

Summary Information Cover Letter

- i. **Project Title:** Hernando County's Building Infrastructure for Environmental Impact
- ii. **Applicant Name:** Hernando County Board of County Commissioners
- iii. **Eligible Entity Type:** Local (County) Government
- iv. **Qualification for Program Track:** Track 1
- v. **UEI Number:** MWKKBKNTZ9SW7
- vi. **Project Summary:** *Hernando County's Building Infrastructure for Environmental Impact* project, will build infrastructure to employ aerobic composting to transform wood waste into a beneficial Florida Department of Environmental Protection (FDEP) approved compost that increases water-holding capacity in the soil. The compost will be distributable to local agricultural producers to increase soil quality and reduce the Nitrogen load in the Weeki Wachee Springs Group. Once the composting facility is in operations anaerobic digestion will be considered to capture and upgrade the biogas to connect to the grid.
- vii. **Contact Information:** Carla Rossiter-Smith, Procurement & Grants Manager, 15470 Flight Path Drive Brooksville, FL 34604, Crossiter-smith@co.hernando.fl.us, (352) 754-4004 ext. 24153
- viii. **Project Location:** Hernando County, Florida
- ix. **Total Project Cost:** \$5,511,806 (estimated \$2,000,000 in leveraged resources)
- x. **EPA Funding Requested:** \$3,511,806
- xi. **Project Period:** October 2023 to October 2026
- xii. **Program Objective Elements:** Establish, increase, expand, or optimize collection and improve materials management infrastructure; Development of and/or upgrades to composting facilities or anaerobic digesters to increase capacity for organics recycling; Demonstrate a significant and measurable increase in the diversion, recycling rate, and quality of materials collected for municipal solid waste; Fund the creation and construction of tangible infrastructure, technology, or other improvements to reduce contamination in the recycled materials stream.
- xiii. **Strategic Plan Elements:** Goal 1: Tackle the Climate Crisis; Objective 1.1: Reduce Emissions that Cause Climate Change Objective 1.3: Advance International and Subnational Climate Efforts
Goal 2: Take Decisive Action to Advance Environmental Justice and Civil Rights; Objective 2.1: Promote Environmental Justice and Civil Rights at the Federal, Tribal, State, and Local Levels
Goal 5: Ensure Clean and Safe Water for All Communities; Objective 5.2: Protect and Restore Waterbodies and Watersheds

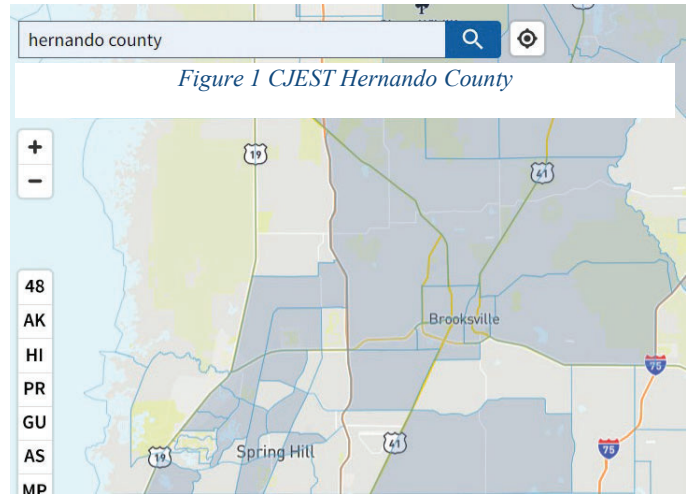
Narrative Proposal

Criterion 1: Project Summary and Approach

a. Project Narrative including a clearly written description of the overall project:

Hernando County’s Building Infrastructure for Environmental Impact project is located in Hernando County, Florida, a geographically diverse county on Florida’s central-west coast. Hernando County is a Track 1 applicant as indicated by the grey shaded areas on the Climate and Economic Justice Screening Tool (CEJST) image below (see also attachment “CEJST Hernando County Florida”).

Hernando County is comprised of mostly unincorporated areas and has one municipality. Western Portions of the County are located on the Gulf of Mexico; the more urbanized central part of the County is home to most county residents and Eastern portions are more rural in nature supporting the majority of the County’s agricultural businesses. Hernando County is situated in the Weeki Wachee Springs Group and is a growing, rural county with approximately 23% of the land agriculturally classified as Greenbelt.



Hernando County Solid Waste (HCSW) provides solid waste services for all 194,515¹ residents of the County including all incorporated and unincorporated areas. As part of the services provided, HCSW operates: West Hernando Convenience Center, East Hernando Convenience Center, and the Northwest Solid Waste Management Landfill (NWWMF). The NWWMF is Hernando County’s main landfill and is located on 398 acres of property owned by the Hernando County Board of County Commissioners.

In 2016, HCSW commissioned an analysis to determine options for diverting organics from Hernando County’s landfill. Based on the waste composition study conducted in 2016, organic waste landfilled in the Class I landfill comprised 24.5% (34,366 tons) of the total waste stream.

Today, Hernando County landfills nearly 20% more municipal solid waste (MSW) than the state overall².



Figure 2 Waste Management Hernando County v. Florida

¹ Source: U.S. Census Bureau, 2020 Census Redistricting Data (Public Law 94-171)

² Florida DEP County Overview Report

Hernando County recognizes organic waste as a valuable resource. Recycling organic waste will reduce the amount of landfilled waste thus saving landfill airspace, reducing greenhouse gas emissions, and giving value to waste by developing products and markets for green waste. As a result of the 2016 study, Hernando County has elected to first implement composting as the recycling option to divert green waste from the landfill and has set aside eleven acres at the Northwest site for a compost facility (see Figure 3: Site Plan of Proposed Composting Facility).

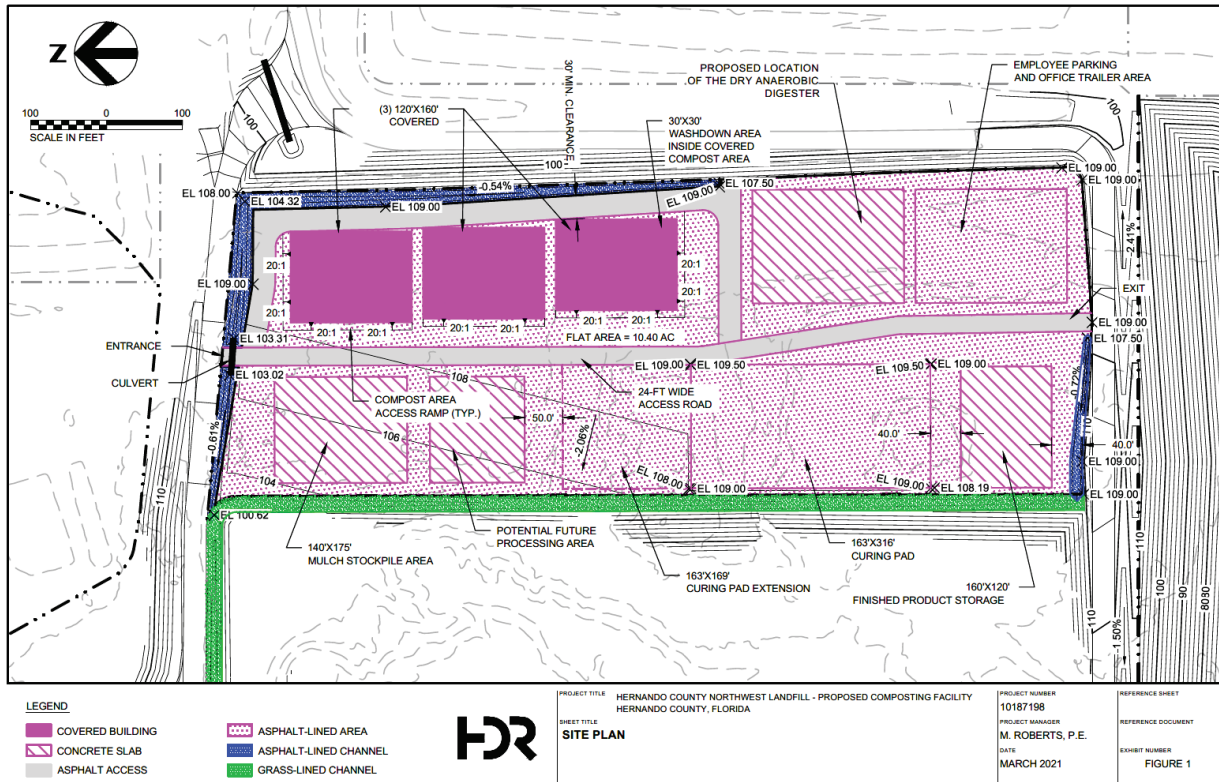


Figure 3: Site Plan of Proposed Composting Facility

Hernando County Solid Wastes composting facility was first approved in Hernando County’s Capital Improvement Plan in fiscal year 2018. To date, 60% facility design has been completed and operating permit FLAB07213 has been obtained. Construction of the facility can begin in 2024 with available funding.

Hernando County’s Building Infrastructure for Environmental Impact project will build a successful wood waste composting program and long-term goals will be to add food waste and dry anaerobic digestion with goals of further reducing the amount of landfilled waste and reducing greenhouse gas emissions. Longer-term goals also include evaluating approaches to convert organic matter to biogas to produce electricity and heat or bio-methane or renewable compressed natural gas (rCNG) fuel.

Hernando County’s Building Infrastructure for Environmental Impact project, will employ aerobic composting to transform wood waste into a beneficial Florida Department of Environmental Protection (FDEP) approved compost that increases water-holding capacity in the soil, increases porosity, and suppresses diseases. The project will mirror Schematic 1 in Figure 4 and Schematic 2 is the longer-term proposed modified management practices that include anaerobic digestion followed by composting and power generation.

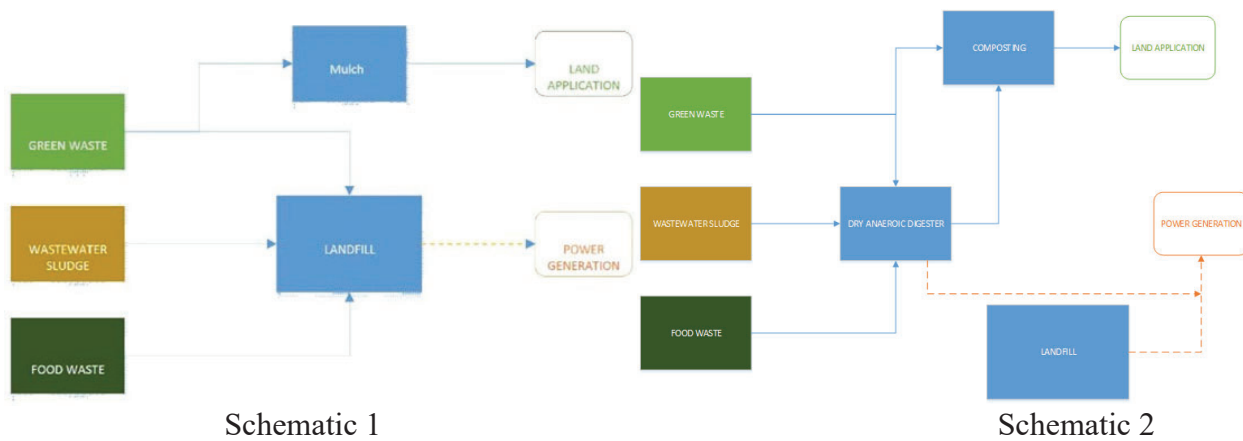


Figure 4: Project Schematics

- b. How project meets the requirements in Section I.G and and Section I.H:
- c. Goals and objectives of the project with steps and milestones to meet the stated objectives:
- d. Time schedule for the execution of the tasks associated with the project:

Hernando County’s Building Infrastructure for Environmental Impact project addresses four objectives of this grant program and all requested funding is to support the construction of a compost facility thereby facilitating the achievement of program objectives to:

1. Establish materials management infrastructure;
2. Develop a compost facility;
3. Demonstrate a significant and measurable increase in the diversion of materials collected for municipal solid waste;
4. Fund the creation and construction of tangible infrastructure to reduce contamination in the recycled materials stream.

Table 1 below details how each objective will be achieved with program funding.

Table I: Work Plan 1G SOW Objectives

Goals/Objectives Addressed	Task/Milestone	Outcomes/Outputs	Timeline (Begin/End)
*1G SOW Objectives			
1G SOW Objective 1 Establish, increase, expand, or optimize collection and improve materials management infrastructure	Design Complete	Design of Compost Facility	Year 1/Year 1
1G SOW Objective 2 Development of and/or upgrades to composting facilities or anaerobic digesters to increase capacity for organics recycling;	Compost Area Constructed	Build compost facility with capacity to add anaerobic digestion and energy production	Year 2/Year 3
	Anaerobic Digester purchased		Future State

1G SOW Objective 3 Demonstrate a significant and measurable increase in the diversion, recycling rate, and quality of materials collected for municipal solid waste.	Diversion of Materials to Compost Area	Tonnage of Waste Diverted from Landfill	Year 2/Year 3 and ongoing beyond award period
1G SOW Objective 4 Fund the creation and construction of tangible infrastructure, technology, or other improvements to reduce contamination in the recycled materials stream;	Compost Area Constructed	Compost Area Constructed	Year 2/Year 3
	Compost Available for Distribution	Availability of Compost to Agricultural Producers reducing use of fertilizers and related agricultural run-off into the Watershed as measured by BMAP	Year 3/and ongoing beyond award period
*All Goals/Objectives support the NRS Strategy.			

Hernando County’s project also addresses 3 goals and 4 objectives from the FY 2022-2026 EPA Strategic Plan. Details on how these goals and objectives will be supported are available in Table II Work Plan EPA’s 2022-2026 Strategic Plan and are further elaborated in the paragraphs below.

Table II: Work Plan EPA’s 2022-2026 Strategic Plan

Goals/Objectives Addressed	Task/Milestone	Outcomes/Outputs	Timeline (Begin/End)
*EPA Strategic Plan			
Goal 1: Tackle the Climate Crisis; Objective 1.1: Reduce Emissions that Cause Climate Change Objective 1.3: Advance International and Subnational Climate Efforts	Compost Area Constructed Anaerobic Digester purchased	Calculate biogas methane potential and use EPA’s LandGem model to estimate biogas production	Year 2/Year 3 Future State
Goal 2: Take Decisive Action to Advance Environmental Justice and Civil Rights; Objective 2.1: Promote Environmental Justice and Civil Rights at the Federal, Tribal, State, and Local Levels	Receive and Utilize SWIFR grant to serve areas identified as underserved using CEJST	CEJST Indicators	Year 1/ ongoing beyond award period
Goal 5: Ensure Clean and Safe Water for All Communities; Objective 5.2: Protect and Restore Waterbodies and Watersheds	Compost Available for Distribution	Availability of Compost to Agricultural Producers reducing use of fertilizers and related agricultural run-off into the Watershed as measured by BMAP	Year 3/ ongoing beyond award period
*All Goals/Objectives support the NRS Strategy.			

Goal 1: Tackle the Climate Crisis;

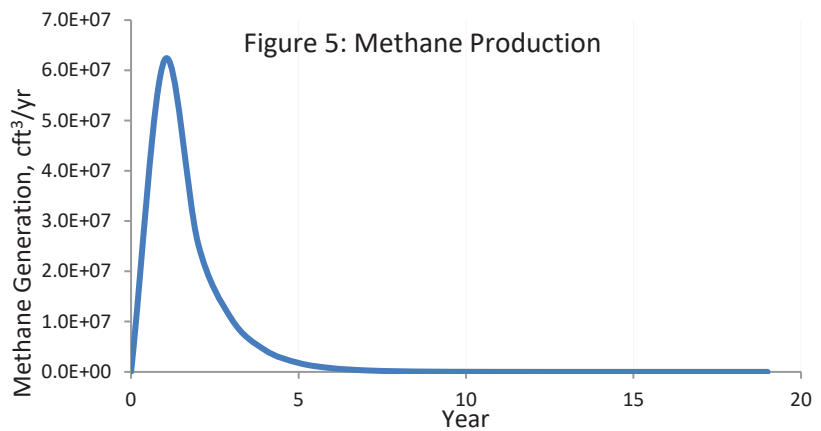
Objective 1.1: Reduce Emissions that Cause Climate Change

Objective 1.3: Advance International and Subnational Climate Efforts

Diverting organic waste will reduce the production of methane from the landfill but will not impact the volume of LFG collected due to high kinetic (i.e. decomposition) rate of organic waste biodegradation³. Most of the landfill gas is released to the atmosphere as fugitive emissions prior to installing LFG wells. Based on the County's rate of disposal Figure 5 provides an estimate of methane produced from 18,500 tons of organic waste received at the County's landfill in one year.

At least 25% of today's global warming is driven by methane. Methane gas is measured at 25 times the carbon dioxide equivalent. Diverting organic waste from the landfill will reduce methane production and emission to the atmosphere as demonstrated in Figure 5.

Initially aerobic composting will be employed to transform yard waste into a beneficial compost to reduce methane production. Once the composting facility is in operation anaerobic digestion will be considered to capture and upgrade the biogas to connect to the grid.



Goal 2: Take Decisive Action to Advance Environmental Justice and Civil Rights

Objective 2.1: Promote Environmental Justice and Civil Rights at the Federal, Tribal, State, and Local Levels

Hernando County's Building Infrastructure for Environmental Impact project will increase Access to Composting. Agriculture is a growing industry in Hernando County with a 13.6% projected growth rate through 2029⁴. Hernando County agricultural producers are uniquely diverse, and many historically underserved producers are working in Hernando County. Hernando County boasts 17% of producers who are former military compared to 11% nationally and 14% in Florida⁵. 31% of producers in Hernando County are new compared to 27% nationally. Currently, 44% of producers in Hernando County are female compared to 36% nationally. Hernando County also outpaces the nation when it comes to Hispanic producers at 7% compared to 3% nationally³.

To assist these historically underserved producers with access to the economic and environmental advantages of composting, HCSW and its education partners will directly contact these producers to welcome them and invite them to educational workshops. HCSW and its education partners will also work with local producers to offer educational events at their sites fostering the development of a network of peers that can offer the support needed by these typically underserved populations. During educational events, the subject matter expert facilitators and peer network will receive questions and offer science-based solutions.

³ [Determination of As-Discarded Methane Potential in Residential and Commercial Municipal Solid Waste](#)

⁴ [Florida Department of Economic Opportunity 2021-2026 Statewide, Regional, and County Projections](#)

⁵ [USDA NASS, 2017 Census of Agriculture](#)

b. The extent to which the project engages communities who will be affected by the project...:

The majority of Agricultural Producers in Hernando County operate small farms with 81% operating farms less than 50 acres in size. However, as the industry grows in Hernando County producers have experienced a per farm average increase in the net income per farm of 88% over 2012. To assist these historically underserved producers access the economic and environmental advantages of composting, HCSW and its education partners will offer educational events on the benefits of compost to agricultural producers and will make compost available to these producers.

Criterion 3: Performance Measure – Anticipated Outputs and Outcomes

Table III I this section details how, *Hernando County’s Building Infrastructure for Environmental Impact* project will achieve its goals and objectives. The table describes tasks and milestones, anticipated outcomes and outputs and a timeline for achievement of goals/objectives.

Table III Work Plan 1G SOW Objectives & EPA’s 2022-2026 Strategic Plan

Goals/Objectives Addressed	Task/Milestone	Outcomes/Outputs	Timeline (Begin/End)
*1G SOW Objectives			
1G SOW Objective 1 Establish, increase, expand, or optimize collection and improve materials management infrastructure	Design Complete	Design of Compost Facility	Year 1/Year 1
1G SOW Objective 2 Development of and/or upgrades to composting facilities or anaerobic digesters to increase capacity for organics recycling;	Compost Area Constructed Anaerobic Digester purchased	Build compost facility with capacity to add anaerobic digestion and energy production	Year 2/Year 3 Future State
1G SOW Objective 3 Demonstrate a significant and measurable increase in the diversion, recycling rate, and quality of materials collected for municipal solid waste.	Diversion of Materials to Compost Area	Tonnage of Waste Diverted from Landfill	Year 2/Year 3 and ongoing beyond award period
1G SOW Objective 4 Fund the creation and construction of tangible infrastructure, technology, or other improvements to reduce contamination in the recycled materials stream;	Compost Area Constructed Compost Available for Distribution	Compost Area Constructed Availability of Compost to Agricultural Producers reducing use of fertilizers and related agricultural run-off into the Watershed	Year 2/Year 3 Year 3/and ongoing beyond award period

		as measured by BMAP	
*EPA Strategic Plan			
Goal 1: Tackle the Climate Crisis; Objective 1.1: Reduce Emissions that Cause Climate Change Objective 1.3: Advance International and Subnational Climate Efforts	Compost Area Constructed Anaerobic Digester purchased	Calculate biogas methane potential and use EPA's LandGem model to estimate biogas production	Year 2/Year 3 Future State
Goal 2: Take Decisive Action to Advance Environmental Justice and Civil Rights; Objective 2.1: Promote Environmental Justice and Civil Rights at the Federal, Tribal, State, and Local Levels	Receive and Utilize SWIFR grant to serve areas identified as underserved using CEJST	CEJST Indicators	Year 1/ ongoing beyond award period
Goal 5: Ensure Clean and Safe Water for All Communities; Objective 5.2: Protect and Restore Waterbodies and Watersheds	Compost Available for Distribution	Availability of Compost to Agricultural Producers reducing use of fertilizers and related agricultural run-off into the Watershed as measured by BMAP	Year 3/ ongoing beyond award period
*All Goals/Objectives support the NRS Strategy.			

Criterion 4: Programmatic Capability and Past Performance

a. Past performance in successfully completing and managing assistance agreements

Hernando County Solid Waste is currently managing an award for opportunity # USDA-NRCS-NHQ-CFWR-22- NOFO0001179 Composting and Food Waste Reduction.

b. History of meeting the reporting requirements

In fiscal year 2021 Hernando County received over \$30 million dollars in federal and state grant awards. In the most recent fiscal year Hernando County expended over \$15 million dollars in federal grant funds and another \$11 million in state grant funds. At no time in Hernando County's history has the county received a finding of non-compliance with any requirements of the Single Audit Act. Hernando County solicitations and contracts utilizing federal funding require adherence to Davis Bacon, Title VI/Civil Rights, and all other applicable federal regulations stipulated in the CFR.

c. Organizational experience and plan for timely and successfully achieving the objectives of project:
As compost facility design and construction is being completed HCSW will building internal knowledge capacity and community knowledge and capacity through *Hernando County's Think Outside the Can: Consider Compost* pilot project funded by the USDA. This pilot project will take place at the NWWHF facility, but not directly on the permanent compost facility site. This is no accident. Hernando County, prepared the USDA CFWR application with the full intent of applying for the EPA SWIFR grant to fund the infrastructure for the permanent site. Thus Hernando County will be building infrastructure simultaneously with internal and community capacity to make use of that infrastructure immediately upon completion.

d. Staff expertise/qualifications:

Since 2015 HCSW's Recycling Coordinator, Carmen Bruno and his team, have been engaged in professional development and networking to prepare HCSW to champion composting in Hernando County. Mr. Bruno is a certified Solid Waste Association of America (SWANA) Manager of Compost and is a board member of the newly formed Florida Compost Council (FLCC) a state chapter for the U.S. Composting Council (USCC). Mr. Bruno also services the Chairman for Recycle Florida Today (RFT), the state recycling organization (SRO).

Presently, HCSW offers residents interested in backyard composting classes in person and/or online typically once per month. The classes explain the compost process and the benefits of a home compost pile. The class details acceptable materials for cold composting available in all households. The classes are done in partnership with University of Florida, Institute of Food and Agricultural Sciences (UF/IFAS) and Hernando County Utilities Department (HCUD) Water Conservation.

Criterion 5: Budget and Expenditure of Awarded Grant Funds

Please see Budget Table and Description (pages 11-12).

Criterion 6: Project Sustainability

The Compost facility is an approved project on the county's capital improvement plan and will continue to receive funding from the HCSW enterprise fund through fees collected at the landfill sites, non-ad valorem assessments and revenue generated from compost. In addition, HCSW will continue to pursue local and federal funding grant opportunities as well as seek support from local philanthropists and agricultural producers.

Criterion 7: Innovative Approaches and Solutions

Initially aerobic composting will be employed to transform yard waste into a beneficial compost to reduce methane production. Once the composting facility is in operations anaerobic digestion will be considered to capture and upgrade the biogas to connect to the grid. With the growth of beneficial use and energy recovery utilities, a number of solid waste facilities in the United States have started evaluating the approaches to convert organic matter to biogas, a mixture of methane and carbon dioxide, for the production of electricity and heat or bio-methane or renewable compressed natural gas (rCNG) fuel. Anaerobic digestion has been used on organic matter for decades for this purpose. Hernando County is aware of these exciting opportunities to positively impact the local, state, national, and global environment

and funding of this project will poise Hernando County to accomplish and accelerate the adoption of these innovative solutions to tackle the climate crisis, advance environmental justice, and ensure clean and safe water for this community.

Criterion 8: Replicability

Hernando County’s Recycling Coordinator is actively involved in a network of recycling professionals seeking to expand Florida’s recycling and composting activities. Through this network HCSW will disseminate information on replicability to like County’s in the state. In addition, as part of the County’s involvement in USDA CFWR an even larger network of peers and peer knowledge exchange will be established. Further, in working with established education partners Hernando County will be able to share the benefits of composting and engage in efforts to improve waste management practices.

Criterion 9: Leveraging

To fulfill the goals and objectives of the project, Hernando County will be able to leverage previous investments in the compost facility including ownership of the land for the facility and previous investment in 60% design and permitting. In addition, the county will be able to leverage the existing staff expertise and relationships with education partners. Importantly, there will be a synergy created with the USDA CFWR grant providing necessary funding for community outreach, equipment, consultant expertise, and deepened relationships with education partners.

List of Attachments:

Letters of Support (Congressman Bilirakis; Florida Department of Environmental Protection)
CJEST Hernando County, FL

Budget Table and Description

Criterion 5: Budget and Expenditure of Awarded Grant Funds

Budget Table:

I. Contractual	Year 1	Year 2	Year 3	Total
Engineering and Design	\$180,000	\$50,000	\$0	\$230,000
TOTAL CONTRACTUAL	\$180,000	\$50,000	\$0	\$230,000
II. Construction	Year 1	Year 2	Year 3	Total
Remainder Areas / Channel (\$22/SY x 35,866 SY)	\$0	\$789,052	\$0	\$789,052
Composting Design Area (\$33/SY x 14,356 SY)	\$0	\$473,748	\$0	\$473,748
Buildings (EA)	\$0	\$0	\$183,700	\$183,700
Sidewall (\$66/LF x 3,520 LF)	\$0	\$0	\$232,320	\$232,320
Traffic Lanes for Operations (\$385/LF x 1,130 LF)	\$0	\$435,050	\$0	\$435,050
Tents (2)	\$0	\$0	\$1,167,936	\$1,167,936
TOTAL CONSTRUCTION	\$0	\$1,697,850	\$1,583,956	\$3,281,806
TOTAL DIRECT	\$180,000	\$1,747,850	\$1,583,956	\$3,511,806
INDIRECT	\$0	\$0	\$0	\$0
TOTAL	\$180,000	\$1,747,850	\$1,583,956	\$3,511,806

TOTAL PROJECT COST: \$3,511,806

TOTAL EPA FUNDING REQUESTED: \$3,511,806

Budget Description:

I. Contractual

To complete, 1G SOW Objective 1 Establish, increase, expand, or optimize collection and improve materials management infrastructure, engineering and design costs are necessary in the amount of \$230,000.

I. Contractual	Year 1	Year 2	Year 3	Total
Engineering and Design	\$180,000	\$50,000	\$0	\$230,000
TOTAL CONTRACTUAL	\$180,000	\$50,000	\$0	\$230,000

Construction

The construction of a compost facility is necessary to achieve the following goals/objectives: 1G SOW Objective 2 Development of and/or upgrades to composting facilities or anaerobic digesters to increase capacity for organics recycling; 1G SOW Objective 3 Demonstrate a significant and measurable increase in the diversion, recycling rate, and quality of materials collected for municipal solid waste; 1G SOW Objective 4 Fund the creation and construction of tangible infrastructure,

technology, or other improvements to reduce contamination in the recycled materials stream; Goal 1: Tackle the Climate Crisis; Objective 1.1: Reduce Emissions that Cause Climate Change Objective 1.3: Advance International and Subnational Climate Efforts; Goal 5: Ensure Clean and Safe Water for All Communities; Objective 5.2: Protect and Restore Waterbodies and Watersheds

II. Construction	Year 1	Year 2	Year 3	Total
Remainder Areas / Channel (\$22/SY x 35,866 SY)	\$0	\$789,052	\$0	\$789,052
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TOTAL CONSTRUCTION	\$0	\$1,697,850	\$1,583,956	\$3,281,806

II. Indirect

NA.

TOTAL INDIRECT COSTS: \$0