Summit Smithville

Feasibility Study

April 2012

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Feasibility Study

History and Background

The City of Smithville is located in Central Texas, within two or three hours from some of the largest cities in the state: Austin, Houston, San Marcos, San Antonio, and Dallas. Many of our residents have retired to the "heart of the megalopolis" from major companies like Dell, IBM, MD Anderson and from the state university system. In addition, Smithville has grown and attracted an educated group of people of working age who appreciate the City's tradition of service to the community and sense of caring about each other. Many of these individuals have stepped forward with some terrific ideas about what technology can do for a small, rural area (population about 4,000).

In June 2010 Smithville was awarded a small American Recovery and Reinvestment Act (ARRA) formula grant through the Texas State Energy Conservation Office (SECO), which paid for energy efficient lighting at several public buildings and a SkyStream Wind Turbine. It is located at the windiest place in Smithville on city property—at the Willow Creek Wastewater Treatment Plant located on the north side of Hwy 71 opposite the highway from the Seton Smithville Hospital.

With the successful implementation of this alternative energy solution, we applied and were approved for another SECO grant. In April 2011, the State Energy Conservation Office officially gave the green light to move forward with the second Smithville grant contract, which provided the majority of the funds needed for a solar array on City Hall's rooftop. That project required matching funds, most of which was met by paying city staff for in-kind work related to sustainability issues involving renewable energy and recycling, as well as developing a training program that promoted skills in these industries. The Grants Administrator and other staff and volunteers were required to spend time towards investigating and developing a "Sustainable Smithville Plan," a Feasibility Study to show how the Plan might become a reality, a Training Plan, and a Case Study Manual that documented the entire process. This report is one

of the four deliverables that were promised as a result of that grant award (see Appendix 1 for a summary of all four deliverables). It is presented as Deliverable #2 Feasibility Study:

The Feasibility Study will help show how this Plan can become a reality. It will:

- Indentify at least five renewable energy and sustainability projects.
- Provide details on implementation and budget for these projects.
- Identify potential funding sources and partnerships, and other resources needed to bring the projects to fruition.

The City of Smithville has a long history of reaching for innovative solutions and working with a talented, educated volunteer base that makes everything possible here. We also have a strong tradition of public input and take the comprehensive planning process very seriously. Despite the great costs associated with implementing these projects, we are confident that our small town can excel in this endeavor.

Smithville is developing a working theory for a "Sustainability Model for Economic Development," which intends to grow recycling, reclamation, and alternative energy projects with businesses that can symbiotically develop. The Smithville Independent School District (SISD) is also emphasizing sustainability through its programs and actions, and is nurturing a culture among the students to help them learn about and understand the need to conserve and protect our natural resources.

Based on conversations with City and community leaders, and others in the fields of renewable energy and sustainable, green industries, and public input through the 2011 Comprehensive Plan efforts, the following projects have been identified.

Sustainability Projects

These projects highlight the great potential of sustainability programs in Smithville.

Project 1: Industrial Park on Hwy 71

Project Description and Background: In late February 2012, City Manager Tex Middlebrook directed Grants Administrator Jill Strube to work on a grant that would provide access to the city's sewer lines to an area on the other side of the Colorado River. This project involves the following features:

1. Grant funding would potentially build sewer lines that would run under the Colorado River to an industrial park area, which would open land on that side to future potential development. In addition, grant funding would be sought to build roads from Hwy 71 to the site.

2. The private property owner would build the industrial park, but would reserve a small portion of it for city activities related to one of the renewable / recycling efforts.

3. City activities at this industrial park will be complimented by a business that can utilize the renewable / recycled materials: see for example, the tire shredder project below. Other projects that community members have discussed that may work as well would be a city-operated glass crushing program and a business that can use the recycled glass.

Budget: The following costs are anticipated in association with the project:

Wastewater Improvements on State Highway 71	
Engineering/Surveying	$128,000
Construction	$947,400
Contingency	$94,600
Subtotal	*$1,170,000*
ROW Industrial Roadway Improvements on State Highway 71	
Engineering/Surveying	$94,760
Construction	$824,000
Contingency	$123,600
Subtotal	*$1,042,360*
TOTAL	***$2,212,360***

SOURCE: Cost estimates from BEFCO

Implementation: The implementation of this project includes the following tasks:

1. Enter into an agreement with the land owner of the proposed Industrial Park site whereby the land owner agrees to allow the city to annex the property and operate at the park complex for a nominal fee.

2. Submit grant application to the EDA and other sources (see below). During the months of March and April, 2012, the application to the EDA was being written, and therefore we are hoping to hear something about this project before the year is out.

3. If funding is secured, the process will follow normal procedures in cases of contracting out for infrastructure improvements including Request for Qualifications, Environmental Impact Study, construction, and grant management.

Potential Funding Sources: At this time, this project depends entirely on whether the city can secure grant funding from the EDA for the sewer line. If the EDA does not award the grant funding, we will not be able to support this project. We would research funding from different sources at that time. We may also rely on funds from the Texas Department of Transportation for road improvements. If TXDoT does

not award grant funding, the project would still move forward, but the level of service on the roads would be based on what the City and the private business could afford.

Project 2: Tire Shredding Facility and Economic Development Partnership

Project Description and Background: Mayor Mark Bunte has been very interested in bringing a tire shredder to Smithville to assist with cleaning up the county. The number of used tires is troublesome across the globe as more families are able to purchase more vehicles and must purchase new tires periodically as used tires wear out. Bastrop County has a tremendous problem with people dumping them in ditches and culverts around the rural areas, and many residents keep tires at their homes to avoid paying the tire collection fees that various vendors and junkyards charge.

According to the Rubber Manufacturers Association data, about 86% (249.5 million) of the 290 million scrap tires collected annually in the US are consumed in markets listed below (EPA; http://www.epa.gov/osw/conserve/materials/tires/basic.htm):

- 130 million were used as fuel
- 56 million were recycled or used in civil engineering projects
- 18 million were converted into ground rubber and recycled into products
- 16.5 million were retreaded for use in the US
- 12 million were converted into ground rubber and used in rubber-modified asphalt
- 9 million were exported (generally to countries that will retread them)
- 6.5 million were recycled into cut/stamped/punched products
- 3 million were used in agricultural and miscellaneous uses

About 27 million tires go to landfills or monofills annually. It's estimated that about 265 million tires were in stockpiles in 2003 (EPA; http://www.epa.gov/osw/conserve/materials/tires/faq.htm#ques1). This is a growing problem for many areas, and Bastrop County is no exception.

Smithville's Mayor, Mark Bunte, has been in the process of cleaning up the county since October of 2010 when he instituted a scrap metal cleanup program to benefit the Smithville Texas Veterans Memorial Park (www.texasmemorialpark.org). The County responded overwhelmingly positively, between March 2011 and April 2012, more than 136 tons of scrap metal was collected (figures do not include the scrap vehicle program, for which weights were not recorded on receipts), mainly from Smithville residents and nearby rural neighbors, but also from various locations on the other side of the County.

This success has lead to the consideration of other similar cleanup projects that have the potential to produce revenue without raising taxes while providing a needed, green service and creating the opportunity for more jobs. The scrap metal program is clearly a winner for the city; many people deliver their own scrap to the city yard (although in many cases city staff or the mayor himself pick up the scrap metal); between March 2011 and April 2012, scrap metal collected has raised nearly $27,000 (this figure does not include the vehicles that have also been a part of the program because weights were not

provided on receipts). The scrap metal program cleans up our county and provides needed funds for an outstanding Veterans Memorial Park.

The scrap tire program will need to be handled differently because tires are clearly not as valuable a resource to recycle and generally each individual must pay to give them away. Many people do not want to pay the fee to the collection facility, and those tires are often either illegally dumped in rural areas or become the mosquito breeding grounds of the backyard. Potential solutions to this issue include:

- Find partners through grants or other funding methods willing to provide vouchers to residents to bring their tires into the facility;
- Partner with a business that would potentially pay for the use of shredded tires that they would then recycle into a useable product;
- Require that residents pay a nominal fee to the facility that would be lower than other collection points;
- A combination of the above.

The sustainable economic development model that Smithville is attempting to follow through this program is to partner with a business that would use the scrap tire crumbs for products they would sell. Some appropriate industries include companies or agencies that use recycled material in roads or engineering projects (such as TXDOT), or companies that make products like floor mats, belts, gaskets, shoe soles, dock bumpers, seals, muffler hangers, shims, and washers.

The Lower Colorado River Authority (LCRA), a wholesale power producer that provides electricity for the City of Smithville, has offered to develop a business recruitment strategy seeking a tire processing company to Smithville. They can perform market analysis and a target industry analysis profile as part of this strategy. They have been given authorization to do so and will begin a formal study in summer 2012.

An additional factor in this particular program, some tire shredders also provide a magnetized system to remove the metal from the crumbs, which can then be funneled directly into Smithville's existing scrap metal program.

The Environmental Protection Agency (EPA) recommends that entities wishing to recycle tires do the following (http://www.epa.gov/osw/conserve/materials/tires/faq.htm#ques5):

- Investigate your specific situation—local markets, local regulations, competition.
- Develop a business plan—be specific about details—match your plan against regulatory requirements, industry standards, and market conditions.
- Communicate with state and local regulatory agencies.

This document serves as an initial business vision and provides information about some of these other issues. Appendix 2 shows the rules and regulations, resources, and contacts for regulatory agencies and others that may need to become involved in this program. A business recruitment plan will be further developed with the help of LCRA staff.

Budget: The following costs are anticipated in association with the project:

Tire Shredder: The tire shredder is a large one-time cost (which will require associated regular maintenance costs). Because this expense is over $50,000, it must be advertised such that at least three bidders may attempt to secure the contract. Some requirements of the tire shredder will include: 1) an ability to shred different kinds of tires like tractor and truck tires; 2) the shredder must be able to make crumbs; 3) the vendor must provide warranty and maintenance for at least one year; 4) the equipment must be made in America; and 5) if possible, preference will go to a local vendor.

Staffing: This program model requires that the project itself pay for a staff position. Depending on the funding potential of the various scenarios described above, the staff position may be less than full time. As the program becomes more robust, more employee hours may be necessary. For the sake of a conservative estimate, this document assumes that the City of Smithville will need to ensure that a half-time worker is at the facility initially, potentially to include at least a few hours on Saturdays. In the beginning, this may be someone currently employed in the Public Works Department who would dedicate time to the project until funding is secured for the City to create a new position, hours based on demand. We anticipate the cost to be approximately $18,000 for .5FTE of a currently employed full-time worker at $9/hour plus benefits.

Land and Building: This document assumes that the City will enter into a public/private partnership with the owner of the potential industrial park listed above such that the City will lease the space for a nominal fee—for example, a contract that allows the City to lease the space for $1/year for 50 years. If that project is not funded, another location will be sought and the budget will reflect that difference in price.

Other Costs: Any operation like this will have costs associated with office equipment, computers and software, utilities, signage, marketing, and so on. For example, regulatory agency fees and other as yet unforeseen potential costs are not included in this preliminary budget, but would be investigated in more detail once the project gains momentum. See the budget below for specific items and their estimates.

Tire Shredder Project Total Budget: Start Up Costs

Item	Description	Price
Tire Shredder: Purchase	Crumb shredder; ability to take a variety of tires Prices vary based on specifics of shredder. See notes below. Highest price included in this budget. Note that some ribbon-shredding equipment is much less expensive at $80,000.	$320,000
Tire Shredder: Maintenance	First year maintenance contract	$2,000
Signage	Provide signage at site and directional signs at other locations (recycling center, city yard)	$5,000
Computer and Software	A computer with appropriate software will be needed to record transactions and required data	$5,000
	Total Start up Costs	***$332,000***

Tire Shredder Project Total Budget: Annual Budget

Item	Description	Price
Tire Shredder: Maintenance	Costs on as-needed basis	$1,000
.5FTE Staff	Assumes a half-time existing staff person (50 weeks * 20 hours * $18/hr which includes $9/hr salary and about the same value in benefits); may grow to be a larger part of Public Works	$18,000
Lease for Space	Assumes the owner of the Industrial Park will agree to a public/private partnership of this nature	$1
Marketing	Will rely on groups like KBCB and TCEQ for free materials as much as possible	$500
Utilities / Phone	Based on anticipated average	$6,000
Total Annual Budget		***$25,501***

Implementation: The implementation of this project requires that several tasks be undertaken:

1. Secure the land and building for the project. As stated, this document assumes that the industrial park on Hwy 71 will come to fruition, and this budget is built on that possibility. If it is not possible to develop the industrial park as envisioned, it will be necessary to find a suitable location and to re-do the budget to reflect a new reality.

2. Coordinate the business recruitment plan and marketing strategies with LCRA. Further develop the partnerships discussed in this document to be able to collect the tires and sell the shredded rubber. Investigate ribbon, crumb, and bale rubber for marketing potential.

3. Determine funding strategies and seek grants and other opportunities.

4. Release the Request for Proposals to seek vendors for the tire shredder equipment and purchase the equipment. Advertising will be in place as per legal requirements. Several companies that the City may want to specifically send information about the project include:

    a. Granutech Saturn Systems (Texas): 888.388.0877 (Scott White); http://www.granutech.com/index.html; E-mail: sales@granutech.com (can process large volumes of truck & OTR tires— their most common tire shredders are the 44 series. A 60-44 or 72-44 run $310,000 to $320,000 respectively).

    b. Komar Industries (Ohio): 614 836 2366; www.komarindustries.com (2-shaft shredder creates ribbons of 2-to-3 tires at a time for $80K and 4-shaft shredder creates crumbs one tire at a time for $140K; both are more versatile and can shred a variety of tires).

    c. BCA Industries (Wisconsin): 414-353-1002; http://wisconsinmachining.com/; Email chad@bca-industries.com (portable tire shredder and other models available; made in USA).

5. Determine staffing needs and plan accordingly for Public Works employees.

6. Put the facilities into operation: utilities, computer, signage, etc.

7. Initiate a marketing campaign.

8. Begin the operation and institute data collection and reporting systems.

Potential Funding Sources and Other Resources: This project has the potential to earn back what it will cost within a relatively short time frame, which helps to open up opportunities for loan programs. Some potential funding sources are listed below:

Capital Area Council of Governments—CAPCOG (www.capcog.org): Their Solid Waste Grant program may have some funds available in the next grant cycle for a portion of this project, not to include salaries. They are dependent on the Texas Commission on Environmental Quality and the State Legislature for their funding program, which has been dramatically cut in the past funding cycle. They may not have much to contribute and will be greatly competitive.

Lower Colorado River Authority—LCRA (http://lcra.org/): The LCRA Community Development Partnership Program Grant could potentially fund the last $25,000 in the total project cost once all other funding is secured. Because Smithville was awarded this grant for the Veterans Memorial Park in 2012, we would not be eligible to apply again until 2014.

Texas Department of Agriculture—TDA (http://texasagriculture.gov/): The TDA grant and loan program may work for this project, especially if it is able to include a strong loan portion that would be paid back at a very low interest rate.

US Environmental Protection Agency—EPA (http://www.epa.gov/region8/recycling/grants.html): Although it would not likely pay for the large equipment, other components of the project might be funded through the EPA. From the website: "EPA solid waste funds may pay for a new position, contractor support, the development and printing of public outreach materials, supplies, minor equipment purchases, and project-related travel (e.g., to conduct or attend workshops). Please note that EPA solid waste funds generally cannot pay for large equipment purchases or be used for building or construction."

Community Action for a Renewed Environment –CARE (http://www.epa.gov/care/index.htm): From the website, CARE "is a competitive grant program that offers an innovative way for a community to organize and take action to reduce toxic pollution in its local environment. Through CARE, a community creates a partnership that implements solutions to reduce releases of toxic pollutants and minimize people's exposure to them. By providing financial and technical assistance, EPA helps CARE communities get on the path to a renewed environment."

Texas Department of Transportation –TXDoT (http://www.txdot.gov/; see also the TXDoT publication: ftp://ftp.dot.state.tx.us/pub/txdot-info/gsd/pdf/tirerpt.pdf): TXDoT lists a number of resources about recycling tires and provides statistics that can improve a grant application when used appropriately. It may also be possible for the City of Smithville to bid as a contractor to provide services or to facilitate a prospect for economic development with another business through the TXDoT contractor process.

Texas Department of Agriculture—TDA (http://www.texasagriculture.gov/GrantsServices/RuralEconomicDevelopment/TexasCapitalFund.aspx): TDA includes several potential sources of funding, including the Texas Capital Fund, which funds infrastructure and real estate development. Per website, the Texas Capital Fund "Supports rural business development, retention and expansion by providing funds for public infrastructure, real estate development, or the elimination of deteriorated conditions."

US Department of Agriculture—USDA (http://www.rurdev.usda.gov/id/rbeg.htm): Rural Business Enterprise Grants (RBEG) provide funds to public agencies for financing and facilitating the development of small and emerging private business enterprises (defined as having less than $1 million in revenues and fewer than 50 employees).

Project 3: Mulch and Composting Compound

Project Description and Background: Mayor Mark Bunte considers the possibilities of making and selling compost and mulch in the City of Smithville to be a great way to both generate revenue and manage an overwhelmingly renewable resource. Leaf and limb collection has produced a mountain of woody debris

that needs to be addressed. In 2010, the City closed a public drop-off site for yard waste that had operated for about 40 years in an old quarry because it caught fire on at least three distinct occasions during that summer alone. The September 2011 Bastrop County Complex fire has redoubled the City's interest in distributing this resource rather than collecting the yard debris forever.

In addition, leaf and limb collection in Smithville is a service that many households would begrudgingly do without, but it places a burden of cost and time on the Public Works Department. Coordinating a mulching/composting facility would provide needed compost and mulch for the Parks and Recreation Department while simultaneously creating a revenue-generating product. This is a winning proposition for the City.

Mulching is to some extent already occurring as the city crew picks up yard waste and puts it through a portable shredder, then taking it up to the old landfill area. That material could be dumped into a pile and turned with the backhoe that is already on the property until it has "cooked" enough to eliminate most of the bacteria, weed seeds, and so on to allow it to be sold to the public as mulch. The City currently allows citizens to use the shredded materials "as is" at no charge. People can take away as much as they can carry from the site. This would become the main site of the composting/mulching operations, with product to be sold through local nurseries and/or other local vendors.

In order to create a more "official" program, the City would need to change the instructions that public works crews have now to include dumping and turning the mulch piles, and would need to invest in a bagging system (and possibly student workers or jail trustees, community service and/or drug/alcohol rehabilitation workers to bag the materials). It would also need to follow the Americans with Disabilities Act (ADA) and other federal and/or state requirements for public operations like this. The TCEQ offers guidance on appropriate regulations in the state of Texas for mulch and compost facilities (see http://www.tceq.texas.gov/publications/rg/rg-410.html/at_download/file).

The composting program would require use of a machine to more quickly generate compost from food scraps and yard waste. The budget included in this report is for the smaller system as recommended by Compost-IT. Appendix 3 shows the initial cost quotation from Rebecca and Will Ponder with Compost-IT USA, which was used as the basis for the budget below.

If other sources of equipment, products, and services are needed, the US Composting Council offers a directory from which we can search for these items: http://compostingcouncil.org/admin/directory.php.

The City of Smithville is currently discussing this program with our local nursery (Grandma's House) to enter into an agreement with them to sell the mulch and compost, and we are hoping to work with the Cooperative and/or DECA programs at the High School to pay young workers for bagging the content. The DECA program helps youth create sound business plans, and has become the launching pad for at least one very successful local business—LiveAir Network. The SISD administration supports the learning potential of this partnership, how it prepares students for a work environment, and how it teaches them another way to be a steward of natural resources.

The schools and SISD administration have expressed their interest in providing food scraps to this burgeoning program, which will help them reduce the amount of waste that they must pay to remove from the site. The program also contributes to the ethic of conservation and sustainability, and will provide teachable moments to discuss the life-cycle of all trash with the students. In addition, in 2010 the Smithville Community Gardens began discussing a composting program whereby area restaurants would be able to contribute food scraps, however, they have not been able to develop the infrastructure or staffing needed to support efforts to collect and transport scraps from the restaurants to the composting site. This program would pick up on that effort and make it viable.

Budget: The following costs are anticipated in association with the project, based on Compost-IT's 2010 quotation for the smaller, manually harvested Vermicompost Reactor System to Process food waste from approximately 1,800 students or other sources:

Smithville's Composting Program Budget

Equipment:	**Cost**
One Model 205 BW Organics in-vessel, rotating drum composter Includes: Mixer/grinder/conveyor/controls	$34,914.00
300 sq-ft Manual Vermicomposting Bins	$25,875.00
Metal Frame building	$9,200.00
Hammer Mill for paper & cardboard	$4,600.00
Compost screening and bagging equipment (for retail sales)	$4,025.00
Supplies and Materials:	
Chain-link fencing, gates, misc.	$5,500.00
Carts, bins, packaging materials.	$2,500.00
Electrical service extension, lighting.	$3,000.00
Worms (300# @ $15.00/lb)	$4,500.00
Salary and Support	
Salary for city staff: 20 hr/week for 50 weeks @ $9/hr salary + $9/hr benefits	$18,000.00
Compost-IT Support Services: 3 months @ $500.00/mo	$1,500.00
Total Estimated Hardware/Supplies/Support Cost:	**$113,614.00**

Compost-IT estimates that the manual system will process 900 lbs of food waste and paper/cardboard/ wood chips each day. When fully populated and processing, vermicomposting bins will produce approximately 300 lbs/day of vermicompost worth approximately $22,000 annually if sold wholesale and worth approximately $55,000 if sold retail. In other words, assuming most compost will be sold retail, it has the potential to pay for itself in within three years.

Implementation: The implementation of this project requires that several tasks be undertaken:

1. Further develop partnerships and enter into agreements with Grandma's House Nursery and the Smithville Independent School District.

2. Further research state and federal regulations and work with appropriate agencies to implement proper work and reporting procedures.

3. Pare down the budget to first-phase, second-phase, and third-phase needs. For example, in the first phase, it would be possible to provide the mulch by instituting operational changes at the current site and purchasing the bagging equipment for $4,025; during the second phase, the drum composter might be purchased; and in the third phase, vermiculture could be added.

4. Seek funding for equipment and other costs, by phases if necessary.

Potential Funding Sources: This project has the potential to generate revenue, and as such can open up possibilities for a wider variety of potential funding sources to include loan programs. Some of the agencies mentioned in the section above would be appropriate here, including CAPCOG, LCRA, EPA, USDA and TDA. Other organizations that specialize in community development, jobs programs, and the environment include the following:

- *RGK Foundation* (http://www.rgkfoundation.org/public/guidelines): The RGK Foundation provides funding for educational and community projects. A letter of inquiry (LOI) is required. Unsolicited applications are not accepted. They would most likely be interested in funding any school involvement that leads toward building life skills for students.

- *Housing and Urban Development: Community Development Block Grant Program—HUD: CDBG* (http://portal.hud.gov/hudportal/HUD?src=/program_offices/comm_planning/communitydevelopment/programs): Several programs administered through HUD might provide funds for this kind of project including the Renewal Communities / Empowerment Zones / Enterprise Communities program and the state administered CDBG program. Some work would be required to get the project on the state's radar as a priority for funding.

- *US Department of Labor: Employment and Training Administration—DOL: ETA* (http://www.doleta.gov/grants/find_grants.cfm): Periodically, the Department of Labor posts grant opportunities and notices of availability (NOFA) related to jobs and training programs. For example, some current opportunities that might be relevant for this project could include the Women in Apprenticeship and Nontraditional Occupations (WANTO) - SGA-DFA-PY-11-10; YouthBuild Grants - SGA-DFA-PY-11-06; and Notice of Availability of Funds and Solicitation for Grant Applications for Cooperative Agreements under the Disability Employment Initiative - SGA-DFA-PY-11-11. Although the deadlines for each of these will be past by the end of April, 2012, this gives an idea of the type of funding that we might be able to use for a training/jobs-related portion of the project.

- *Noyes Foundation* (http://www.noyes.org): The Noyes Foundation supports sustainable agriculture and food systems, which, with some broadening of the program to potentially include local farmers (possibly the River Valley Farmers' Market organization), might be more attractive as a more comprehensive program.

In addition, if Smithville were to file an approved composing plan with TCEQ, the City might be eligible for a composting credit (see http://www.tceq.texas.gov/permitting/waste_permits/msw_permits/msw_compost_credit.html).

Project 4: Household Hazardous Waste Collection Event and Community Assessment

Project Description and Background: Bastrop County, in collaboration with the City of Smithville, the City of Bastrop, and the City of Elgin, proposes to develop and implement a household hazardous waste (HHW) management program. The cities of Smithville, Elgin, and Bastrop and Bastrop County are partnering to apply for a household hazardous waste collection event and informational campaign through Capital Area Council of Governments' Solid Waste Grant. Applications were due on April 19, 2012 and the partners should be informed of the awards by August.

Funding through this grant was requested from CAPCOG for a program highlighting HHW in the County that will include 1) a Community Waste Assessment through LCRA and lead by Jack Ranney, 2) a public awareness/information campaign and 3) a one-day, one-site collection event for household chemical materials and certain recyclable items. Vendors will be invited to the collection event at no charge to them and cost to the governmental entities to collect certain other items (like electronic waste). The project service area includes all communities and rural areas within the political boundaries of Bastrop County and highlights the regional cooperation between these governmental entities. Although the collection event is completely dependent on the award of this grant, other components of the program (specifically, the Community Waste Assessment and potentially at least a scaled-back version of the informational campaign) are not.

The Bastrop County Regional HHW Program (hereafter called "Regional HHW Program") represents regional collaboration between Bastrop County and the cities of Bastrop, Elgin, and Smithville, as well as a number of volunteer organizations, including Keep Bastrop County Beautiful, Keep Smithville Beautiful, Chambers of Commerce, Parks and Recreation departments and organizations, and others. The 2012 Bastrop County Household Recyclables and Special Waste Collection Project would be held in the spring of 2013, to coincide and coordinate with Earth Day activities. The one-day, one-site, county-wide event will be open to all Bastrop County residents; however, based on the 2008 collection event, participation is estimated to be 1,100 households or 3,058 individuals (est. 2.78 people per household) with 550 vehicles bringing items to the collection site.

In March, Bastrop County Planner, Rachel Clampffer conducted an on-line survey to determine the needs of County residents. The survey responses reflect a need for HHW collection opportunities (results are included in Appendix 4). The level of participation in previous HHW collection events in the County and the results of this survey make it abundantly clear that citizens want and need a place to take items that are not appropriate for regular trash pick-up. That about 45% of the respondents want to continue to receive updates on this project also shows the broad community support for it. The short-term, primary goal of the Regional HHW Project is to provide citizens with periodic collection events in

order to prevent improper disposal and illegal dumping of special waste items. The 2011 Bastrop fires have generated awareness about proper disposal methods. The proposed Regional HHW Project is the first phase of the County's plan to establish a permanent and sustainable HHW collection program.

The Regional HHW Project will also establish a public awareness component that will include a community sponsorship and fundraising program with a goal of fostering public/private partnerships to share financial responsibility for sustaining the project in the future, as well as inform the public about their current recycling and disposal options. Specific activities include promoting the "Adopt-A-Barrel" program, printing and distributing flyers, and announcing the collection events to the public via civic groups, newspaper ads, and area schools.

The last HHW collection was held in Bastrop County in 2008. At that event, 1,306 households participated, bringing 3,229 scrap tires, 975 gallons of used oil, 880 used oil filters, 385 lead-acid batteries, and 22,846 lbs of electronics for reuse and proper recycling. During the 2008 collection event, 41,110 lbs. of HHW was collected for proper disposal and/or recycling. The numbers (estimations are based on 1,100 households) presented here are slightly lower than the 2008 totals due to two factors: 1) the 2008 event was held at three different sites—having a one-site event will likely dissuade a certain number of people from outlying areas from participating; and 2) cleanup efforts (and other factors) at the areas affected by the September 2011 Bastrop County Complex fire will likely reduce the number of potential participants from those areas.

This Regional HHW Project will be the first phase of a broader program as Bastrop County and the cities of Bastrop, Elgin, and Smithville move towards a sustainable household hazardous waste program to continually serve the residents of Bastrop County.

An important element of the Regional HHW Project is the collaboration already in place with Keep Bastrop County Beautiful (KBCB). KBCB has already collected information about various drop-off sites and recycling resources in our regional communities. The information has been posted on Elgin's website and will become interactive on the KBCB website in late summer 2012. The brochures currently under development for the June Heart of Texas Green Expo will additionally be used in an informational campaign in all Bastrop County communities leading up to the HHW Collection Event, and will continue to be updated and used into the future of the broader program.

Keep Smithville Beautiful and Elgin organizations have also pledged to help get the word out and help raise participation rates in the one-day collection event as well as work to promote the informational campaign into the future. We anticipate that other regional nonprofit organizations and other groups, like Chambers of Commerce, local businesses, and agencies involved in solid waste programs, will become strong partners as the program develops and people are asked to participate.

In addition, Jack Ranney of LCRA has agreed to work with the County and its communities to develop a Community Waste Assessment for the future of solid waste, recyclables, and HHW such that the County can evaluate what kind of long-range program and collection method are needed and feasible with

existing resources. It will also provide information about the potential for other resources, and will provide a road map to get to a realistic goal for solid waste management.

This Regional HHW Project is important to Bastrop County and to the region more broadly. It will greatly assist residents in this area learn where community drop off/collection sites already exist and can collect items on an ongoing basis, and will help community leaders understand how to address gaps and efficiently and effectively utilize resources through a comprehensive solid waste master plan.

Funds were requested from CAPCOG for the informational campaign and for a majority of the costs associated with the one-day, county-wide collection event only. The event will be carefully monitored and once all available funds are used, the site will be closed.

Based on historical data, the collection event is projected to receive the following quantities:

Material	Amount	Pounds
Lead-Acid Batteries	385	13,475 lbs.
Used Oil	975 gallons	9,750 lbs.
Oil Filters	880	1,320 lbs.
Antifreeze	165 gallons	1,650 lbs.

Based on the projected quantities to be collected, the following cost ratios have been estimated:

- No. of cars = 550
- No. of households (HH) = 1,100
- Total estimated weight of HHW to be collected: 32,700
- HHW Lbs. per car = 64
- HHW Lbs. per HH= 42
- HHW cost per car (total project cost) = $120.58
- HHW cost per household (total project cost) = $60.29
- HHW cost/Lb. (total project cost) = $2.03
- HHW cost/car (grant funded costs) = $60.76
- HHW cost/HH (grant funded costs) = $30.38

Budget: The total estimated cost of the proposed project is $66,320: $33,420 is requested in CAPCOG grant funds. The remaining 50% of the project total includes $16,900 through in-kind contributions from the four participating sponsors and $16,000 through cash match and fundraising efforts ($13,400 in hand from the Colorado River Foundation's past fundraisers, $1,000 pledged by the County, and the remaining amount anticipated from county-wide fundraising activities).

Contractual Total-$46,200 / Grant Request: $30,200. The contractual request will provide for $46,200 to contract services with a hazardous waste disposal company. This amount includes $10,200 for mobilization and collection costs and $36,000 for disposal. Community fundraising and the Bastrop

County cash match will contribute $16,000 for the additional costs estimated for contracts required for the one-time event.

Other (Public Awareness/Outreach)-$3,220 / Grant Request: $3,220. Funding for the informational/ promotional campaign is expected to be $3,220 to produce event announcements and public awareness flyers. Costs include $1,920 to be spent on advertisements and promotional materials in each of the three county newspapers and other public news media and $1,300 (for 13,000 flyers at $0.10 each) to be used as newspaper inserts, in schools and for community groups. This material will be designed and marketed to improve participation rates as much as possible. It will also be part of a broader informational campaign that can be utilized well into the future.

For the proposed project, in-kind contributions and contributions from fundraising efforts initiated by co-sponsoring entities include:

In-Kind Contributions	
Volunteer Time for Project Coordination and Implementation: (Estimated 400 hours @ $20.25 per hour)*	$8,100
MSW Disposal (1-40 CY dumpsters) (At least 2 to be provided by Allied Waste/City of Bastrop)	$1,000
Collection Event Supplies	$1,100
Volunteer Meals and Beverages	$400
Disposal and Recycling Cost Contingency (Includes $1,000 cash match pledged from Bastrop County)	$3,600
Travel Expenses	$250
Grant Management and Coordination: (Primarily City of Smithville in coordination with other entities: Estimated 70 hours total for three reports at $35 per hour)	$2,450
Subtotal: In-Kind Contributions	*$16,900*

* The collection event will utilize an estimated 25 volunteers and local government employees to staff the collection event.

Participant Cash Match	
Bastrop County cash match	$1,000
Subtotal: Cash Contributions	*$1,000*
Adopt-A-Barrel Community Fundraising	
Colorado River Foundation	$13,400
Anticipated Additional Community Fundraising	$1,600
Subtotal: Community Fundraising	*$15,000*
Total: Cash and In-Kind Contributions	**$32,900**

Implementation: The following tasks and deliverables were established through the grant process:

I. Task/Deliverable: Interlocal Agreement or Resolution between Bastrop County, City of Elgin, City of Bastrop, City of Smithville

Major activities involved to complete the task:

1) Approve and execute grant contract with Capitol Area Planning Council of Government (CAPCOG).
2) Develop Interlocal Agreement or Resolution between Bastrop County, City of Elgin, City of Bastrop, City of Smithville to assist Bastrop County with planning, coordination, and implementation of a Household Hazardous Waste Collection and Education program.

Estimated Completion Date: June, 2012

II. Task/Deliverable: Implement Public Awareness Program on Safe Home Chemical and Proper Household Hazardous Waste Management).

Major activities involved to complete the task:

1) Coordinate Community Assessment details with LCRA (June, 2012).
2) Work with Keep Bastrop County Beautiful to utilize their exiting materials (June, 2012)
3) Include information on Cities' and County's Facebook pages, websites, and E-newsletters (September, 2012)
4) Draft and print information flyers and posters for newspaper, school and civic group distribution (January, 2013)
5) Plan and implement Adopt-A-Barrel fundraising activities for local contributions to HHW Collection event program (January-April, 2013)
6) Contact civic group leaders; meet with civic groups if requested; send collection event and public awareness information (January, 2013)
7) Prepare news releases about April collection event (January-March, 2013)
8) Confirm advertising and flyer distribution arrangements with local newspapers and other relevant media (February, 2013)
9) Add event to local civic and electronic calendars (February, 2013)
10) Develop event participant survey (March, 2013)

Estimated completion date: April, 2013

III. Task/Deliverable: Organize and conduct HHW Collection Day for Bastrop County.

Major activities remaining to complete the task:

1) CAPCOG Approval of Bastrop County Hazardous Waste Contractor (January, 2013)
2) Bastrop County Submit 45-Day Notification to TCEQ (February 15, 2013)
3) Identify and contact collection event service providers to participate in event (October, 2012)
4) Coordinate site plan and collection operations with hazardous waste contractor (February, 2013)
5) Identify and coordinate with local protective services (EMS, law enforcement, hospitals, Fire, etc.) in the communities of Elgin, Bastrop, Smithville (February, 2013)
6) Inventory and order needed collection event supplies (March, 2013)
7) Bastrop County and HHW contractor develop Site Safety Plan and Incident Contingency Plan and Event Operations Plan (February, 2013)

8) Develop operations for Product Exchange Center (Reuse Center) (February, 2013)
9) Confirm radio communications system (February, 2013)
10) Identify and confirm lunch arrangements for collection event volunteer lunch (April, 2013)
11) Event confirmation with local protective services (March, 2013)
12) Solicit volunteers from local civic groups, businesses, local government (February, 2013)
13) Review of collection event activities, operations, site rules, and radio communications with hazardous waste contractor (April, 2013)
14) Send information packages to volunteers (March, 2013)
15) Collection Site setup (April, 2013)
16) Conduct Collection Event (April, 2013)
17) Collection statistics reporting (May, 2013)
18) Event critique and budget evaluation (May, 2013)

Estimated completion date: May 31, 2013

IV. Task/Deliverable: Grant Administration and Reporting

Major activities involved to complete the task:

1) Submit Financial/activity reports with CAPCOG as required
2) Submit final program summary and report

Estimated completion date: August 31, 2013

Jack Ranney at LCRA will undertake the Community Waste Assessment regardless of whether the rest of the program gets funded. In order to implement that portion of the project, the following tasks are required:

1. Bastrop County must officially request the service (already completed)

2. LCRA will begin the interview / research stage of the process (scheduled for June, 2012)

3. The assessment will identify the following: 1) current municipal solid waste (MSW) programs in each community and outside of the municipalities (in the county); 2) MSW issues not being addressed by current programs; 3) resources available/needed to address priority MSW needs/issues. The assessment deliverable will be a strategic plan outline for developing a comprehensive MSW plan and implementation of the plan.

Potential Funding Sources: LCRA Community and Economic Development has committed to facilitating and conducting the assessment. The implementation of the collection event and informational components of the HHW project as envisioned would be based on approval for the CAPCOG Solid Waste Grant, the Colorado River Foundation funds, and a community fund-raiser through the “Adopt-a-Barrel” program. If we are not successful at securing these funds, we will wait on the LCRA Community Assessment to help us identify what our next steps should be.

Project 5: Assistance to Home and Business Owners

Project Description and Background: In many of our public meetings for the comprehensive plan as well as at the Summit Smithville EXPO, individuals were most concerned about the costs they would incur as they try to get closer to their zero waste and alternative energy ideals. The price of sustainability can be quite steep when property owners look into alternative energy like solar, geothermal, and wind. In the EXPO session regarding alternative energy, the advice of the experts pointed to the cost effectiveness of building solar or wind energy into the price of a new home, which would then be paid off at a reasonable rate throughout the life of the home as compared to installing a system on an existing property when the cost is less easily recaptured.

It is not currently feasible for the City of Smithville to offer subsidies to property owners seeking to improve their buildings or to be solely responsible to find funding that would supplement or subsidize all home and business owners or would complete all potential improvement projects of this nature. Instead, the City could conceivably develop a guidebook that would help property owners identify the various codes and ordinances that would apply to specific types of improvements and offer a few resources that the owner might consider when seeking financial assistance for them. Several participants in the 2011 Green EXPO and our Comprehensive Planning process have requested a guide book to assist them as they undertake the building/renovation process. It would describe the rules, regulations, ordinances, and laws that would apply to their specific projects. Suggestions for elements in this guidebook include:

- The most commonly needed and broadly applicable local codes, ordinances, regulations, and any other rules that would apply to building/renovating a structure in Smithville
- Explanation of any differences between residential and commercial requirements
- Information about tax credits for “green” projects (including information about tax credits are available from the US Department of Energy, Energy Efficiency and Renewable Energy: http://www1.eere.energy.gov/office_eere/faqs.html)
- information about historical designation and financial support for renovating historic structures (a list of resources would be appropriate, and would include: www.preservationdictionary.com, www.preservationnation.org, www.historicforsale.com, www.heritagepreservationtrust.org)
- Recommendations about what projects can an individual can do easily, what skilled individuals could do, and what would require professionals
- Calendar information about routine maintenance projects (i.e., cleaning out gutters, re-painting house, replacing roof, landscaping projects, pool maintenance, etc.)
- Timetable for average lifetime of basic structure features or large appliances: roof (shingles vs. tiles vs. metal), various kitchen appliances, paint jobs (interior vs. exterior), plumbing fixtures, and so on

- Maintenance tips for various pieces of furniture (glass/plastic/ concrete/wood tables and chairs, carpets and rugs, curtains, upholstered furniture, etc.), polishes vs. creams vs. liquids, dust/surface cleaning vs. vacuum cleaning vs. dry cleaning vs. beating over a fence, etc.

- Resources for additional information for homeowners (such as "Hints from Heloise," old fashioned remedies and maintenance books, books about purchasing homes, and other resources that are available for check out at the Smithville Public Library)

- Resources for additional information for business owners (such as the Small Business Association, relevant Bastrop County offices, and so on)

Specifically relevant to this sustainability initiative, the guidebook would also explain how building owners would need to adhere to different codes/ordinances based on any differences any green improvements sanctioned by the City including:

- Solar panels: Information about system requirements and cost (in general, residential solar requires 16 to 24 panels for a 2.5 kW to a 4 kW system and would likely cost between $13,000 and $25,000), as well as other relevant information would be included in the booklet.

- Wind turbines: In contrast to many cities, Smithville does NOT have any ordinances against having wind turbines within city limits, a big plus for this type of project. Relevant ordinances and codes would explain how residential or commercial owners could build a wind turbine on their properties would be outlined more fully.

- Weatherization and energy efficiency: Weatherization and energy efficient tools reduce utility bills and need for electricity/fuel. Some recommended items would include: fans, programmable thermostats, heat film on windows, awnings, shutters, porches, etc., and information relevant to ordinances or codes would be included in the guidebook. The US Department of Energy has a Weatherization Program for Low Income Families: http://www1.eere.energy.gov/wip/wap.html. An explanation of energy audits could also be included in this section of the booklet.

- Building materials: For example, wood, concrete, ICF, steel. Different materials will affect savings on utility bills. A table with relevant statistics and code information could be included.

- Insulation: For example, fiberglass, cellulose, spray foam – soybean or sugar cane based products. A table with relevant statistics and code information could be included.

- Water collection systems for rain and grey water. A table with relevant statistics and code information could be included.

- Landscaping and Xeriscaping: The guide book could briefly discuss different drought tolerant, ornamental, food/fruit bearing trees, shrubs, and landscape/edible plants etc. that are suitable

for this area and offer resource information, such as the Agriculture Center and the Master Naturalist program.

Implementation: The first deliverable on this project would be a brochure or guide for property owners specifically in Smithville Texas to describe the options they may want to consider, resources, and potential funding, as well as City of Smithville-specific Planning and Zoning requirements or recommendations. The implementation of this project would require volunteer assistance in doing the research for the booklet and designing an easy-to-use document. It would also require funding to print the booklets, and potentially, funding for a grant/loan program that the City might be able to make available to people wishing to make these kinds of improvements. If the City can secure programmatic dollars for improvements through a grant/loan program, it would require a marketing plan to publicize it, as well as outreach to the citizens who might want to take advantage of various tax credits or other incentives. Tasks related to implementing this project include the following:

1. Establish an unpaid internship or volunteer position to collect information and organize it in a way that will make sense to property owners. Also ensure that a web-friendly version is available after the printed documents are all handed out.

2. Research which tax credits are available on which products and have a list of websites and/or forms available for the individuals. Include information about items needed to claim rebates or tax incentives (i.e., receipts, specific rebate forms, before and after pictures of proper installation or use of certain products, notify your insurance carrier for possible insurance savings due to more safety or home/building protection issues, etc).

3. Apply to establish a grant/loan program to local applicants who want to make these kinds of improvements. If our application as a Cultural District is successful, we may be able to take advantage of their grant/loan programs for businesses.

4. Request public input to ensure that various questions are identified and answered in the brochure/guide.

5. Apply for funding to print the document.

6. Produce the final deliverable: a printed brochure/guide for building owners and a web-based version to add to the City's website.

Budget: It is difficult to estimate the cost of the publication without knowing how big it will be. It would be safe to say that we would purchase as many brochures as possible with the funds we are able to acquire. Similarly, the possibility of grants/loans for individuals or businesses would entirely depend on whether we would successfully apply to an organization that would allow us to establish that program, and would be based on the available funding.

Potential Funding Sources: In order to implement this project, several different avenues can be pursued:

- Partnerships with different educational institutions (high school, colleges, Vo-Tech schools, universities) with programs in marketing, business, construction, appliance or service repair, journalism and print media may have students who need to work on various projects and could potentially provide a targeted internship with the City. Students would be required to meet with employees at City Hall, various business owners/trades and homeowners who have the need or interest in green techniques to ensure they are gathering the right information. The schools and businesses may share the costs associated with printing the brochures and may even be able to use some federal or state funds to accomplish the printing task.
- Advertisements or sponsorships from various trades and manufacturers that have products and services that the home and business owners would potentially use.
- The brochure could also be sold at slightly above cost and any proceeds can go toward the Smithville Sustainability Program.

Renewable Energy Projects

These projects highlight the use of renewable energy and conservation to reduce the need for energy.

Project 6: Main St. Street Light Program

Project Description and Background: The street lights on Main Street are functional, but the electrical grid on which they sit will need to be replaced in the near future. Rather than replace the failing system with a system that ties the lights to the grid, this is a good time for Smithville to consider finding solar alternatives using LED lights. The Director of Public Works would like to replace them for more efficient, cost effective models while still conforming to the historic nature of the streetscape.

Because some models of streetlights shed more light than the fixtures we are currently using, we would likely be able to use one streetlight per block for approximately 20 lights, rather than the more than 50 fixtures currently along Main Street. Once City Council gives this project the green light, we will request bids from providers and begin working out the details so that grant funding can be sought.

The City Council, Planning and Zoning Committee, and Historic Preservation and Design Standard Committee would need to be consulted regarding the style of the lights prior to purchase. It would likely also be important that the lights were made in the USA, although most of the streetlights for purchase on line are made in China. Some potential models to consider include:

- Solar Garden Light (S-GL29): http://www.streetlamp-solar.com/solar-garden-light-s-gl29.html
- Solar Garden Light (S-GL29): http://www.streetlamp-solar.com/solar-garden-light-s-gl31.html
- Solar Garden Light (S-GL32): http://www.streetlamp-solar.com/solar-garden-light-s-gl32y.html

- Solar Garden Light (S-GL33): http://www.streetlamp-solar.com/solar-garden-light-s-gl33k.html
- Pier Light Post (no solar component to photo, but these are customizable): http://www.antiquestreetlamps.com/gallery/category.asp?view=ShowPic&ID=/gallery/photos/custom/Pier21postLr.JPG
- Bell-shaped Lamp Post (again, no solar, but customizable): http://www.antiquestreetlamps.com/products/Rapid-ship/
- Appendix 5 shows several different solar option styles.

Budget: The following costs are anticipated in association with the project:

20 street lights @ estimated $3,000 to $6,000 each = $60,000 to $120,000

Implementation: The implementation of this project involves purchasing the street lights and having the public works crew install them. The project additionally has the potential of providing jobs to local artisans who would build the street lights for the City, rather than having us order lights out of a catalog or having to get merchandise from China.

Potential Funding Sources: The following organizations may be willing to contribute grant funds or help raise money for this project:

1. The US Department of Energy (DOE) Energy Efficiency and Conservation Block Grant Program (EECBGP): http://www1.eere.energy.gov/wip/eecbg.html
2. The US Housing and Urban Development (HUD) Community Development Block Grant (CDBG) program: http://portal.hud.gov/hudportal/HUD?src=/program_offices/comm_planning/communitydevelopment/programs
3. The Texas Capital Fund for Infrastructure: http://www.texaswideopenforbusiness.com/incentives-financing/grants/tcf.php
4. The Texas Department of Transportation (TXDoT) could be a source of funds to allow us to switch to solar. See for example: http://www.txdot.gov/project_information/stimulus/tiger/default.htm
5. Currently, the City of Smithville is pursuing an application to become a Cultural District—one of only about 100 across the United States. If our application is successful, we would become eligible for a number of funding opportunities.
6. As a Preserve America community, Smithville is eligible for various grants that help preserve historic and cultural sites. The Preserve American grant program allocates some funding when

possible for streetlights; however, their funding was cut for 2012 and we will need to watch for 2013. Information is available at http://www.nps.gov/history/hps/hpg/index.htm.

7. The Main Street Program is accepting applications in June, 2012. If our City Council determines that we should pursue the application and if we are selected, we would become eligible for grants through that program.

8. Locally, several organizations may be willing to support this project with a certain amount of funding or volunteer labor including: Keep Bastrop County Beautiful, Keep Smithville Beautiful, Smithville Chamber of Commerce, and the City of Smithville.

Additional Resources:

- Solar Lighting Smart: http://solarlightingsmart.com/2012/03/20/solar-street-lights-are-bright-solutions
- Mark Herzer, Spectrum Lighting, Austin: 512 442 0661; Mark@spectrumltg.net

Project 7: Weatherize Public Buildings

Project Description and Background: With the recent improvements to our energy status at City Hall (adding solar panels to the roof), it only makes sense to make sure that the buildings do not transmit their temperatures to the elements outside. Closing the gaps between the doors, replacing old windows with insulated glass, making sure the insulation in the walls is adequate, and so on, are relatively inexpensive ways to save energy and reduce the cost of public infrastructure.

Implementation: In order to implement this project, the City would need to find a professional, licensed energy auditor and seek funding to pay for the audit as well as for the feasible recommended weatherization components. Several energy audit websites indicate that it is possible to secure an audit at no cost to the City—an option that would need to be explored after the company was selected.

1. The first step in this project is to initiate a professional energy audit. The City would need to submit a legal notice of Request for Qualifications for an energy auditor. Several resources in finding an energy auditor include: http://www.resnet.us/; http://texasimpact.org/energyaudits; http://www.industrialenergyaudit.com/a-commercial-energy-audit-is-the-best-kept-secret-to-maximizing-your-commercial-energy-efficiency-and-maximizing-your-profits/ and http://www.takealoadofftexas.com/index.aspx?id=commercial-energy-audit. Once the City goes through this process, it can also include information about residential energy audits in the guide book discussed in Project 4.

2. After the energy audit is completed, the professional will be asked to provide a document outlining what weatherization products he/she would recommend and will be asked to provide some budgetary information on each of the products.

3. Funding will be sought based on an analysis of the professional's recommendations. The most cost effective projects that would provide the most energy savings would be pursued first.

Potential Funding Sources: This project has two main components: the energy audit of selected public buildings and the funding of any recommended weatherization or other elements. Some potential funders for either component include the following:

- Texas Weatherization Assistance Program (WAP): Contact Michael DeYoung, Community Affairs Division Director. (512) 475-2125, michael.deyoung@tdhca.state.tx.us
- US Department of Energy, Energy Efficiency and Renewable Energy: http://www1.eere.energy.gov/office_eere/faqs.html
- Oncor (http://www.takealoadofftexas.com/index.aspx?id=commercial-energy-audit): Their funding program is subject to availability, but would potentially fund the audit of governmental facilities.
- The US Department of Energy (DOE) Energy Efficiency and Conservation Block Grant Program (EECBGP): http://www1.eere.energy.gov/wip/eecbg.html

Conclusion

Although Smithville is the "Land of Ideas" and even as this document was in the final review stages more ideas were brought to the table, these first seven may be pursued in the near term. Two projects have already been submitted to granting agencies. While some additional research may be required to complete the project and submit for funding, this document provides a good first step in the process of making bringing them to fruition.

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Appendix 1: Deliverables Summary

The Sustainable Smithville Plan will:

1. Establish the commitment of city leaders and community members to a Sustainable Smithville in various aspects of renewable energy, reduction in energy needs, and other issues in sustainability.
2. Discuss the potential for bringing in solar, biomass thermal, and other renewable energy sources into the city.
3. Outline the future of energy production in Smithville.
4. Examine training and economic development opportunities (such as eco-tourism to show others how Smithville was able to become the "most sustainable little town in Texas").

The Feasibility Study will help show how this Plan can become a reality. It will:

1. Identify at least five renewable energy and sustainability projects.
2. Provide details on implementation and budget for these projects.
3. Identify potential funding sources and partnerships, and other resources needed to bring the projects to fruition.

The Training Plan will:

1. Establish partnerships in educational institutions and city facilitates (such as the Library and the Recreation Center) needed to make training possible.
2. Identify the groups in need of training, such as the unemployed and underemployed, as well as students first entering the workforce.
3. Develop initial ideas for training curricula, and seek resources that may already have outlined curricula in various fields.
4. Develop strategies to reach out to potential students.
5. Work to establish a training schedule to begin at the culmination of the year.

The Case Study Manual will:

1. Collect papers and procedures, as well as public input related to the process and any procedures that go into the success of the above documents.
2. Organize these into a case study manual of how Smithville was able to accomplish its goals.
3. This case study would be available on the internet, and will provide a useful tool for other communities and neighborhoods wishing to use Smithville as a model in sustainability.

Leadership partners include city and county officials, school officials, LCRA, Keep Smithville Beautiful, the Smithville Chamber of Commerce, and a variety of community groups like the Bastrop Workforce Development program, Smithville Community Network, Smithville Community Fund, Noon Lion's Club, and many others. In addition, many community members are interested and excited about the possibility of renewable energy in this small town, and many will want to take part in this program. Several commercial business owners on the historic Main Street are interested in the possibility of solar energy on their rooftops, and a pilot project on a city-owned building will help promote the possibility and inform each owner of its reality.

Appendix 2: Shredded Tire Regulations/ Partners / Resources / Contacts

Rules and Regulations

TCEQ: Scrap Tires: Disposal, Regulation, Registration, Dumps, Abandoned Sites

http://www.tceq.texas.gov/tires/tirefacts.html

Requirements (statutes and rules) for the management of used or scrap tires can be found online in

- Texas Health and Safety Code 361.112 and 361.1125 (http://www.statutes.legis.state.tx.us/Docs/HS/htm/HS.361.htm) and
- 30 TAC 328, Subchapter F. (http://info.sos.state.tx.us/pls/pub/readtac$ext.ViewTAC?tac_view=5&ti=30&pt=1&ch=328&sch=F&rl=Y).

NOTE: These statutes and rules are not included in this document due to their length.

TCEQ: Scrap-Tire Facilities and Storage Sites

http://www.tceq.texas.gov/tires/index.html#facs

Scrap tire facilities are processing operations that shred, bale, recycle, or recover energy from scrap tires. Scrap tire facilities must complete a signed application to register with the TCEQ (Form TCEQ-10297 and TCEQ-10297inst) and submit an annual report. See Scrap Tire Facility and Storage Site Combined Activity Reports (TCEQ-10305). Scrap tire facilities that store more than 500 tires must also register as a storage site.

Storage sites are facilities that store more than 500 whole used or shredded tire pieces. Storage sites must register by submitting a complete application (Form TCEQ-10297 and TCEQ-10297inst) and are subject to design requirements to ensure safety and financial assurance for closure costs. For more information, view the Financial Assurance Worksheet (TCEQ-10301) (PDF). Applications for storage site registration must be sealed by a registered professional engineer. Detailed information about storage limitations and record keeping for storage sites is listed on the registration application checklist.

See Scrap Tire Facility and Storage Site Combined Activity Reports (TCEQ-10305).

Instruction Guidance for Scrap Tire Management Registrations and Sample Public Notices for Land Reclamation Project Using Tires (LRPUT) and Scrap Tire Storage and Facility Applications

http://www.tceq.texas.gov/assets/public/compliance/tires/forms/10297inst.pdf

I. Registration Application Requirements E. Scrap Tire Facility 30 TAC §328.63 –

Processor, Recycler, and/or Energy Recovery Facilities

Application form and additional information is required.

1. Property Owner Affidavit

2. Approximate numbers of used or scrap tires or tire pieces that will be stored at the facility

3. Detailed description of the day to day operations of the facility

4. Location maps in the appropriate format, with information specified in § 328.60(b)(9)(A)

5. Maximum amount of tires (in pounds) that will be at the facility at any given time

6. Method of Storage

7. Product to be manufactured and documentation of end use market TCEQ-10297inst

8. Arrangements with public or private emergency response personnel of facility does not intend to provide its own fire fighting personnel or system

9. Listing of all other applicable federal, state, and local permits and/or registrations and associated numbers

10. Mail a copy of the notification documents and attachments to the appropriate mayor and county judge if the proposed project is to be located within the corporate limits or extraterritorial jurisdiction of a city; or the appropriate county judge if the proposed project is to be located within an unincorporated area of a county; to the appropriate regional council of government; and, to the appropriate local fire authority. Proof of mailing shall be provided in the form of return receipts for registered mail.

II. Specific Information on Public Notifications

Scrap Tire Storage Site/Facility

Sample Notice: *Applicant's name and affiliation, Applicant's address and telephone* has notified the Executive Director of the Texas Commission on Environmental Quality (TCEQ) of a proposed Scrap Tire Storage Site Registration pursuant to 30 TEXAS ADMINISTRATIVE CODE §328.60. Acknowledgment by the Executive Director is required before the proposed storage site may operate. The applicant has filed registration documents with *Name and Address of County Judge*, where they may be viewed by the public. To obtain additional information, individual members of the general public may contact the TCEQ. For specific information about the proposed project individuals may Ms. Cynthia Hackathorn, Scrap Tire Management Registration Coordinator, TCEQ DFW Region Office, located at 2309 Gravel Drive, Fort Worth, TX 76118; Telephone Number (817) 588-5800.

Potential Partners

TXDOT: The Texas Department of Transportation may be interested in working with the City to use some of the shredded tires at this proposed facility. For TXDOT uses of recycled tires, see: http://www.txdot.gov/business/contractors_consultants/recycling/tires_overview.htm

> Texas generates roughly one scrap tire per person per year. Many of these millions of scrap tires become crumb rubber, tire shreds and tire bales which have many engineering uses.
>
> Our roadway projects routinely use crumb rubber in asphalt-rubber hot mix, seal coats, crack seals, and molded rubber products such as parking stops, delineator posts, decking boards, and bases for traffic control devices.

In order to become a vendor with TXDOT, the City of Smithville would need to follow very strict guidelines, see: http://www.txdot.gov/business/contractors_consultants/partnering_program.htm

National Tire and Battery of Bastrop: This company already has a tire collection program in place.

Resources

Agency/Organization	Website Title	URL
Texas Commission on Environmental Quality	Scrap Tire Program	http://www.tceq.texas.gov/tires/index.html
Texas Commission on Environmental Quality	Scrap-Tire Recycling	http://www.tceq.state.tx.us/compliance/tires/recycling.html

Contact Information

First Name	Last Name	Title	Organization	Phone	Email
Robert	Snowbarger	Region 6 Tire Program Coordinator	US Environmental Protection Agency	(214) 665-7131	snowbarger.robert@epa.gov
		Scrap Tire Mgmt program	Texas Commission on Environmental Quality	512-239-2515	tires@tceq.texas.gov
Cynthia	Hackathorn	Scrap Tire Mgmt Coordinator	Texas Commission on Environmental Quality	(817) 588-5800	
Brooke	Jackson	Field Operations Support Division, Tire Liaison	Texas Commission on Environmental Quality	512-239-2515	

Appendix 3: Compost-IT-USA Estimate

City of Smithville Quotation 9/30/10

Large, Completely Mechanized System to Process food waste from approximately 3,000 students or other sources

Item #	Major purchased equipment for the project includes:	Cost
1	One Model 515 Xact Systems invessel, rotating drum composter	$60,119.70
2	Includes: Mixer/grinder/conveyor/controls	
3	480 sq-ft Mechanized Vermicomposting Bins	$52,440.00
4	Metal Frame building	$9,200.00
5	Hammer Mill for paper & cardboard	$4,600.00
6	Compost screening and bagging equipment (for retail sales)	$4,025.00
Supplies and Materials: (Estimated)		
7	Chain-link fencing, gates, misc.	$2,500.00
8	Carts, bins, packaging materials.	$2,500.00
9	Electrical service extension, lighting.	$3,000.00
10	Worms (500# @ $15.00/lb)	$7,500.00
Salary for part-time worker		
11	3 hr/day for 52 weeks @ $15.00/hr = $11,700.00	$11,700.00
12	Compost-IT Support Services: 3 months @ $500.00/mo	$1,500.00
Total Estimated Hardware/Supplies/Support Cost:		**$159,084.70**

This highly mechanized system will process 1,500 lbs of food waste and paper/cardboard/wood chips per day. When fully populated and processing, vermicomposting bins will produce approx. 500 lbs/day of vermicompost worth approx. $36,500.00 annually if sold wholesale and worth approx. $90,000 if sold retail.

Smaller, Manually Harvested Vermicompost Reactor System to Process food waste from approximately 1,800 students or other sources

Item #	Major purchased equipment for the project includes:	Cost
1	One Model 205 BW Organics invessel, rotating drum composter	$34,914.00
2	Includes: Mixer/grinder/conveyor/controls	
3	300 sq-ft Manual Vermicomposting Bins	$25,875.00
4	Metal Frame building	$9,200.00
5	Hammer Mill for paper & cardboard	$4,600.00
6	Compost screening and bagging equipment (for retail sales)	$4,025.00
Supplies and Materials: (Estimated)		
7	Chain-link fencing, gates, misc.	$5,500.00
8	Carts, bins, packaging materials.	$2,500.00
9	Electrical service extension, lighting.	$3,000.00
10	Worms (300# @ $15.00/lb)	$4,500.00
Salary for part-time worker		
11	4 hr/day for 52 weeks @ $15.00/hr = $15,600.00	$15,600.00
12	Compost-IT Support Services: 3 months @ $500.00/mo	$1,500.00
Total Estimated Hardware/Supplies/Support Cost:		**$111,214.00**

This manual system will process 900 lbs of food waste and paper/cardboard/wood chips per day. When fully populated and processing, vermicomposting bins will produce approximately 300 lbs/day of vermicompost worth approximately $22,000.00 annually if sold wholesale and worth approximately $55,000 if sold retail.

Appendix 4: Household Hazardous Waste Survey Results

Selected results from the Household Hazardous Waste survey in Bastrop County. This survey was done as a preliminary step in requesting grant funds from the Capital Area Council of Governments' Solid Waste application for the 2012-2013 grant cycle.

HHW

SurveyMonkey

1. What type of waste management practices do you perform at home? (choose all that apply)

	Response Percent	Response Count
Recycling with curb-side service	28.2%	78
Recycling where I take the materials to a collection facility	52.0%	144
HHW disposal where I take the materials to a collection facility	15.9%	44
Holding on to HHW until a collection event is available	72.2%	200
Composting	36.5%	101
Purchasing and using reusable items instead of throw-away items	50.2%	139
answered question		277
skipped question		9

2. Would you participate in a Household Hazardous Waste (HHW) Collection Day?

	Response Percent	Response Count
yes	98.6%	281
no	1.4%	4
answered question		285
skipped question		1

3. How far would you be willing to drive to dispose of your HHW? (miles)

	Response Percent	Response Count
1-10	39.1%	110
11-20	43.8%	123
21-30	14.6%	41
31+	2.5%	7
	answered question	281
	skipped question	5

8. Which Community/City are you from?

	Response Percent	Response Count
Paige	2.2%	6
Rosanky	1.5%	4
Bastrop	24.3%	66
Elgin	22.1%	60
Smithville	19.9%	54
Rockne	1.5%	4
McDade	1.1%	3
Cedar Creek	10.7%	29
Tahitian Village	2.2%	6
Rural Resident/Bastrop County	14.7%	40
	Other (please specify)	10
	answered question	272
	skipped question	14

9. Have you ever participated in a HHW Collection Event Before?

	Response Percent	Response Count
yes	54.6%	147
no	40.1%	108
unsure	5.2%	14
answered question		269
skipped question		17

10. How important is proper HHW Management to you?

	Response Percent	Response Count
Very Important	64.6%	173
Important	27.2%	73
Somewhat Important	7.1%	19
Not Important	0.4%	1
Unsure	0.7%	2
answered question		268
skipped question		18

11. HHW disposal is very expensive to dispose of properly. (At the 2008 cleanup event, it cost $35 on average per household to dispose of the waste.) How much money would you be willing to pay to have a HHW Collection Day opportunity?

	Response Percent	Response Count
$5-10	40.1%	105
$11-15	9.9%	26
$15-20	22.9%	60
$25	20.6%	54
$0	9.5%	25
Other (please specify)		11
answered question		262
skipped question		24

Page 8, Q11. HHW disposal is very expensive to dispose of properly. (At the 2008 cleanup event, it cost $35 on average per household to dispose of the waste.) How much money would you be willing to pay to have a HHW Collection Day opportunity?

1	I already take my disposables and recycle items elsewhere	Mar 26, 2012 10:22 AM
2	limited income or low income	Mar 23, 2012 1:37 PM
3	$40	Mar 23, 2012 7:52 AM
4	Do we already pay taxes for this?	Mar 22, 2012 8:52 PM
5	$35	Mar 21, 2012 4:08 PM
6	vary with the amount of waste I had	Mar 21, 2012 1:32 PM
7	I would likely continue to take things to Green Guy in San Marcos. They charge a reasonable rate based on what you bring.	Mar 21, 2012 12:16 PM
8	I do not know what would be a good price as it has never been offered. We don't even have recycling available where I live.	Mar 21, 2012 11:12 AM
9	County doesn't keep my road drivable, the least they could do is offer HHW.	Mar 21, 2012 9:22 AM
10	Sadly, if you charge most people will just dump it incorrectly.	Mar 21, 2012 9:14 AM
11	The more we have to dispose of, the more we'd be willing to pay! Now, b/c we moved into a place previously used as an illegal dump, we have LOTS.	Mar 21, 2012 9:09 AM

12. How often would you bring your HHW to a Collection Event?

	Response Percent	Response Count
Twice a year	50.2%	133
Once a Year	45.7%	121
Once every 2 Years	6.0%	16
answered question		265
skipped question		21

13. Thank you very much for your participation! If you would like to receive updates on future HHW events please enter your email address below.

	Response Count
	127
answered question	127
skipped question	159

14. We need your help! If you would like to volunteer at a future collection event please enter your email address below.

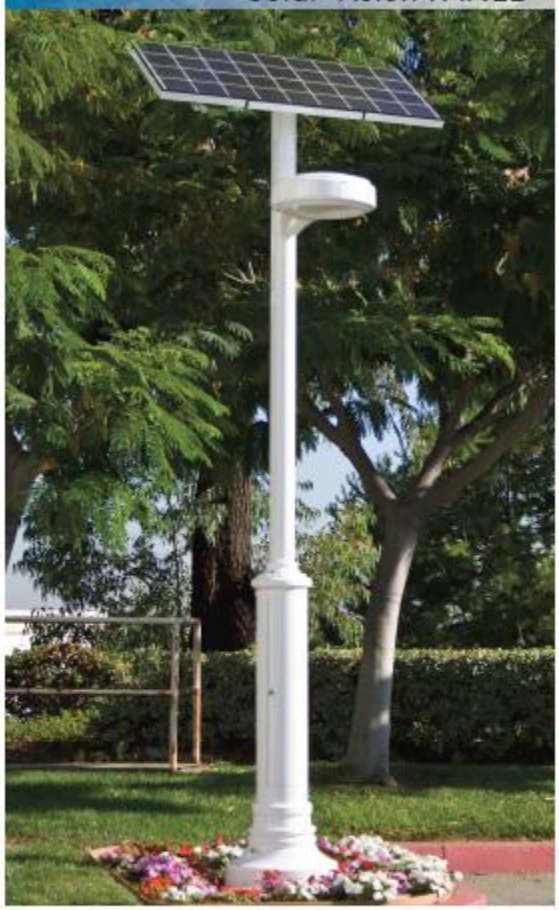
	Response Count
	45
answered question	45
skipped question	241

Appendix 5: Examples of Solar Streetlights from Spectrum Lighting

SOLAR-DRIVEN LED LIGHTING

Soaks Up the Sun for FREE!

Solar Vision PANEL™



Aria LED (ARI-1)

WHY SHOULD I GO SOLAR?

- Solar systems convert available energy into light.
- Solar Vision Panel™ operates up to 100 watts of LEDs.

HOW DOES THE OFF-THE-GRID, BATTERY POWER WORK?

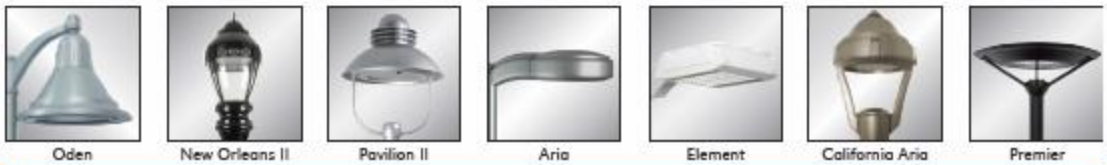
- Battery enclosure comes with 2 to 8 batteries.
- Decorative battery housing is 10" diameter steel, with cast aluminum collars and locking door.
- Energy-efficient LEDs last a minimum of 70,000 hours.
- Systems tailored to your specific solar region.

HOW DO SOLAR CONTROLS WORK?

- Manual test capability with LED indicator.
- Endless possibilities on controls, including motion sensing, dimming and programmable usage plans.
- Battery protection from over/under charging.

Clear lens Bellagio post tops (BLG-HT1) . Show Low, AZ

ALL SOLAR SYSTEMS WORK WITH ANY OF THESE STYLISH LED FIXTURES FROM VISIONAIRE LIGHTING:



Oden | New Orleans II | Pavilion II | Aria | Element | California Aria | Premier