



**SOLID WASTE
MANAGEMENT
CONSULTANTS**

WASTE OUTLOOK

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Circular Economy: The Kent County Sustainable Business Park Initiative

Due to the impacts from China's National Sword policy on the recyclables market, communities are looking for innovative and ambitious solutions geared towards alternative market options that fulfill their waste diversion or Zero-Waste objectives. One powerful response is the advancement of a more circular economy with the development of sustainable business parks or eco-industrial parks. These parks bring together businesses which create a value-added system where virgin resource inputs, wastes, emissions, and energy leakages are minimized.

Following the Circular Economy waste management models, sustainable business parks narrow the material and energy loops to reduce loss; with landfilling as a small component and last resort.

Managing waste as part of a Circular Economy can be achieved through thoughtful design, maintenance, repair, reuse, remanufacturing, refurbishing, and recycling of stocks and materials flow. This approach contrasts the current one-time Linear Economy which is based on a 'take, create, and dispose' model of production and consumption.

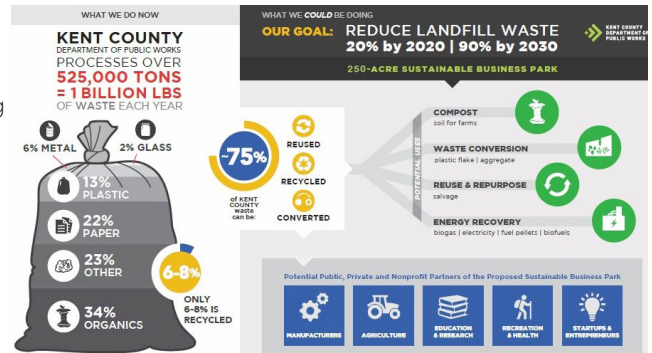
GBB has the experience and expertise to help communities develop sustainable business parks that are securing markets for their waste materials. GBB is currently a proud Planning Partner of an ambitious project in Kent County, Michigan. Other partners for this project include Fishbeck, Thompson, Carr & Huber, Inc. (a Grand Rapids-based engineering, environmental sciences, architecture, and construction management firm); Byrum & Fisk Advocacy Communications (a stakeholders engagement communications firm); and PFM (the nation's largest

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Ultra Capital's Investment in Biofuel Production Facility in Line with Focus on Sustainable Projects

In late 2017, the \$45M bond financing for the Coastal Resources of Maine LLC (Coastal) project officially closed with the Finance Authority of Maine. This was a key milestone for the development, construction, and operation of a new and innovative waste processing facility in Maine that was financially backed by Ultra Capital, LLC (Ultra Capital), a sustainable infrastructure investment funds manager.

GBB assisted Ultra Capital by providing independent consulting expertise to vet the



“Our goal is by 2030 that 90% of what we’re sending now to a landfill could be reutilized [...] We’re trying to, and intend to, exit the landfill business in 2030.”

*-- Darwin Baas,
Director of the Kent County, Dept. of Public Works,
in an 8-minute interview on NPR
(available at www.tinyurl.com/KentNPR).*



Installation of the pulper, a key part of the process to turn mixed waste paper back into a salable pulp.

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Speakers' Corner

“Do’s and Don’ts for Bidding on Collection Contracts for Small Haulers”

GBB Senior Project Manager Jennifer Porter spoke at the Federation of New York Solid Waste Associations Solid Waste & Recycling Conference, held in May, where she featured collection case studies along with tips/tricks to haulers who respond to municipal RFPs/RFBs. What made this presentation particularly worthwhile is that Jennifer has procurement expertise from both the perspective of public-sector entities evaluating proposals, and public-sector firms developing and submitting proposals.

View a PDF of the presentation: www.gbbinc.com/PorterNYFederation2018

“Smart Technologies for Contamination Management”

With the strict limits to recyclables contamination brought on by China’s National Sword policies, figuring out how to reduce recycling contamination is an issue that everybody is talking about. At the joint Maryland Recycling Network / SWANA Mid-Atlantic conference, in June, Brad Kelley, BSME, GBB Senior Project Engineer, talked about how technology can be part of the solution.

View a PDF of the presentation: www.gbbinc.com/KelleyMRN2018



Success Story:

Cost Effective C&D Recycling Facility in Fauquier County, VA

Mike Dorsey (Fauquier County, Virginia, Director of Environmental Services) and Brad Kelley (GBB Senior Project Engineer) were interviewed in the April edition of Waste Today magazine’s feature on construction waste and demolition debris (C&D.) They discussed how municipalities that are considering a C&D recycling program must establish clear goals as they plan and implement the project. The C&D debris processing system at Corral Farm is discussed at length as an example of a cost-effective operation. This is an MSW facility in Fauquier County that GBB helped design, procure and start up.

Corral Farm Case Study

For this project, GBB assisted the County with a fast-tracked procurement for the C&D facility. This started with the development of a preliminary business model which outlined the economic and markets diversion potential of the project. GBB then developed specifications for and managed the request for proposal (RFP) process which was a formal solicitation of private-sector proposals for the turnkey design and equipment installation of the C&D processing system. It was made clear that the County would own the facility with an option that allowed experienced C&D operators to augment the scope by managing the receiving, handling and processing/recovery of materials.

In conclusion, Brad Kelley presented keys to success when implementing a C&D program, such as:

- Identifying local demand for certain feedstock
- Having necessary tonnage to work out economically
- Clearly mapping out goals
- Understanding regional market influences from other C&D locations
- Having a financial cushion so that you can withstand the erratic (ever changing) markets for recovered materials
- Being sustainable for the long term



Read the article at www.tinyurl.com/CDFauquier

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The Kent County Sustainable Business Park Initiative

independent financial advisor to public entities.)

As part of its long-term vision to implement Sustainable Materials Management (SMM) strategies, Kent County has set a bold goal to divert 90% of County-generated trash that goes to landfills by 2030. Building a sustainable business park is an essential part of reaching that goal, helping to significantly reduce trash buried in landfills and attract investment and jobs from companies that can convert waste into usable products. The GBB-led team was selected by the County to develop the Master Plan for 250 acres of county-owned property to convert waste materials into marketable products. It’s envisioned that this property will house facilities to recover discarded materials, to reuse and recycle the recovered material, and to convert non-recyclable material into intermediate products or to recover the energy value of those discards.

This project is currently underway. So far, the GBB Project Team conducted stakeholders’ meetings; performed waste stream and market analyses. The team also evaluated proposed technologies following a Request for Information (RFI) process that generated twenty-three (23) responses from interested businesses. A Draft Master Plan was delivered to the County that addresses the design and construction of the public infrastructure; funding sources; and how the services provided by the sustainable business park tenants might interact with Kent County’s existing waste management infrastructure.

For more information, visit the Kent County Sustainable Business Park section of GBB’s website (www.gbbinc.com/KentSBP), for continuous updates on the project.

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Ultra Capital's Investment in Biofuel Production Facility in Line with Focus on Sustainable Projects

initial project and evaluate its commercial reasonability and viability with a review of the business model's key waste supply and recyclables revenue assumptions. The GBB Project Team, led by GBB Senior Vice President Steve Simmons, also assessed the ability of the Municipal Review Committee, Inc. (MRC) to supply contracted volume of waste to the facility. MRC is a non-profit organization comprised of the 187 municipalities and inter-municipal entities in central and eastern Maine.

Located on approximately 87 acres in Hampden, ME, Coastal is set to start accepting waste in the last quarter of 2018 as a solid waste disposal, recycling and transformation facility for the processing of Municipal Solid Waste (MSW.) The construction contractors will be CP Manufacturing, Inc., and Cianbro Corporation and the facility will be operated and maintained by NAES Corporation. Designed for a maximum capacity of 180,000 tons per year, Coastal is expected to initially process approximately 75% of capacity.

High-Tech Facility - Recycling on Steroids

The facility will use a proprietary mechanical-biology treatment (MBT) process which is widely used in the European Union but is relatively new to the United States. The waste receiving, screening and initial processing section of the facility will be very similar to a mixed waste processing (MWP) facility, sometimes referred to as a "dirty MRF". After waste screening and recycling has been accomplished, the balance of the mixed waste stream will be processed through a series of sizing, separation and washing processes. During this process, low quality fibers such as contaminated paper, waxed paper, labels, mixed paper, composite packaging, soiled diapers, etc., will be extracted for upgrading. Food and soluble organic material will be dissolved into the process wash water and later recovered and converted into renewable methane via an anaerobic digester.

The cleansed wash water will be recycled back into the process. Non-recyclable combustibles will be recovered and processed into an engineered fuel product. The remaining waste materials such as glass, grit and dirt and other fines are disposed of at a lined landfill as residue but, it may have beneficial uses such as alternative landfill daily cover. The facility is expected to achieve a 70% material recycling and diversion rate.

In May, Ultra Capital's investment in this high-tech recycling project was featured in Middle Market Growth magazine, a publication of the Association for Corporate Growth, serving investors, executives, lenders and advisers to growing middle-market companies. Read all about it at: www.middlemarketgrowth.org/ultra-capital-invests-recycling-fiberight/

"GBB provided valuable independent review on this project to validate certain economic assumptions in the pro forma and expectations regarding regional waste flows and market dynamics. This expert analysis was important both for internal use during our diligence prior to close and for use in conjunction with the bond financing."

"We selected GBB because of the combination of their overall waste management industry expertise, in-depth understanding of waste processing technologies, and deep familiarity with the regional market."

*-- Emily Bockian Landsburg
Ultra Capital Director*

"Coastal is well positioned to withstand, and in some ways benefit from, the market changes caused by the China's National Sword ban on scrap material imports and other global market changes."

*-- Steve Simmons
GBB Senior Vice President*



Kate Vasquez Promoted to Project Manager



Kate Vasquez, who joined GBB in 2012 as a Senior Consultant, has been promoted to the position of GBB Project Manager. She has 16 years of experience in recycling, solid waste reduction, and solid waste management both as a consultant and for public-sector entities.

At GBB, she has been involved in projects aimed at increasing diversion, expanding and encouraging program participation, improving collection operations, and all aspects of solid waste planning.

Prior to becoming a consultant, she spent 10 years in the public sector, at the Division of Solid Waste Collection and Recycling of Fairfax County, VA, and the Office of Solid Waste Management of Loudoun County, VA, with a focus on recycling, solid waste reduction, and solid waste management, gaining valuable expertise in strategic planning, regulatory implementation, events planning, and public relations. Based out of GBB's headquarters, Kate can be reached at kvasquez@gbbinc.com or (703) 573-5800.

Recent GBB Assignments

In the past few months, GBB has been selected for several new assignments, including:

- **Assessment of Materials Recovery Facility**
Baltimore County, MD / Northeast Maryland Waste Disposal Authority
- **Solid Waste Management Plan Update**
Charles County, MD
- **Evaluation of Solid Waste and Recycling Program Options**
City of Port St. Lucie, FL
- **Waste-to-Energy Facility Operational Monitoring**
Kent County, MI
- **Logan Airport Waste Characterization Study**
Massachusetts Port Authority
(as subcontractor to VHB)
- **Solid Waste Management Facility Site Master Plan**
Pope/Douglas Solid Waste Management, MN
- **Waste Reduction and Recycling Projects/ Alternative Waste Disposal and Renewable Energy Technologies Development Assistance**
Prince William County, VA

We very much appreciate the opportunity to assist these clients with their needs.



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Passionate About the Environment? Join GBB!

Do you want to be on the front lines as a solid waste management consultant – solving problems and lending your expertise to benefit the environment and build great communities? GBB is a consulting firm that loves helping people see garbage as a resource and an opportunity. We do this through planning and implementing integrated waste management programs designed to provide cost-effective services, protect the environment, and sustain our natural resources. We're passionate about the environment and are fortunate to work with great employees, associates, clients, colleagues, and friends who share our passion. We are currently looking for solid waste management professionals interested in joining our dynamic and entrepreneurial team. Visit the Career Opportunities section of our website for details.



Meet the New GBBers!

Tom Reardon - Senior Vice President; New Member of Ownership Group



Renewable energy expert Tom Reardon re-joined GBB as Senior Vice President and has become a member of the ownership group. A GBB Vice President from 2009 to 2015, he has over 32 years of experience specializing on alternative energy, clean fuel and waste conversion. His extensive expertise, both as a consultant and as a senior executive in the private-sector, encompasses waste-to-energy and alternative clean fuels project management; waste conversion / emerging technologies review, analysis and strategic business planning; energy and technology agreement negotiations; facility operations and management; and strategic solid waste management planning.

Most recently, he was Chief Operating Officer for an alternative fuel start-up looking to use municipal solid waste to create an EPA-approved advanced automobile fuel additive, where he created strategic plans, developed markets, cultivated partnership alliances, and collaborated with funding institutions. Based out of GBB's headquarters in McLean, VA, Tom can be reached at treardon@gbbinc.com or (703) 508-9738.

Ashlea Smith - Marketing Coordinator



A professional with marketing, proposal, and project coordination experience in industries that include recycling, waste management, and energy efficiency, Ashlea Smith has joined GBB as Marketing Coordinator and will be a key member of GBB's marketing team, coordinating the proposal development process and contributing to the firm's marketing initiatives.

Prior to joining GBB, she was the Proposal, Marketing and Recruiting Coordinator at George Sexton Associates, LLC, a lighting and museum design firm. She also worked at ECORE Living, LLC, a Washington, DC-based environmental consulting firm; Freestate Farms, an agricultural consulting firm; and at the Alice Ferguson Foundation, a Maryland non-profit organization promoting the environmental sustainability of the Potomac River watershed. Ashlea is based out of GBB's headquarters in McLean, VA; she can be reached at asmith@gbbinc.com and (703) 573-5800.

Paige Davis - Consultant I



Ms. Davis completed her master's degree in Sustainability Management with a specialization in Sustainability Consulting at American University and is currently pursuing a Graduate Certificate in Environmental Assessment at American University. She also has a bachelor's degree in Environmental and Sustainability studies from George Mason University. She has joined GBB as Consultant I.

While completing her degrees, she gained hands-on experience in internships with the Corn Refiners Association as an Environmental Policy Intern; the Newport News Shipbuilding Company; the Department of Justice; and in a federal-work study position as a laboratory preparatory assistant. Also based out of GBB's headquarters, Paige can be reached at pdavis@gbbinc.com and (703) 573-5800.