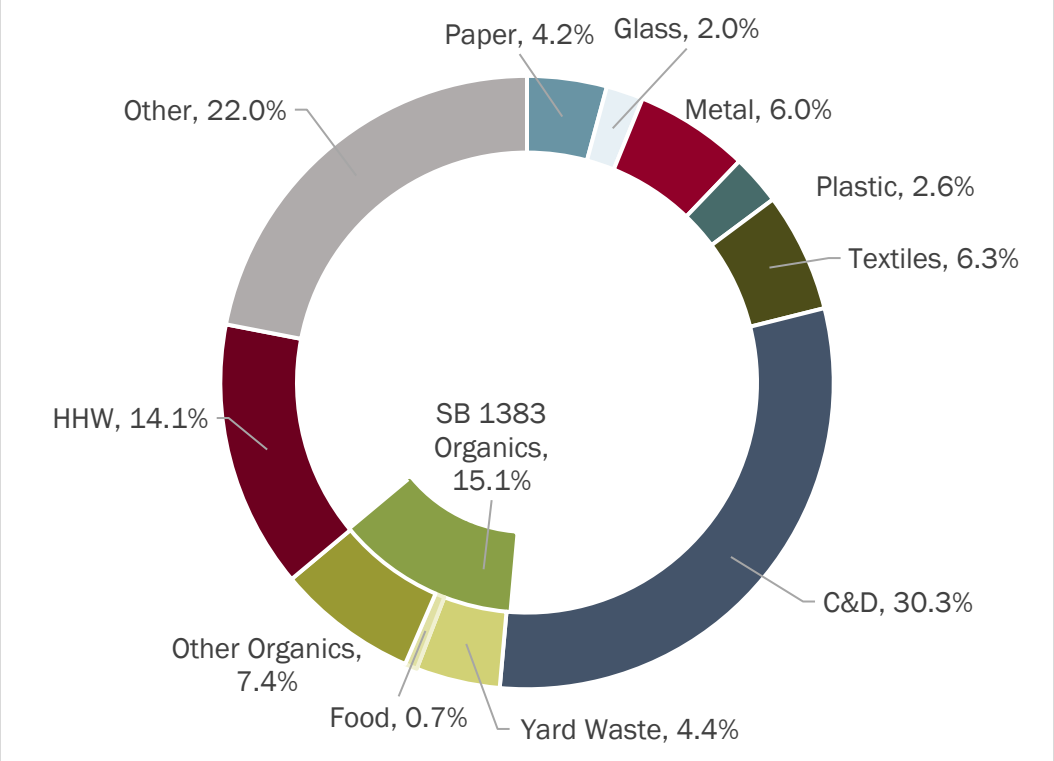
Jurisdiction	Samples
Belvedere	1
Corte Madera	1
Mill Valley	6
Ross	1
San Anselmo	1
San Rafael	39
Sausalito	3
Tiburon	1
Unincorporated	5
Total	**58**

5.2 OVERALL

It should be noted that the material sampled at MRRC goes through a sorting process to recover recyclable material; therefore, the overall composition listed in **Exhibits 11 - 14** does not reflect the composition of the material sent directly to the landfill. **Exhibit 11** displays the material composition of the 58 selected samples. **Appendix H** displays the detailed compositions for the 38 detailed categories.

The composition for each material type was assigned a volumetric percentage of the total sample load in the field. This percentage was multiplied by the total sample volume to identify the approximate cubic yards of each material type. Utilizing the EPA's Volume-to-Weight Conversion Factors[1] the approximate weight of each material type was calculated. The total weight per material type is calculated and represented as a percentage.

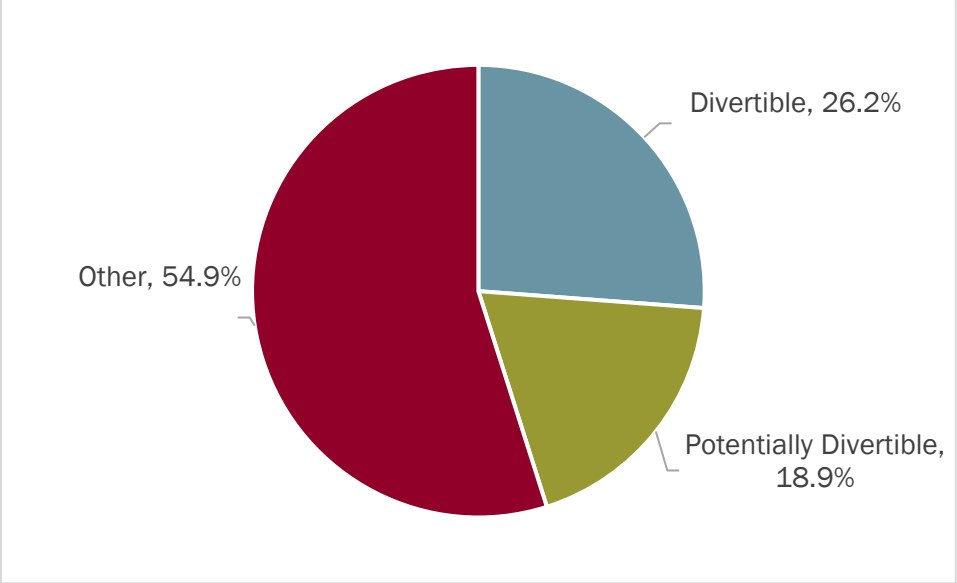
Exhibit 11. Overall Self-Haul Composition



[1] EPA, (2016). Volume-to-Weight Conversion Factors U.S. Environmental Protection Agency Office of Resource Conservation and Recovery (April, 2016). Retrieved from: https://www.epa.gov/sites/default/files/2016-04/documents/volume_to_weight_conversion_factors_memorandum_04192016_508fnl.pdf

Exhibit 12 displays the percent of material captured by MRRC before the remainder is sent to the landfill. Of the sampled material, it is estimated that roughly 26 percent of the material is diverted for recycling or composting before the remainder is sent to landfill. For the MRRC visual characterization, potentially divertible refers to material MRRC would have been able to capture for recycling or composting processes had the material entered the facility clean and unmixed with other materials. Of the visually sampled material, a total of 74 percent of the material was sent to the landfill. **Appendix I** displays the detailed material diversion classifications.

Exhibit 12. Self-Haul Diversion Assessment



5.3 JURISDICTIONAL ASSESSMENT

Exhibit 13 displays the composition for the selected samples from each jurisdiction. For many of the selected jurisdictions, five or fewer samples were selected. Therefore, due to the limited number of samples collected from certain jurisdictions, the data presented should be interpreted as indicative rather than conclusive. These results provide directional insights but may not fully represent the waste composition trends across all areas. Refer to **Table 10** for sample size per jurisdiction.

Exhibit 13. Self-Haul Composition by Jurisdiction

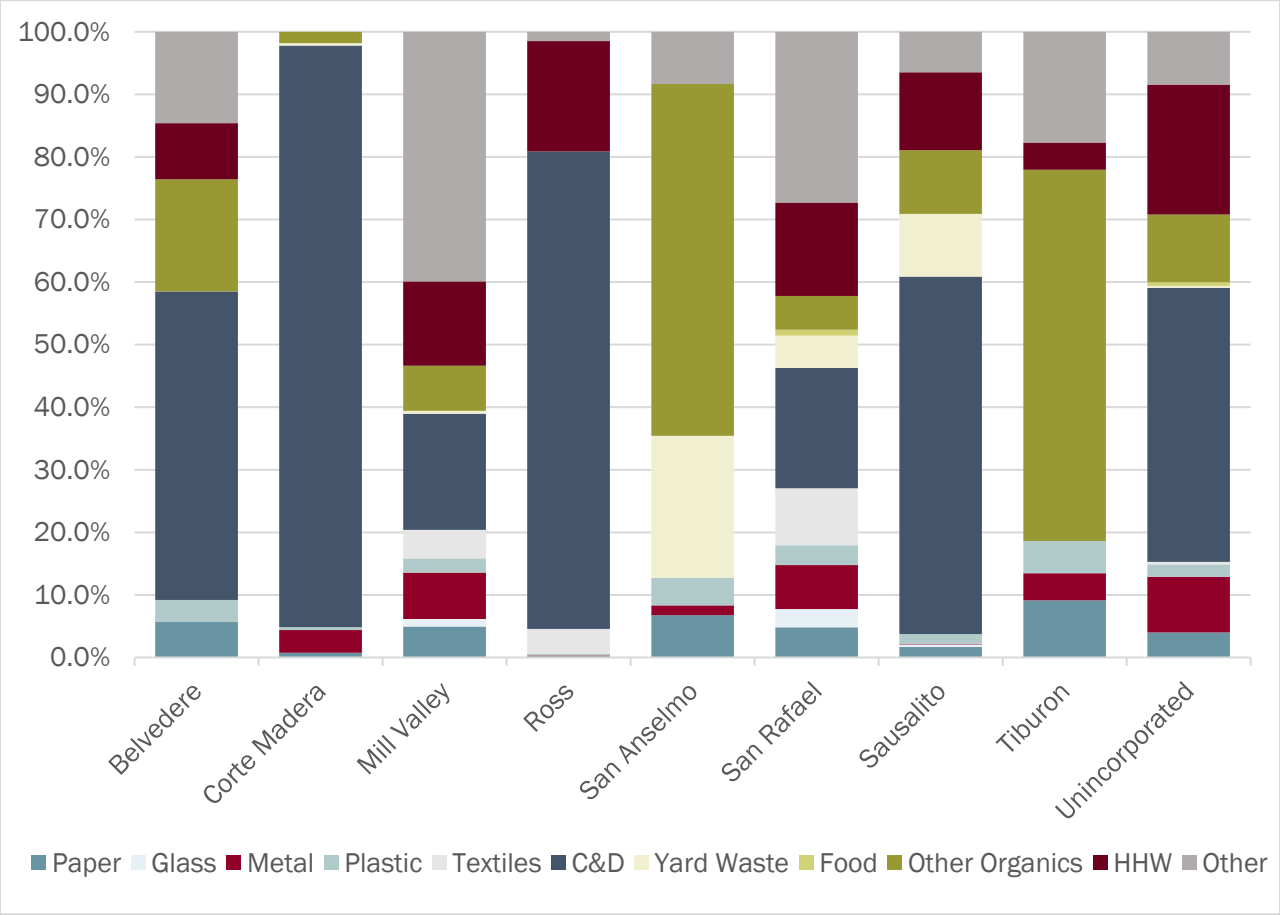
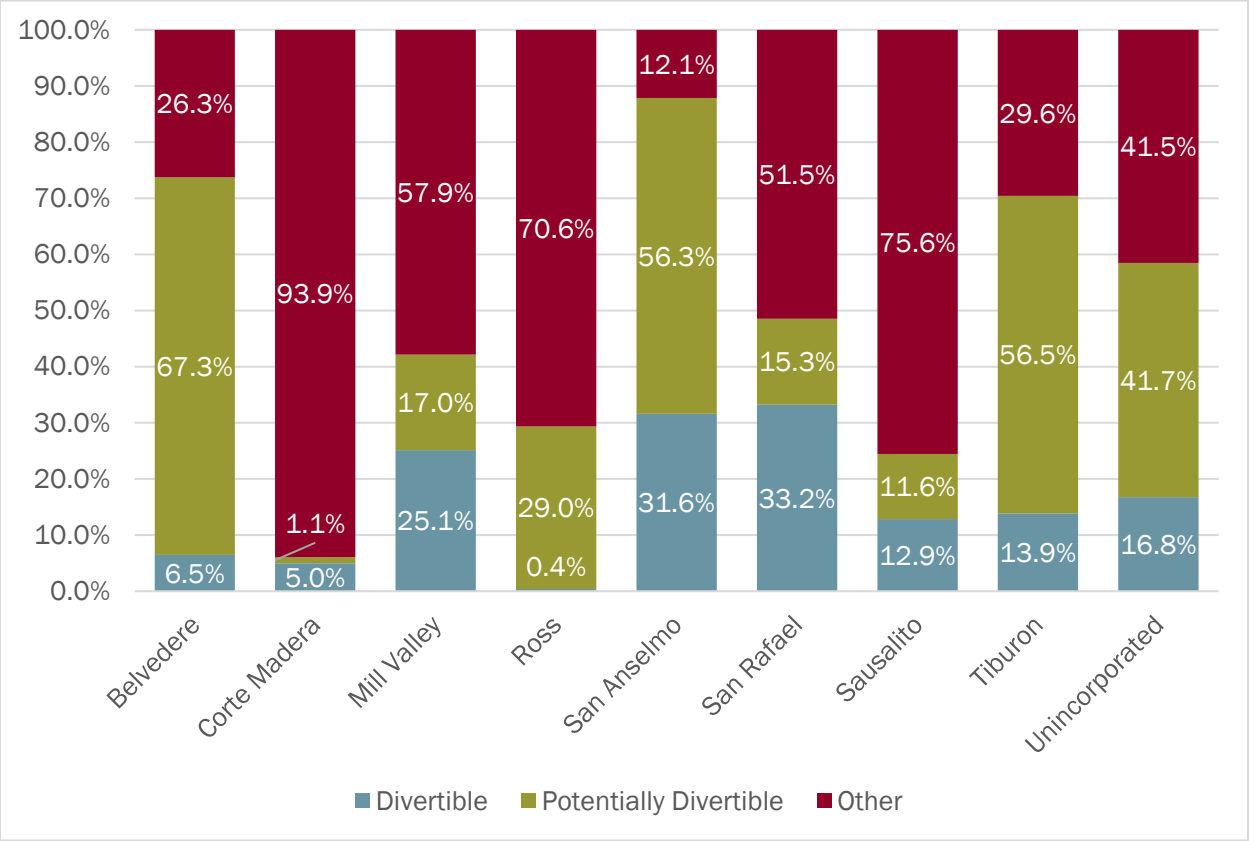


Exhibit 14 displays the percent of divertible material per jurisdiction. It should be noted that MRRC sorts and recovers material from received loads before sending the remainder to the landfill. The diversion assessment below identifies the rough estimate of material diverted before being sent to the landfill. The potentially divertible category in this case represents the percent of material that could have been diverted had the material been clean and unmixed when it entered the MRRC.

Exhibit 14. Self-Haul Jurisdiction Diversion Assessment



5.4 HAULER-REPORTED BULKY ITEM DATA & CONSIDERATIONS

Bulky items offer unique challenges for waste management specialists. Four of the five local waste haulers (Bay Cities Refuse, Marin Sanitary Service, Mill Valley Refuse, and Recology) in Marin County offer bulky item collections and pickups within their service areas. Tamalpais Community Service District hosts bi-annual events at which residents can bring extra waste and bulky items. Hauler-reported bulky item data was **provided separately** and was not included in SCS' analysis of self-haul loads at the MRRC. This hauler-reported data on bulky item collection was included following a recommendation from the ZWM Local Task Force. The data is intended to provide additional context that extends beyond the range of information collected in this study. It may be similar in composition to visually characterized materials; however, we recommend that this information not be included with the visual sampling data provided in **Sections 5.0–5.3**.

Haulers provided varying measurements of data collected on bulky item pickups. Most haulers classify "Extra Pickups" as bulky item collections, creating uncertainty in the dataset as to which items are truly bulky or oversized. Additionally, the weights and item numbers of oversized diverted items were occasionally estimated or not provided at all. Considering the variable data from each hauler, SCS has synthesized each hauler's 2024 reported bulky item data into a table for comparison purposes. This highlights an area for recommended data standardization among hauler reports and provides insight into subjects that could help ZWM further understand the total waste profile of the County.

Topics for consideration when analyzing the bulky waste data summary included in **Table 11**:

- Bulky item definitions vary between haulers (Extra MSW pickups vs. true bulky item collection)
- Type of item collected (ex., Furniture, white goods, C&D, etc.)
- Estimation of item weights and volumes for some provided hauler data
- Bulky disposal methods (landfill or recycling)
- Percentage of total waste stream

Table 11 represents ZWM's bulky item data provided.

Table 11. Hauler-Reported Bulky Item Data

Hauler	2024 Total Bulky Tonnage	2024 Bulky Item Count
Bay Cities Refuse	26.2	N/A
Marin Sanitary Service	123.4	2808
Mill Valley Refuse	189.6*	3945
Recology	295.1**	1678***
Tamalpais Community Service	31.9	N/A
Total	666.2	8431

* Estimated item weights
** Specifically reported as MSW tonnage
*** Weight of diverted items not available

6.0 RECOMMENDATIONS

Based on the material sorted in the field SCS recommends the following.

- General Recommendations:
    - Focus on Commercial sector education since that has the greatest opportunity for improvement.
    - Increase the commercial awareness of hazardous materials and the opportunities for recycling/diversion.
    - Promote textile reuse and recycling programs in the area. The Responsible Textile Recovery Act of 2024 (CA SB 707) will require the diversion of textiles beginning July 1, 2028.
    - Confirm recycling processing for cartons, gable-top containers, and LDPE #4 plastics before SB 343 compliance dates.
    - Educate residents and junk haulers on the importance of separating their self-haul loads for disposal. This will help reduce the amount of recoverable material sent to landfills.
    - Create guidelines and/or a template for Marin County haulers to track bulky item data more cohesively.
- SB 1383 Focus Areas:
    - Focus outreach and education programs on food scrap collection for all sectors. A large proportion of sorted green waste material was non-donatable and inedible food scraps.
    - An increased public awareness of compostable/food-soiled paper and fiber service ware diversion would capture large amounts of green waste material.
    - Overall, a large percentage (35 percent) of the waste stream is compostable. It's recommended that ZWM confirms the capacity for this material at local composting facilities and Food Recovery Organizations.
    - Implement and expand food recovery efforts within the county. The commercial sector showed that 4.1 percent of the waste stream was potentially donatable food, 2.9 percent of which was vegetative produce. Food Recovery Organizations prefer these nutritionally dense donations.
- Future Study Recommendations:

- Conduct visual characterizations at Redwood Landfill to understand the material generated within the county that is not hauled to the landfill by franchised haulers. This will help complete the picture of disposal within the county.

Appendix A

Material Categories

	DESCRIPTION	
PAPER	Uncoated Corrugated Cardboard	Paper laminate usually composed of three layers. The center wavy layer is sandwiched between the two outer layers. It does not have any coating on the inside or outside. This type does not include chipboard boxes such as cereal and tissue boxes.
	Newspaper	**Newspapers**/Newspaper Inserts: means paper used in newspapers and all items made from newsprint.
	White Ledger	**White Ledger** means uncolored bond, rag, or stationary grade paper. It may have colored ink on it. When the paper is torn, the fibers are white. Examples include white photocopy, white laser print, and letter paper.
	Mixed Paper	Paper that is recyclable and generally NOT composted.
	Aseptic Cartons / Gable-top Cartons	Bleached poly-coated paperboard containers or paper containers with a foil liner of various sizes and shapes that contain shelf-stable food products. Aseptic containers may include a plastic pour spout as part of the container.
	Paper/Fiber Food Service Ware	Items used to store and/or convey food that could have used a reusable alternative. This does NOT include fiber containers in grocery stores used to package berries or mushrooms. Lined and unlined.
	Remainder / Composite Paper	Items made mostly of paper but combined with large amounts of other materials. These are items that do not fit into any other categories and are not generally compostable or recyclable. Example?
GLASS	CRV Glass Bottles and Containers	**CRV Glass Bottles and Containers** means any color (clear, brown, green, etc.) glass beverage and food containers with a California Redemption Value (CRV) label. Examples include whole or broken soda bottles and fruit juice bottles.
	Non-CRV Glass Bottles and Containers	**Non-CRV Glass Bottles and Containers)** means any color (clear, brown, green, etc.) glass containers that do not have a CRV label.
	Other Glass	Glass not defined above.
METAL	Tin/Steel Cans	Rigid containers made mainly of steel, both CRV and non-CRV containers. These items will stick to a magnet and may be tin-coated. This subtype is used to store food, beverages, paint, and a variety of other household and consumer products.
	Aluminum Cans – CRV	**Aluminum Cans – CRV** means any food or beverage container that is made mainly of aluminum and are marked as CRV containers. Examples include most aluminum soda or beer cans. This type does not include bimetal containers with steel sides and aluminum ends.
	Aluminum Cans – Non-CRV	**Aluminum Cans – non-CRV** means any food or beverage container that is made mainly of aluminum and is not marked as CRV containers.

METAL	**Other Ferrous**	Iron or steel that is magnetic or any stainless-steel item. This type does not include tin/steel cans.
	Other Non-Ferrous	Metal item, other than aluminum cans, that is not stainless steel and that is not magnetic. These items may be made of aluminum, copper, brass, bronze, lead, zinc, or other metals.
	Remainder/Composite Metal	**Remainder/Composite Metal** means metal that cannot be put in any other type. This type includes items made mostly of metal but combined with other materials and items made of ferrous and non-ferrous metals. This includes products whose weight is derived significantly from the metal portion of their construction.
PLASTIC	**PETE Bottles – CRV**	**PETE Bottles – CRV** means clear or colored PETE (polyethylene terephthalate) bottles that are marked as CRV containers. When marked for identification, they bear the number 1 in the center of the triangular recycling symbol and may also bear the letters PETE or PET. The color is usually clear, transparent green, or amber. A PETE bottle usually has a small dot left from the manufacturing process, not a seam. It does not turn white when bent. Examples of narrow and wide-neck bottles include: soft drink, water, beer, and liquor bottles.
	PETE Bottles – Non-CRV	**PETE Bottles – Non-CRV)** means clear or colored PETE (polyethylene terephthalate) bottles that are not marked as CRV containers. When marked for identification, they bear the number 1 in the center of the triangular recycling symbol and may also bear the letters PETE or PET. The color is usually clear, transparent green, or amber. A PETE bottle usually has a small dot left from the manufacturing process, not a seam. It does not turn white when bent. Examples of narrow and wide-neck bottles include: cooking oil, pastry jars, food jars, and aspirin bottles.
	PET Thermaforms	**Other PETE Containers – Non-CRV** means PETE (polyethylene terephthalate) containers (other than bottles) that are not marked as CRV containers. When marked for identification, they bear the number 1 in the center of the triangular recycling symbol and may also bear the letters PETE or PET. A PETE container usually has a small dot left from the manufacturing process, not a seam. **Other PETE Containers** means PETE (polyethylene terephthalate) containers other than bottles. When marked for identification, they bear the number 1 in the center of the triangular recycling symbol and may also bear the letters PETE or PET. A PETE container usually has a small dot left from the manufacturing process, not a seam.
	HDPE #2 Colored Containers	**HDPE Colored Containers –** This plastic is a solid color, preventing light from passing through it. When marked for identification, it bears the number 2 in the triangular recycling symbol. Examples include narrow and wide-mouth food containers, such as for coffee and coffee creamer, detergent bottles, some shampoo and hair-care bottles, empty motor oil, empty antifreeze, and other empty vehicle and equipment fluid bottles.
	HDPE #2 Neutral Containers	**Other HDPE Containers –** When marked for identification, it bear the number 2 in the triangular recycling symbol.
	PP #5 Containers	Bottles, jars, containers, lids, and other packaging labeled with PP (5), both with and without the CRV symbol.

PLASTIC	**Other Plastic Containers (3, 4, 6, 7)**	Bottles, jars, containers, lids, and other packaging that are made of types of plastic other than PET (1), HDPE (2), or PP (5). Items may be made of vinyl, LDPE, PVC, PS, or other plastic. They may bear the number 3, 4, 6, or 7 in the triangular recycling symbol, or may bear no recycling triangular symbol.
	Bioplastics	Labeled compostable plastics.
	Recyclable Plastic Film	**Recyclable Plastic Film** means clean plastic film that can be recycled. Examples include; clean plastic bags sold for use as trash bags for residential and commercial use. It also includes plastic shopping bags used to contain merchandise for transport from the place of purchase and given out by the store with the purchase, such as grocery shopping bags, other merchandise bags, or dry-cleaning plastic bags intended for one-time use. This material also includes non-bag commercial and industrial packaging film such as shrink-wrap, mattress bags, furniture wrap, and film bubble wrap.
	Nonrecyclable Film	**Nonrecyclable Film** means all other plastic film that does not fit into any other type. Examples include other types of plastic bags (sandwich bags, zipper-recloseable bags, newspaper bags, produce bags, frozen vegetable bags, bread bags), food wrappers such as candy-bar wrappers, mailing pouches, bank bags, X-ray film, metalized film (wine containers and balloons), plastic food wrap, and contaminated recyclable plastic film.
	Durable Plastic Items	Plastic items other than containers or film plastic that are made to last for more than one use. These items may bear the numbers 1 through 7 in the triangular recycling symbol.
	Expanded Polystyrene Packaging	**Expanded Polystyrene Packaging** means packaging items made of expanded polystyrene. Does not include nonpackaging items such as insulation boards.
	Remainder / Composite Plastic	**Remainder/Composite Plastic** means plastic that cannot be put in any other type. This type includes items made mostly of plastic but combined with other materials.
Food	**Potentially Donatable – Vegetative (Perishable / Fresh)**	**Food - Potentially Donatable – Vegetative (Perishable/Fresh)** means uncooked or cooked fresh vegetables, fruits, and fungi that are in a whole state (i.e., not partially consumed) and are unmixed with non-vegetative food types. Items that are excluded from this category include condiments, non-perishable packaged fruits, and vegetables such as: packaged dried fruits and vegetables, canned fruits and vegetables, and nuts. Unpackaged vegetables, fruits, and fungifound in a whole state in residenti al loads are excluded from this category and should be sorted as “not donatable – non-meat”. However, unpackaged vegetables fruits, and fungi found in a whole state in commercial loads are included in this category.
	Potentially Donatable - Eggs, Dairy, and Dairy Alternatives	**Food - Potentially Donatable - Eggs, Dairy, and Dairy Alternatives** means egg or dairy products and dairy alternatives that are in a whole state, unmixed with other food types, and in the original unopened package. Items may be refrigerated or shelf stable.

FOOD	**Potentially Donatable – Meat**	**Food - Potentially Donatable – Meat** means any uncooked or cooked meat (beef, poultry, pork, lamb) or fish product that is in a whole state, is unmixed with other food types, and is in the original unopened package. This includes meat alternatives.
	Potentially Donatable - Cooked / Baked / Prepared Perishable Items	**Food - Potentially Donatable - Cooked/Baked/Prepared Perishable Items** means items that are in a whole state but could have multiple food types mixed together as a part of cooking or preparation and are still in their original unopened package.
	Potentially Donatable - Packaged Non-perishable	**Food - Potentially Donatable - Packaged Non-perishable** means shelf-stable foods that are in a whole state and are in the original unopened package. Includes foods contained in aseptic or retort packages and other products that do not require refrigeration until after opening. Also includes non-perishable beverages such as sodas. Excluded from this category are shelf-stable meats, shelf-stable dairy products, and shelf-stable dairy alternatives.
	Not Donatable – Meat	**Food - Not Donatable – Meat** means any food that is predominantly meat or fish, but the product is not in a whole state (i.e., partially consumed), or the product's packaging has been opened, or the product was not contained in any packaging at all.
	Not Donatable – Non-meat	**Food - Not Donatable – Non-meat** means any food that is not predominantly meat or fish, not in a whole state, or not in its original unopened package. Includes any non-meat partially consumed foods, any non-meat foods in a package that has been opened – as best as can be determined, any non-meat foods that are not in their original packaging. Item may contain small amounts of meat or fish. This category also includes fruit and vegetable peels, skins, trimmings, and or any parts of fruits and vegetables not included in the inedible category. In addition, this category also includes any indistinguishable food.
	Inedible	**Food - Inedible** means items typically not consumed by people in the United States. Categories of inedible parts include bones, pits, shells, banana peels, coffee grounds and tea leaves, rinds, woody stems/tops and vines, and corn cobs/husks. Note that small amounts of edible material associated with the inedible material are permitted to be included as "inedible." Excludes other fruit and vegetable peels, skins, trimmings, cores, and ends not included in the previous categories (e.g., potato peels, carrot tops, apple cores, broccoli stalks, cucumber ends).
Yard Waste	**Leaves and Grass**	**Leaves and Grass** means plant material, except woody material, from any public or private landscape. This type does not include woody material or material from agricultural sources.
	Chips, Prunings, Trimmings	**Prunings and Trimmings** means woody plant material up to 4 inches in diameter from any public or private landscape. This type does not include stumps, tree trunks, or material from agricultural sources.
	Branches, Stumps	**Branches and Stumps** means woody plant material, branches, and stumps that exceed 4 inches in diameter, from any public or private landscape.
	Clean Dimensional Lumber	**Clean Dimensional Lumber** means unpainted new or demolition dimensional lumber. May contain nails or other trace contaminants.

OTHER ORGANICS		Clean Engineered Wood	**Clean Engineered Wood** means unpainted new or demolition scrap from sheeted goods. May contain nails or other trace contaminants.
		Pallets & Crates	**Clean Pallets and Crates** means unpainted wood pallets, crates, and packaging made of lumber/engineered wood. May contain nails or other trace contaminants.
		Other Recyclable Wood	**Other Recyclable Wood** means recyclable wood is not included in any other category. This may include scrap from the production of prefabricated wood products that have not been treated with paint, stain, or other chemical finish. Wood material should not be contaminated with another material (e.g. tar). May contain nails or other trace contaminants.
		Treated Wood Waste	Any wood with paint or preservative treatment including particleboard, chipboard, OSB (oriented strand board), MDF (medium-density fiberboard) and masonite.
	Manure		**Manures** means manure and soiled bedding materials from large domestic, farm, or ranch animals. Does not include feces from small household pets such as dogs and cats.
	Compostable Paper / Fiber		**Other Compostable Paper** means items that do not fit any other category, are made of paper, can be composted, and are generally not recycled. May be contaminated with food, moisture, or wax
	Remainder / Composite Green Waste		**Remainder/Composite Green Waste** means green waste material that cannot be put in any other type.
Textiles/ Other	Cloth and Clothing		Textiles means items made of thread, yarn, fabric, or cloth. Examples include clothes, fabric trimmings, draperies, and all natural and synthetic cloth fibers. This type does not include cloth-covered furniture, mattresses, leather shoes, leather bags, or leather belts.
	Shoes, Purses, Belts		Textiles with cloth and leather components
	Carpet		**Carpet** means flooring applications consisting of various natural or synthetic fibers bonded to some type of backing material. This type does not include carpet padding or woven rugs with no backing.
	Other		Items not fitting into other textile categories
C&D	Concrete		**Concrete** means a hard material made from sand, gravel, aggregate, cement mix, and water. Examples include pieces of building foundations, concrete paving, and cinder blocks.
	Asphalt		**Asphalt Paving** means a black or brown, tar-like material mixed with aggregate used as a paving material. **Asphalt Roofing** means composite shingles and other roofing material made with asphalt. Examples include asphalt shingles and attached roofing tar and tar paper.
	Clean Gypsum Board		**Clean Gypsum Board** means interior wall covering made of a sheet of gypsum sandwiched between paper layers that are not painted. Examples include used or unused, broken or whole sheets of sheetrock, drywall, gypsum board, plasterboard, gypboard, gyproc, and wallboard.
	Rock, Soil, and Fines		**Rock, Soil and Fines** means rock pieces of any size and soil, dirt, and other matter. Examples include rock, stones, and sand, clay, soil, and other fines. This type also includes non-hazardous contaminated soil.

	Remainder/ Composite Construction and Demolition	**Remainder/Composite Construction and Demolition** means construction and demolition material that cannot be put in any other type. This type may include items from different categories combined, which would be very hard to separate. Examples include brick, ceramics, tiles, toilets, sinks, dried paint not attached to other materials, and fiberglass insulation. This type may also include demolition debris that is a mixture of items such as plate glass, wood, tiles, painted gypsum board, and aluminum scrap. **Carpet Padding** means materials used under carpet to provide insulation and padding. Examples include plastic carpet padding, foam carpet padding, felt carpet padding, and other carpet padding.
HHW	**Paint**	**Paint** means containers with paint in them. Examples include latex paint and oil based paint. This type does not include fine art paint, dried paint, empty paint cans, or empty aerosol containers. ARCHITECTURAL PAINT ONLY.
	Vehicle and Equipment Fluids	**Vehicle and Equipment Fluids** means containers with fluids used in vehicles or engines, except used oil. Examples include used antifreeze and brake fluid. This type does not include empty vehicles and equipment fluid containers.
	Used Oil and Oil Filters	**Used Oil and Oil Filters** means the same as defined in Health and Safety Code section 25250.1(a). Examples include spent lubricating oil such as crankcase and transmission oil, gear oil, and hydraulic oil. Oil filters means metal oil filters used in motor vehicles and other engines, which contain a residue of used oil.
	Large Rechargeable Batteries	**Large Rechargeable Batteries** means large rechargeable or lead acid batteries. Examples include car batteries and other vehicle batteries. **Count or estimate batteries & photograph.**
	Household Batteries	**Household Batteries** means non-rechargeable batteries typically used in consumer devices. Examples include alkaline, carbon/zinc batteries, watches, and hearing aid batteries.
	Universal Waste Electronic Devices (UWED)	**Universal Waste Electronic Devices (UWED)** means electronics with large circuitry that is computer-related. Examples include processors, mice, keyboards, disk drives, printers, modems, fax machines, stereos, VCRs, microwaves, DVD players (screens smaller than 4 inches), radios, audio/visual equipment, personal digital assistants (PDAs), cell phones, phone systems, phone answering machines, computer games and other electronic toys, portable CD players, camcorders, and digital cameras.
HHW	**Covered Electronic Waste**	**Covered Electronic Waste** means electronic devices that the Department of Toxic Substances Control has determined to be hazardous when discarded as part of the Electronic Waste Recycling Act (2003), including video display devices. Examples include televisions, computer monitors, and other items containing a cathode ray tube (CRT). Also includes LCD desktop monitors, laptops with LCD displays, LCD televisions, and portable DVD players with screens that are 4 inches or larger (measured diagonally).
	Fluorescent Tubes	**Fluorescent Tubes** means fluorescent light tubes and compact fluorescent bulbs (CFL).
	Propane Gas Cylinders	**Propane Gas Cylinders** means small, compact, and portable propane gas cylinders used to power devices such as camping stoves, tailgating grills, heaters, and more. Generally, these cylinders are not refillable.

	Pharmaceuticals	**Pharmaceuticals** means both prescription and over-the-counter medications and supplements in all forms. Does not include containers for these items, except for tubes for creams and ointments and other containers that cannot be easily separated from the product they contain.
	Sharps	Sharps and needles.
	All Other HHW	**Other HHW** means other hazardous wastes not described elsewhere in these definitions.
Special Waste	**Bulky Items**	**Bulky Items** means large, hard-to-handle items that are not defined separately, including furniture and other large items. Examples include all sizes and types of furniture and base components for beds.
	Tires	**Tires** means vehicle tires. Examples include tires from trucks, automobiles, motorcycles, heavy equipment, and bicycles.
	Vapes	**Vapes** - Disposable and rechargeable. COUNT
	Remainder/ Composite Special Waste	**Remainder/Composite Special Waste** means special waste that cannot be put in any other type. Examples include asbestos-containing materials, such as certain types of pipe insulation and floor tiles, auto fluff, auto-bodies, trucks, trailers, truck cabs, untreated medical waste, and artificial fireplace logs. **Ash means** a residue from the combustion of any solid or liquid material. Examples include ash from structure fires, fireplaces, incinerators, biomass facilities, waste-to-energy facilities, and barbecues. **Untreated medical waste** means waste from a generator or a health care related facility which has not been treated and may serve to transmit an infectious disease. Includes the following: pathological waste, liquid or semi-liquid blood, contaminated items, and microbiological waste.
	Mixed Residue/Other	**Mixed Residue** means material that cannot be put in any other type in the other categories. This type includes mixed residue that cannot be further sorted. Examples include clumping kitty litter and residual material from a materials recovery facility or other sorting process that cannot be put in any of the previous remainder/composite types, cigarette butts, diapers, feminine hygiene products, wood products (popsicle sticks and toothpicks), sawdust, animal feces, and painted or stained wood. **Treated Medical Waste** means medical waste that has been processed in order to change its physical, chemical, or biological character or composition, or to remove or reduce its harmful properties or characteristics, as defined in Section 25123.5 of the California Health and Safety Code. **Diapers & Sanitary Products** means single-use items that are made from a combination of natural and/or synthetic fibers.

Appendix B – SB 343 Material List

SB 343 Material Type and Form Name	Percent of Population with Collection Access	ZWM Characterization Study Category	Recycled County - Wide
Uncoated Corrugated Cardboard/ Old Corrugated Containers (OCC)	99%	Uncoated Corrugated Cardboard	Yes
White Office-Type Paper and Mail	99%	White Ledger	Yes
Tin/Steel Cans, Lids - Non-CRV	99%	Tin/Steel Cans	Yes
Tin/Steel Beverage Containers - CRV	99%	Tin/Steel Cans	Yes
PET Clear Bottles - Non-CRV	99%	PETE Bottles – Non-CRV	Yes
PET Clear Beverage Bottles - CRV	99%	PETE Bottles – CRV	Yes
HDPE Clear Beverage Bottles - Non-CRV	99%	HDPE #2 Neutral Containers	Yes
HDPE Clear Beverage Bottles - CRV	99%	HDPE #2 Neutral Containers	Yes
Folded Paper Containers and Other Paperboard Packaging	98%	Mixed Paper	Yes
Newspapers/ Newspaper Inserts	97%	Newspaper	Yes
Magazines and Catalogs	97%	Mixed Paper	Yes
Paper Bags and Kraft Paper	97%	Mixed Paper	Yes
Other Mixed Paper	97%	Mixed Paper	Yes
Glass Containers - Clear/ Flint - Non-CRV	97%	Non-CRV Glass Bottles and Containers	Yes
Glass Beverage Containers - Clear/Flint - CRV	97%	CRV Glass Bottles and Containers	Yes
Glass Containers - Green/ Emerald - Non-CRV	97%	Non-CRV Glass Bottles and Containers	Yes
Glass Beverage Containers - Green/Emerald –CRV	97%	CRV Glass Bottles and Containers	Yes
Glass Containers - Brown/ Amber - Non-CRV	97%	Non-CRV Glass Bottles and Containers	Yes
Glass Beverage Containers - Brown/Amber - CRV	97%	CRV Glass Bottles and Containers	Yes
Glass Containers - Other Colors - Non-CRV	97%	Non-CRV Glass Bottles and Containers	Yes
Glass Beverage Containers - Other Colors - CRV	97%	CRV Glass Bottles and Containers	Yes
Aluminum Cans and Lids - Non-CRV	96%	Aluminum Cans - Non-CRV	Yes
Aluminum Beverage Cans - CRV	96%	Aluminum Cans - CRV	Yes
Aluminum Bottles - Non-CRV	96%	Aluminum Cans - Non-CRV	Yes
Aluminum Bottles for Beverages - CRV	96%	Aluminum Cans - CRV	Yes
PET Pigmented Bottles - Non-CRV	96%	PETE Bottles – Non-CRV	Yes
PET Pigmented Beverage Bottles - CRV	96%	PETE Bottles – CRV	Yes

Clean Molded Paper Fiber	94%	Mixed Paper	Yes
Other HDPE Clear Single-Use Rigids	92%	HDPE #2 Neutral Containers	Yes
HDPE Pigmented Single-Use Rigids	92%	HDPE #2 Colored Containers	Yes
Other PET Clear Single-Use Rigids	91%	Durable Plastic Items	Yes
Other PET Pigmented Single-Use Rigids	90%	Durable Plastic Items	Yes
PET Thermoformed Clamshells and Containers	88%	PET Thermaforms	Yes
HDPE Buckets: Food	88%	HDPE #2 Colored Containers	Yes
HDPE Buckets: Non-Food	88%	HDPE #2 Colored Containers	Yes
Other HDPE Multi-Use Rigids	88%	HDPE #2 Colored Containers	Yes
PET Multi-Use Rigids	85%	Durable Plastic Items	Yes
Aluminum Foil (>3 mm), Molded Containers	82%	Other Non-Ferrous	Yes
Aluminum Foil (<3 mm), Sheets	81%	Other Non-Ferrous	Yes
Other Non-Ferrous Metal	78%	Other Non-Ferrous	Yes
PP Clear Single-Use Rigids	78%	PP #5 Containers	Yes
PP Pigmented Single-Use Rigids	78%	PP #5 Containers	Yes
Other Ferrous Metal	77%	Other Ferrous	Yes
LDPE Clear Beverage Bottles	75%	Other Plastic Containers (3, 4, 6, 7)	Yes
Gable-top Cartons - Non-CRV	74%	Aseptic/Gable-top Cartons	No
Gable-top Cartons/ Aseptics - CRV	73%	Aseptic/Gable-top Cartons	No
LDPE Clear Single-Use Rigids	73%	Other Plastic Containers (3, 4, 6, 7)	Yes
LDPE Pigmented Single-Use Rigids	73%	Other Plastic Containers (3, 4, 6, 7)	Yes
Aseptic Containers - Non-CRV	72%	Aseptic/Gable-top Cartons	No
Tin/Steel or Aluminum Aerosol Containers	71%	Tin/Steel Cans	Yes
LDPE Multi-Use	70%	Other Plastic Containers (3, 4, 6, 7)	Yes
PVC Single-Use Rigids	52%	Durable Plastic Items	
PVC Multi-Use	52%	Durable Plastic Items	
Mixed Plastic Multi-Use	51%	Remainder / Composite Plastic	
Remainder/ Composite Glass	46%	Other Glass	
Fines and Residuals	46%	Mixed Residue	
Green Material, Clean Wood, and Food Scraps	40%	Organics	
PS Thermoformed Clamshells and Containers	40%	Expanded Polystyrene Packaging	
PS Densified: Multi-Use	40%	Expanded Polystyrene Packaging	
Remainder/ Composite Fiber	38%	Remainder/Composite Paper	
Other (7) Single-Use Rigids	38%	Other Plastic Containers (3, 4, 6, 7)	
Unknown Plastic Type or Mixture of Multiple Plastic Resins (Single-Use)	38%	Remainder / Composite Plastic	

Plant Material Food Service Ware	37%	Compostable Paper / Fiber	
PS Densified: Single-Use Food Service Ware	37%	Expanded Polystyrene Packaging	
Other Multi-Material Laminate Single-Use	35%	Remainder/Composite Paper	
PS Expanded - Packaging	35%	Expanded Polystyrene Packaging	
PS Expanded - Food Service Ware	35%	Expanded Polystyrene Packaging	
Mailing Pouches & Shipping Envelopes	29%	Remainder/Composite Paper	
Films - Plastic Non-Bags - Agricultural and Commercial	29%	Recyclable Plastic Film	
Films - Plastic Non-Bags - Other Film	29%	Nonrecyclable Film	
Films - Plastic Bags - Designed for Reuse	28%	Recyclable Plastic Film	
Films - Plastic Bags - Designed for Disposal	28%	Nonrecyclable Film	
Plastic Wine Bladders	26%	Recyclable Plastic Film	
Films - Plastic Bags - Compostable	23%	Bioplastics	
Textiles and Clothing	19%	Textiles/Other	
Single-Use Ceramic Packaging	7%	Mixed Residue	
Treated Wood	7%	Treated Wood Waste	

Appendix C – Overall Hand Sort Material Compositions

Material Components	Composition	*+ / -
PAPER		
Uncoated Corrugated Cardboard	1.7%	0.4%
Newspaper	0.3%	0.1%
White Ledger	0.8%	0.3%
Mixed Paper	4.7%	0.5%
Aseptic Cartons / Gable-top	0.5%	0.1%
Paper/Fiber Food Service Ware	3.2%	0.4%
Remainder/Composite Paper	1.5%	0.3%
GLASS		
CRV Glass Bottles and Containers	1.0%	0.3%
Non-CRV Glass Bottles and	0.8%	0.2%
Other Glass	0.5%	0.2%
METAL		
Steel/Tin Cans	0.4%	0.1%
Aluminum Cans – CRV	0.4%	0.0%
Aluminum Cans – Non-CRV	<0.1%	0.0%
Other Ferrous	1.2%	0.4%
Other Non-Ferrous	0.7%	0.1%
Remainder/Composite Metal	0.3%	0.2%
PLASTIC		
PETE Bottles – CRV	0.5%	0.1%
PETE Bottles – Non-CRV	0.3%	0.0%
PET Thermaforms	0.9%	0.1%
HDPE #2 Colored Containers	0.3%	0.1%
HDPE #2 Neutral Containers	0.2%	0.0%
PP #5 Containers	1.1%	0.1%
Other Plastic Containers (3, 4, 6, 7)	0.4%	0.1%
Bioplastics	0.1%	0.1%
Recyclable Plastic Film	0.8%	0.3%
Nonrecyclable Film	7.0%	0.6%
Durable Plastic Items	1.1%	0.4%
Expanded Polystyrene	0.4%	0.1%
Remainder/Composite Plastic	1.8%	0.4%
FOOD		
Potentially Donatable – **Vegetative**	2.1%	0.7%
Potentially Donatable - **Eggs**,	0.2%	0.1%
Potentially Donatable – **Meat**	0.2%	0.1%
Potentially Donatable -	0.5%	0.2%
Potentially Donatable - **Packaged**	0.9%	0.2%
Not Donatable – **Meat**	1.8%	0.4%
Not Donatable – **Non-meat**	10.0%	1.1%
Inedible	8.3%	1.1%

Material Components	Composition	*+ / -
YARD WASTE		
Leaves and Grass	1.5%	0.8%
Chips, Prunings, Trimmings	0.7%	0.5%
Branches, Stumps	0.4%	0.4%
Other Recycleable Wood	<0.1%	0.0%
OTHER ORGANICS		
Manure	<0.1%	0.0%
Other Compostable Paper	7.1%	0.6%
Remainder/Composite Organic	0.2%	0.1%
Clean Dimensional Lumber	0.4%	0.2%
Clean Engineered Wood	0.7%	0.9%
Pallets & Crates	0.2%	0.3%
TEXTILES		
Cloth and Clothing	3.2%	1.1%
Shoes, Purses, Belts	0.6%	0.2%
Carpet	0.6%	0.4%
Other	1.8%	0.4%
INERTS		
Concrete	0.1%	0.1%
Asphalt	<0.1%	0.0%
Clean Gypsum Board	<0.1%	0.1%
Rock, Soil, and Fines	<0.1%	0.0%
Remainder/Composite Construction & Demolition	0.6%	0.2%
HAZARDOUS & E-WASTE		
Paint	0.2%	0.2%
Vehicle and Equipment Fluids	0.0%	N/A
Used Oil and Oil Filters	<0.1%	0.1%
Large Rechargeable Batteries	0.0%	N/A
Household Batteries	<0.1%	0.0%
Universal Waste Electronic Devices (UWED)	1.0%	0.4%
Covered Electronic Waste	0.1%	0.2%
Fluorescent Tubes	<0.1%	0.0%
Treated Wood Waste	1.3%	0.7%
Propane Gas Cylinders	<0.1%	0.0%
Pharmaceuticals	0.1%	0.0%
Sharps	<0.1%	0.0%
Vapes	<0.1%	0.0%
All Other HHW	0.4%	0.5%
RESIDUE/OTHER		
Bulky Items	0.6%	0.9%
Tires	0.1%	0.1%
Remainder/ Composite Special Waste	<0.1%	0.1%
Mixed Residue/Other	20.8%	2.1%

*If the confidence interval (+/-) is greater than the composition value, then the lower confidence limit should be interpreted as 0.0%

Appendix D – Commercial Hand Sort Material Compositions

Material Components	Composition	*+ / -
PAPER		
Uncoated Corrugated Cardboard	1.6%	0.6%
Newspaper	0.2%	0.1%
White Ledger	0.9%	0.5%
Mixed Paper	4.0%	0.9%
Aseptic Cartons / Gable-top	0.5%	0.1%
Paper/Fiber Food Service Ware	4.0%	0.6%
Remainder/Composite Paper	1.7%	0.5%
GLASS		
CRV Glass Bottles and Containers	1.4%	0.5%
Non-CRV Glass Bottles and	0.7%	0.3%
Other Glass	0.7%	0.3%
METAL		
Steel/Tin Cans	0.3%	0.1%
Aluminum Cans – CRV	0.4%	0.1%
Aluminum Cans – Non-CRV	<0.1%	0.0%
Other Ferrous	1.0%	0.5%
Other Non-Ferrous	0.8%	0.2%
Remainder/Composite Metal	0.3%	0.3%
PLASTIC		
PETE Bottles – CRV	0.6%	0.1%
PETE Bottles – Non-CRV	0.2%	0.1%
PET Thermaforms	0.8%	0.1%
HDPE #2 Colored Containers	0.3%	0.1%
HDPE #2 Neutral Containers	0.3%	0.1%
PP #5 Containers	1.1%	0.2%
Other Plastic Containers (3, 4, 6, 7)	0.4%	0.2%
Bioplastics	0.2%	0.1%
Recyclable Plastic Film	1.0%	0.6%
Nonrecyclable Film	7.3%	1.2%
Durable Plastic Items	1.5%	0.8%
Expanded Polystyrene	0.3%	0.1%
Remainder/Composite Plastic	1.5%	0.5%
FOOD		
Potentially Donatable – **Vegetative**	2.9%	1.5%
Potentially Donatable - **Eggs**,	<0.1%	0.1%
Potentially Donatable – **Meat**	<0.1%	0.1%
Potentially Donatable -	0.5%	0.3%
Potentially Donatable - **Packaged**	0.6%	0.2%
Not Donatable – **Meat**	1.5%	0.5%
Not Donatable – **Non-meat**	10.4%	1.6%
Inedible	9.2%	2.2%

Material Components	Composition	*+ / -
YARD WASTE		
Leaves and Grass	2.1%	1.2%
Chips, Prunings, Trimmings	0.8%	1.0%
Branches, Stumps	0.6%	0.7%
Other Recycleable Wood	<0.1%	0.0%
OTHER ORGANICS		
Manure	<0.1%	0.0%
Other Compostable Paper	6.8%	1.0%
Remainder/Composite Organic	0.1%	0.2%
Clean Dimensional Lumber	0.3%	0.2%
Clean Engineered Wood	<0.1%	N/A
Pallets & Crates	0.4%	0.6%
TEXTILES		
Cloth and Clothing	4.0%	2.1%
Shoes, Purses, Belts	0.4%	0.3%
Carpet	0.8%	0.7%
Other	1.4%	0.4%
INERTS		
Concrete	<0.1%	0.0%
Asphalt	0.0%	N/A
Clean Gypsum Board	0.2%	0.2%
Rock, Soil, and Fines	<0.1%	0.0%
Remainder/Composite Construction & Demolition	0.6%	0.4%
HAZARDOUS & E-WASTE		
Paint	0.3%	0.4%
Vehicle and Equipment Fluids	0.0%	N/A
Used Oil and Oil Filters	<0.1%	0.2%
Large Rechargeable Batteries	0.0%	N/A
Household Batteries	<0.1%	0.0%
Universal Waste Electronic Devices (UWED)	1.0%	0.7%
Covered Electronic Waste	0.3%	0.4%
Fluorescent Tubes	0.0%	N/A
Treated Wood Waste	1.6%	1.0%
Propane Gas Cylinders	<0.1%	0.0%
Pharmaceuticals	<0.1%	0.0%
Sharps	<0.1%	0.0%
Vapes	<0.1%	0.0%
All Other HHW	0.9%	1.0%
RESIDUE/OTHER		
Bulky Items	1.3%	2.0%
Tires	<0.1%	0.2%
Remainder/ Composite Special Waste	<0.1%	0.0%
Mixed Residue/Other	16.6%	2.8%

*If the confidence interval (+/-) is greater than the composition value, then the lower confidence limit should be interpreted as 0.0%

Appendix E – Multi-Family Hand Sort Material Compositions

Material Components	Composition	*+ / -
PAPER		
Uncoated Corrugated Cardboard	2.6%	1.4%
Newspaper	<0.1%	0.0%
White Ledger	0.6%	0.4%
Mixed Paper	5.1%	1.2%
Aseptic Cartons / Gable-top	0.3%	0.1%
Paper/Fiber Food Service Ware	2.9%	1.1%
Remainder/Composite Paper	0.7%	0.3%
GLASS		
CRV Glass Bottles and Containers	1.5%	0.6%
Non-CRV Glass Bottles and	1.0%	0.6%
Other Glass	0.4%	0.2%
METAL		
Steel/Tin Cans	0.4%	0.2%
Aluminum Cans – CRV	0.4%	0.1%
Aluminum Cans – Non-CRV	<0.1%	0.1%
Other Ferrous	2.1%	1.8%
Other Non-Ferrous	0.7%	0.3%
Remainder/Composite Metal	0.4%	0.4%
PLASTIC		
PETE Bottles – CRV	0.7%	0.2%
PETE Bottles – Non-CRV	0.3%	0.1%
PET Thermaforms	1.0%	0.5%
HDPE #2 Colored Containers	0.5%	0.6%
HDPE #2 Neutral Containers	0.3%	0.1%
PP #5 Containers	0.8%	0.2%
Other Plastic Containers (3, 4, 6, 7)	0.4%	0.2%
Bioplastics	<0.1%	0.0%
Recyclable Plastic Film	0.9%	0.2%
Nonrecyclable Film	5.1%	1.1%
Durable Plastic Items	0.5%	0.4%
Expanded Polystyrene	0.4%	0.1%
Remainder/Composite Plastic	2.7%	1.7%
FOOD		
Potentially Donatable – **Vegetative**	1.3%	0.7%
Potentially Donatable - **Eggs**,	0.2%	0.2%
Potentially Donatable – **Meat**	0.6%	0.9%
Potentially Donatable -	0.4%	0.3%
Potentially Donatable - **Packaged**	1.6%	0.8%
Not Donatable – **Meat**	2.9%	1.2%
Not Donatable – **Non-meat**	11.7%	3.0%
Inedible	6.1%	1.2%

Material Components	Composition	*+ / -
YARD WASTE		
Leaves and Grass	2.9%	4.7%
Chips, Prunings, Trimmings	0.9%	1.2%
Branches, Stumps	0.1%	0.1%
Other Recycleable Wood	<0.1%	0.0%
OTHER ORGANICS		
Manure	<0.1%	N/A
Other Compostable Paper	5.3%	1.0%
Remainder/Composite Organic	<0.1%	0.0%
Clean Dimensional Lumber	0.2%	0.2%
Clean Engineered Wood	0.3%	0.7%
Pallets & Crates	<0.1%	N/A
TEXTILES		
Cloth and Clothing	3.2%	1.7%
Shoes, Purses, Belts	0.7%	0.5%
Carpet	0.5%	0.7%
Other	2.1%	1.0%
INERTS		
Concrete	0.3%	0.6%
Asphalt	0.0%	N/A
Clean Gypsum Board	<0.1%	0.0%
Rock, Soil, and Fines	<0.1%	0.0%
Remainder/Composite Construction & Demolition	0.3%	0.2%
HAZARDOUS & E-WASTE		
Paint	<0.1%	0.1%
Vehicle and Equipment Fluids	0.0%	N/A
Used Oil and Oil Filters	0.0%	N/A
Large Rechargeable Batteries	0.0%	N/A
Household Batteries	0.2%	0.2%
Universal Waste Electronic Devices (UWED)	1.1%	1.0%
Covered Electronic Waste	0.1%	0.2%
Fluorescent Tubes	0.0%	N/A
Treated Wood Waste	1.9%	N/A
Propane Gas Cylinders	0.0%	N/A
Pharmaceuticals	0.4%	0.2%
Sharps	<0.1%	0.0%
Vapes	<0.1%	0.0%
All Other HHW	<0.1%	0.0%
RESIDUE/OTHER		
Bulky Items	0.0%	N/A
Tires	0.0%	N/A
Remainder/ Composite Special Waste	<0.1%	0.0%
Mixed Residue/Other	21.7%	3.2%

*If the confidence interval (+/-) is greater than the composition value, then the lower confidence limit should be interpreted as 0.0%

Appendix F – Residential Hand Sort Material Compositions

Material Components	Composition	*+ / -
PAPER		
Uncoated Corrugated Cardboard	1.5%	0.7%
Newspaper	0.4%	0.3%
White Ledger	0.6%	0.4%
Mixed Paper	5.4%	0.6%
Aseptic Cartons / Gable-top	0.6%	0.1%
Paper/Fiber Food Service Ware	2.5%	0.6%
Remainder/Composite Paper	1.5%	0.4%
GLASS		
CRV Glass Bottles and Containers	0.4%	0.2%
Non-CRV Glass Bottles and	0.8%	0.3%
Other Glass	0.4%	0.1%
METAL		
Steel/Tin Cans	0.5%	0.1%
Aluminum Cans – CRV	0.3%	0.1%
Aluminum Cans – Non-CRV	<0.1%	0.0%
Other Ferrous	1.1%	0.5%
Other Non-Ferrous	0.6%	0.1%
Remainder/Composite Metal	0.3%	0.2%
PLASTIC		
PETE Bottles – CRV	0.3%	0.1%
PETE Bottles – Non-CRV	0.3%	0.1%
PET Thermaforms	1.1%	0.1%
HDPE #2 Colored Containers	0.3%	0.1%
HDPE #2 Neutral Containers	0.1%	0.1%
PP #5 Containers	1.1%	0.2%
Other Plastic Containers (3, 4, 6, 7)	0.3%	0.1%
Bioplastics	<0.1%	0.1%
Recyclable Plastic Film	0.4%	0.1%
Nonrecyclable Film	7.3%	0.5%
Durable Plastic Items	0.7%	0.3%
Expanded Polystyrene	0.5%	0.2%
Remainder/Composite Plastic	2.0%	0.4%
FOOD		
Potentially Donatable – **Vegetative**	1.4%	0.5%
Potentially Donatable - **Eggs**,	0.2%	0.1%
Potentially Donatable – **Meat**	0.2%	0.1%
Potentially Donatable -	0.5%	0.3%
Potentially Donatable - **Packaged**	1.1%	0.2%
Not Donatable – **Meat**	1.8%	0.5%
Not Donatable – **Non-meat**	9.1%	1.6%
Inedible	7.9%	0.9%

Material Components	Composition	*+ / -
ORGANICS		
Leaves and Grass	0.3%	0.4%
Chips, Prunings, Trimmings	0.6%	0.6%
Branches, Stumps	0.4%	0.5%
Other Recycleable Wood	<0.1%	0.0%
OTHER ORGANICS		
Manure	<0.1%	0.1%
Other Compostable Paper	8.0%	0.8%
Remainder/Composite Organic	0.3%	0.2%
Clean Dimensional Lumber	0.6%	0.5%
Clean Engineered Wood	1.7%	2.3%
Pallets & Crates	<0.1%	N/A
TEXTILES		
Cloth and Clothing	2.1%	0.6%
Shoes, Purses, Belts	0.8%	0.3%
Carpet	0.5%	0.6%
Other	2.2%	0.8%
INERTS		
Concrete	0.3%	0.2%
Asphalt	<0.1%	0.1%
Clean Gypsum Board	0.0%	N/A
Rock, Soil, and Fines	<0.1%	0.0%
Remainder/Composite Construction & Demolition	0.7%	0.3%
HAZARDOUS & E-WASTE		
Paint	<0.1%	0.1%
Vehicle and Equipment Fluids	0.0%	N/A
Used Oil and Oil Filters	0.0%	N/A
Large Rechargeable Batteries	0.0%	N/A
Household Batteries	<0.1%	0.0%
Universal Waste Electronic Devices (UWED)	1.0%	0.5%
Covered Electronic Waste	0.0%	N/A
Fluorescent Tubes	<0.1%	0.0%
Treated Wood Waste	0.6%	0.3%
Propane Gas Cylinders	<0.1%	0.0%
Pharmaceuticals	0.2%	0.1%
Sharps	<0.1%	0.0%
Vapes	<0.1%	0.0%
All Other HHW	<0.1%	0.0%
RESIDUE/OTHER		
Bulky Items	0.0%	N/A
Tires	0.2%	0.3%
Remainder/ Composite Special Waste	0.1%	0.1%
Mixed Residue/Other	25.6%	3.2%

*If the confidence interval (+/-) is greater than the composition value, then the lower confidence limit should be interpreted as 0.0%

Appendix G – Visual Data Form

Marin 2024 Waste Characterization Study - Visual Sample												
Date:		**M**	**T**	**W**	**Th**	**F**						**Time:**
Sample #:		**Sector:** (circle one)		**RES**		**COM**						**Est. Incoming Vol:**
Jurisdiction of Origin:		**General Categorization[1]:** (circle one)			**C&D**	**RW**	**CW**	**BI**	**LD**			
Notes:												

MATERIAL TYPE		Proportion to Weight			
		Est. % of Load	Notes	EPA density (lb./CY)	Weight
Paper	Cardboard				
	Mixed Paper				
	Other Paper				
Glass	Glass Bottles & Containers				
	Other Glass				
Metal	Aluminum Cans				
	Steel/Tin Cans				
	Non-Ferrous Metals				
	Ferrous Metals				
	Other Metal				
Plastic	Plastic Bottles & Containers				
	Plastic Film				
	Rigid Plastics				
	Expanded Polystyrene				
	Other Plastics				
Organics	Yard Debris/Green Waste				
	Food				
	Clean Dimensional Lumber				
	Clean Engineered Wood				
	Clean Pallets and Crates				
	Manure				
	Other Compostable				
C&D	Concrete				
	Asphalt				
	Gypsum Board/Drywall				
	Rock, Soil, and Fines				
	Other C&D				
HHW	Paint				
	Used Oil and Filters				
	Batteries				
	Electronic Waste				
	Other HHW				
Other	Carpet/Carpet Padding				
	Textiles				
	Treated/Painted Wood				
	Bulky Items				
	Tires				
	Residual/Bagged Waste				

Appendix H – Overall Self-Haul Material Compositions

Material Components	Composition
PAPER	
Cardboard	1.3%
Mixed Paper	2.0%
Other Paper	0.9%
GLASS	
Glass Bottles & Containers	0.5%
Other Glass	1.5%
METAL	
Aluminum Cans	0.1%
Steel/Tin Cans	0.1%
Non-Ferrous Metals	3.1%
Ferrous Metals	2.6%
Other Metal	0.1%
PLASTIC	
Plastic Bottles & Containers	0.2%
Plastic Film	1.3%
Rigid Plastics	0.7%
Expanded Polystyrene	0.1%
Other Plastics	0.3%
FOOD	
Food	0.7%
YARD WASTE	
Yard Debris/Green Waste	4.4%
OTHER ORGANICS	
Clean Dimensional Lumber	3.4%
Clean Engineered Wood	1.0%
Clean Pallets and Crates	2.4%
Manure	0.0%
Other Compostable	0.6%

Material Components	Composition
TEXTILES	
Carpet/Carpet Padding	4.4%
Textiles	1.9%
C&D	
Concrete	2.8%
Asphalt	0.0%
Gypsum Board/Drywall	2.4%
Rock, Soil, and Fines	1.9%
Other C&D	23.3%
HAZARDOUS & E-WASTE	
Paint	0.0%
Used Oil and Filters	0.0%
Batteries	0.0%
Electronic Waste	1.5%
Treated/Painted Wood	12.4%
Other HHW	0.2%
RESIDUE/OTHER	
Bulky Items	9.0%
Tires	0.4%
Residual/Bagged Waste	12.5%

Composition based on visual characterization of 58 waste loads

Appendix I - Self-Haul Material Diversion Classifications

Material Components		Divertible	Potentially Divertible	Other
Paper	Cardboard	X		
	Mixed Paper	X		
	Other Paper			X
Glass	Glass Bottles & Containers	X		
	Other Glass			X
Metal	Aluminum Cans	X		
	Steel/Tin Cans	X		
	Non-Ferrous Metals	X		
	Ferrous Metals	X		
	Other Metal			X
Plastic	Plastic Bottles & Containers	X		
	Plastic Film			X
	Rigid Plastics	X		
	Expanded Polystyrene			X
	Other Plastics			X
Organics	Yard Debris/Green Waste	X		
	Food		X	
	Clean Dimensional Lumber		X	
	Clean Engineered Wood		X	
	Clean Pallets and Crates		X	
	Manure		X	
	Other Compostable			X
Textiles	Carpet/Carpet Padding		X	
	Textiles			X
C&D	Concrete		X	
	Asphalt		X	
	Gypsum Board/Drywall		X	
	Rock, Soil, and Fines		X	
	Other C&D			X
HHW	Paint	X		
	Used Oil and Filters	X		
	Batteries	X		
	Electronic Waste	X		
	Treated/Painted Wood			X
	Other HHW			X
Other	Bulky Items	X		
	Tires	X		
	Residual/Bagged Waste			X

ZERO WASTE MARIN

MARIN COUNTY HAZARDOUS AND SOLID WASTE MANAGEMENT JOINT POWERS AUTHORITY

Belvedere Corte Madera County of Marin Fairfax Larkspur Mill Valley
Novato Ross San Anselmo San Rafael Sausalito Tiburon

RECOMMENDATION FROM SUBCOMMITTEE – ITEM 7

TO Local Task Force

FROM Casey Fritz, Senior Planner

SUBJECT Suggested Agenda Items

DATE July 10, 2025

Local Task Force members can suggest agenda items for the next meeting during this time.

RECOMMENDATION
Information Only. Receive and file.