

JEFFERSON COUNTY COMPREHENSIVE LITTER AND SOLID WASTE CONTROL PLAN

Prepared by:

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PREFACE

Jefferson County Comprehensive Litter and Solid Waste Control Plan

This plan replaces the original plan approved on October 28, 2002, and will address the control of solid waste collection, disposal and recycling as well as littering and unlawful dumping. In order to provide all of the citizens of Jefferson County with the most efficient, safe, effective and healthy collections, processing and disposal of all solid waste generated within Jefferson County, the Jefferson County Solid Waste Authority is adopting the attached Comprehensive Litter and Solid Waste Control Plan. This plan will become effective upon the approval of the West Virginia Solid Waste Management Board.

EXECUTIVE SUMMARY

This plan contains a description of Jefferson County, an assessment of the solid waste ~~problems and recycling management practices in this~~ within the county, and an evaluation of solid waste disposal services provided by the Jefferson County Solid Waste Authority (JCSWA). This plan will be used to help guide the actions of the Authority when considering the management of municipal solid waste and recycling in the county and region. ~~and used for assessment and planning purposes.~~

This plan is the result of substantial discussions and inputs from local government officials, certificated private haulers, industry, and the public to ascertain the ~~more~~ most desirable, practical and cost effective approaches to solid waste management and litter control.

INTRODUCTION

Statement of Purpose

The Jefferson County Solid Waste Authority (JCSWA) was established by the West Virginia Legislature on March 12, 1988, by the passage of House Bill 3148, which amended and re-enacted Chapter 20 (presently W.Va. Code §22C-4) of the Code of West Virginia.

The purpose of the Authority is to develop and implement a comprehensive litter control and solid waste management plan for Jefferson County that will protect the public safety, health and welfare of its citizens for a period of twenty (20) years.

The following services are goals set by this Authority:

1. Providing for the safe and sanitary disposal of solid waste from all residential, commercial and industrial sources in Jefferson County.
2. Reducing the degradation of both ground and surface waters by eliminating open dumps, ~~premiseous~~ illegal discarding of solid waste and other deleterious methods of solid waste disposal.
3. Eliminating the harborage and breeding places of insects and rodents that carry disease of all otherwise injurious to the public health, safety and welfare.
4. Reducing the volume of materials entering the waste stream that can be recycled and reused to recover a valuable resource.
5. Increasing ~~the property values of~~ by restoring the natural beauty of Jefferson County ~~by removing through the removal of~~ unsightly litter and open dumps from roadsides, streams and other public places.

Copies of this plan and all revisions to it will be filed with the Jefferson County Clerk, the State Solid Waste Management Board, the Region 9 Planning and Development Council, and the public libraries in Charles Town, Harpers Ferry, Shepherdstown and Summit Point. One copy and all revisions will be retained by the Jefferson County Solid Waste Authority and will be available for public review.

Scope

The JCSWA's Comprehensive Litter and Solid Waste Control Plan will take into consideration all municipal solid waste, litter control and recycling issues as they relate to Jefferson County.

GOALS AND OBJECTIVES

The goals and objectives for the JCSWA for the next twenty years are:

- 1) To ensure that all county residents are abiding by the State's mandatory disposal rules.
- 2) To identify and eliminate open dumps within the county.
- 3) Increase participation in the DEP's REAP – Adopt-A-Highway programs.
- 4) Encourage recycling through public education with the end objective of developing a county-wide recycling program.
- 5) Work with the DEP's REAP – PPOD Program to conduct at least one (1) open dump clean-up within the county each year.

Timetable for Implement of the Plan

This plan will become effective upon adoption by the Jefferson County Solid Waste Authority and the approval by the West Virginia Solid Waste Management Board. However, because of the diversity of the activities described in this plan, different programs will be implemented as time, money, and personnel become available. It is anticipated that the implementation and operation of this plan will be over a twenty year period.

Jefferson Co.	<u>2015</u> <u>2016</u>	<u>2020</u> <u>2021</u>	<u>2025</u> <u>2026</u>	<u>2030</u> <u>2031</u>	<u>2035</u> <u>2036</u>
Mandatory Disposal	X	X	X	X	X
Open Dumps	X	X	X	X	X
Adopt-A-Highway	X	X	X	X	X
Recycling Program	X	X	X	X	X
Public Education	X	X	X	X	X
County-wide Cleanups	X	X	X	X	X

All programs will be based on the availability of personnel and funds.

ASSESSMENT OF EXISTING CONDITIONS

Status of Existing Solid Waste Management Facilities and Activities

Jefferson County is located within watershed E which includes Berkeley, Grant, Hampshire, Hardy, Mineral, Morgan and Pendleton Counties. Jefferson, Berkeley and Morgan Counties all have independent county Solid Waste Authorities. Grant, Hampshire, Hardy, Mineral and Pendleton Counties make up the Region Eight Solid Waste Authority.

~~Jefferson County Transfer Station serves Jefferson, Berkeley, and Morgan Counties. Customers can travel directly to the facility to dispose of waste, and recyclables.~~

The Jefferson County Solid Waste Authority operates a Transfer Station which serves Jefferson, Berkeley and Morgan Counties in West Virginia. The current West Virginia Public Service Approved rate for Municipal Solid Waste is \$79.00 per ton and for Yard Waste Debris is \$32.00 per ton. Residential customers may travel directly to the facility to dispose of their waste and recycling. The Transfer Station also accepts commercial waste from certificated private haulers; Waste Management of West Virginia, Apple Valley Waste, Republic Services, and Panhandle Pumping. The Jefferson County Transfer Station is permitted as a Class B Solid Waste Facility, and can accept no more than 10,000 tons per month.

The Jefferson County Recycling Center is operated by the Solid Waste Authority at the same location as the Jefferson County Transfer Station. The recycling center accepts a wide variety of items for recycling, most of which is accepted at no charge. Details on items and fees associated with the Solid Waste Authority's Recycling Center are detailed in the 'Recycling Plan' section of this document.

In 2008 the Solid Waste Authority formed a recycling cooperative with Apple Valley Waste and the Corporation of Shepherdstown to assist in the management of recycling in Jefferson County. Household recycling that was collected curbside by Apple Valley and Shepherdstown was combined with household recycling collected at the Jefferson County Recycling Center and transported via long haul trailer to a Materials Recovery Facility in Elkridge, MD. The Co-Op gave all participants the ability to transport household recycling to a Material Recovery Facility in an efficient and cost effective manner. The Co-op was dissolved in 2014 at the completion of Materials Recovery Facility in Hagerstown Maryland, operated by Apple Valley Waste. The close proximity of the Hagerstown Facility to collection points, reduced the need to combine collected material for transportation. Collected household recycling from the Jefferson County Recycling Center is hauled directly to the Apple Valley Materials Recovery Facility.

Since 1995 the Solid Waste Authority has collected yard waste debris for mulch and compost creation. The purchase of processing equipment through state grants allowed for the creation of the mulch and compost program. The yard waste recycling program

collects approximately 900 tons of material each year. The Solid Waste Authority contracts for the collected material to be ground at least once per year and further processing of the material into saleable products is carried out by Solid Waste Authority employees.

Disposal services for the Jefferson County Transfer Station are contracted through Waste Management of West Virginia, Inc. The contractor uses three landfills for waste accepted at the Jefferson County Transfer Station, LCS Services' North Mountain Sanitary Landfill in West Virginia (Class B Facility), Mountain View Reclamation Landfill in Pennsylvania and King George Landfill in Virginia.

In 2014 Entsorga of West Virginia obtained a permit from the West Virginia Public Service to operate a Materials Recovery Facility in Berkeley County, West Virginia. The facility will use a series of physical and biological processes to create a refuse derived fuel (RFD) from municipal solid waste. The facility is scheduled to begin operation in 2017 and is permitted to accept no more than 10,000 tons per month (Class B Facility).

~~The LCS Services' North Mountain Sanitary Landfill is the only facility a Class B Landfill that has the equipment and provides waste disposal services for Jefferson County and the surrounding communities. The problem is LCS was experiencing a problem accepting waste because of the daily and monthly tonnage caps. Combating this problem was the primary reason Jefferson County Solid Waste Authority was upgraded to collect a large percentage of the waste in Jefferson County and transported to other landfill in PA and Virginia. This move has lighten the load was waste taken to the LCS landfill, and provided an additional source to address the increase in waste processed in the panhandle area.~~

Jefferson County is primarily served by Apple Valley Waste of Kearneysville, West Virginia and Waste Management of Shenandoah Valley West Virginia. Both are certificated solid waste haulers collection services. The County is also served by two additional certificated haulers, Republic Services and Panhandle Pumping. These certificated haulers service the majority of the county with In Jefferson County Apple Valley Waste collecting all is the only hauler certificated for residential waste and recycling collection. Waste Management of West Virginia, Republic Services and Panhandle Pumping serve commercial accounts only. servicing the commercial accounts. The Corporation of Shepherdstown and the Leetown Transfer Station also provides solid waste collection services for its residents.

Evaluation and Assessment of Solid Waste Management Facilities and Activities

~~The A goal of this the Jefferson County Authority is to promote recycling in the area, and addresses the growing population of the county and increased waste requirements~~

and the proper disposal of waste. In 2007, working with Waste Management of West Virginia, we did the Solid Waste Authority completed an expansion of the Jefferson County Transfer Station expand the current Transfer Station with the capability of accepting more waste on monthly bases. The construction was completed for this project in 2007, and which has proved to meet the goals set forth in the planning stage of the expansion. This facility is now The Jefferson County Transfer Station is able to meet the growing demands of waste collection for this the community. An average of 200 tons is now processed through this facility, which reflects an increase from an average of 16 tons per day prior to the new construction. In 2016 the Jefferson County Transfer Station processed an average of 4015 tons per month, and an average of 156 tons per day.

The primary management activity has been concentrated on improving the efficiency and cost effectiveness of transfer station operations. and The Solid Waste Authority has also worked to expanding the wood/yard waste mulching and recycling operations, and recycling services. The amount of residential and commercial waste has increased over the last four years which has greatly increased the Solid Waste Authority's ability to expand recycling services to the community. more than doubled over the last four years. This rapid growth has required dedicated management attention. Automating the scale house and upgrading the office computers has helped the SWA to accommodate this growth.

It is the determination of the Authority that all residents and other waste generators of within the county currently have reasonable access to a West Virginia Public Service Commission P.S.C. certificated waste collection service. It is a finding of this plan that all households have access to a solid waste collection and disposal service at the residences, where practical, or can be taken to the transfer station near Leetown, WV or the LCS Landfill in Hedgesville, WV when residential collection is not practical by virtue of access limitation. The SWA has determined that the establishment of a new generation sanitary landfill in and for Jefferson County is not feasible because as a result of siting problems requirements associated with the County's karst geography limestone bedrock and high construction costs.

The new Transfer Station has also opened the doors to expanding our recycling program. This SWA has put in place a program where recycling is collected and processed as single stream recycling. The average monthly tonnage is 130 tons per month, and continues to increase. This program began in July of 2008 and is very well accepted by the community. This SWA plans to continue working towards expanding access and educating our community on the importance of recycling.

The SWA Solid Waste Authority began grinding yard and wood wastes into mulch and selling it to the public in 1995. It took about three years to establish a customer base in Jefferson County, and since 1998, mulch sales and processing of yard waste has

increased. With the acquisition of additional land coupled with new equipment, and contracting the grinding requirements has resulted in a high quality finished product.

The SWA also acquired two ground hog cameras in 2001 to help local law enforcement in the identification and prosecution of unlawful dumping. These cameras have been assigned to the Jefferson County DNR Conservation Officer for management and placement. The cameras are being placed at historical open dumpsites to catch those responsible and make them responsible for cleanup, if convicted. The long term goal is to discourage unlawful dumping with sufficient publicity.

Demographic, Geological and Transportation Information

Jefferson County was formed in 1801 from part of Berkeley County and named in honor of Thomas Jefferson, author of the Declaration of Independence and third President of the United States.

According to the U.S. Census Bureau, the county has a total area of 212 square miles, of which, 210 square miles of it is land and 2 square miles of it is water. As of 2010 ~~2000~~, Jefferson County had a population of 53,498, an increase from 42,190 in 2000. ~~42,190~~ with a population density of 255 ~~201~~ people per square mile. The City of Charles Town (5,259 ~~2,907~~), Corporations of Bolivar (1,045), Harpers Ferry (286 ~~308~~), Ranson (4,440 ~~2,951~~) and Shepherdstown (1,734 ~~1,202~~) make up the county's incorporated towns and cities. The City of Charles Town is the county seat.

Leading industries and chief agricultural products include: limestone, asphalt, clothing, paper, boxboard, lumber, brass, lime marl, dolomite, fertilizer, fruit, livestock, hay, grain and dairying

The Potomac and Shenandoah are the county's primary Rivers. All secondary streams within the county flow into these two rivers. According to the Division of Forestry, 6% of Jefferson Counties' 212 square miles have a slope of more than 25% leaving 94%, or 199 square miles of rolling hills and flat land, feasible for development. The underlying bedrock is limestone with many cracks and fissures.

The highways serving the county are US-340, WV-9, WV-230, WV-51, and WV-480 with numerous secondary roads. The primary highway for the transportation of solid wastes is WV-9. Major construction on WV-9 and US-340 has greatly improved the travel requirements for residents, and commercial haulers.

Two rail systems exist in Jefferson County at the present time. These systems are CSX and the Norfolk and Western. It is not anticipated that these rail systems will play a major role in the solid waste plan in the near future. The option of using rail for transporting solid waste will remain open.

Population and Waste Projections

Jefferson County is predominately a rural area. The area is sparsely populated with about 53,498 ~~42,190~~ residents (2010 ~~2000~~ census data).

Jefferson County	2015	2020	2025	2030	2035
Population Projections	<u>58,806</u> <u>56,568</u>	<u>63,743</u> <u>59,552</u>	<u>68,797</u> <u>62,463</u>	<u>73,928</u> <u>65,144</u>	<u>79,032</u> <u>68,245</u>
Waste Projections	<u>3,577</u> <u>3,811</u>	<u>3,878</u> <u>4,012</u>	<u>4,185</u> <u>4,208</u>	<u>4,497</u> <u>4,389</u>	<u>4,808</u> <u>4,598</u>

There are five incorporated towns and cities in Jefferson County that account for 12,764 ~~8,413~~ residents, or 24% ~~20%~~ of the county's total population. The incorporated towns and cities and their populations include the City of Charles Town (5,259 ~~2,907~~), Corporations of Bolivar (1,045), Harpers Ferry (286 ~~308~~), Ranson (4,440 ~~2,951~~) and Shepherdstown (1,734 ~~1,202~~).

Identification of Out-Of-County Waste

Jefferson County Transfer Station accepts waste from individual residential customers, small business contractors, and Public Service Commission Certificated Haulers. Waste from individual residential customers and small business contractors make up approximately 22.7% (10,777 tons) of total waste accepted at the Transfer Station. The remaining 77.3% (36,686 tons) is deposited by the four certificated private haulers that use the Jefferson County Transfer Station. With the majority of the waste deposited by private haulers the Solid Waste Authority, working with the haulers, is able to identify the origin of the deposited wastes. While the origin of the waste from individuals and small business contractors is more challenging to determine, based on the location of the Transfer Station and disposal cost, the Authority is confident in their determination that Jefferson County is the primary location of generation for waste deposited by individuals and small business contractors.

~~We are a transfer station and the bulk of waste processed through this facility is from curb side pickup for contracted county haulers. This facility also provides service to the local and surrounding communities. Customers both individual and commercial are logged in on a scale program entitled TRANSACT. This program documents the name and fee processing data for all customers. This facility also maintains a customer account file for individuals with approved accounts.~~

ASSESSMENT OF LITTER AND SOLID WASTE PROBLEMS

~~As the population of Jefferson and the surrounding continues to increase the volume of waste will also increase. In the past LCS North Mountain Sanitary Landfill would meet the permitted monthly tonnage totals before the end of the month, leaving municipalities, businesses, and individuals with limited options for proper waste disposal. In 2007 the Jefferson County Solid Waste Authority and Waste Management of West Virginia completed an expansion of the Transfer Station which improved the Authority's ability to manage waste generated in the county and region. The major problem for this panhandle area is the increase in population and waste requirements coupled with the limited service that can be provided by LCS. Although it has been determined that construction of a new generation sanitary landfill in and for Jefferson County is not feasible, LCS North Mountain Sanitary Landfill, the Jefferson County Transfer Station and the under construction Entsorga Materials Recovery Facility are adequate in size and location to manage projected increases in waste generation and disposal for the region. Therefore, the Transfer Station has been upgraded to meet the increased waste requirements. The newly constructed Transfer Station has allowed LCS to meet their waste requirements, and opened a door for residential customers to dispose of their waste. The SWA will continue to explore long term waste disposal alternatives as the waste stream volume and composition demand, especially if technological considerations should change. One plan to meet future increased requirements is to plan for the construction of a new Transfer Station as waste demands increase.~~

~~Another issue for this area is roadside litter and promiscuous dumping. The problem has greatly improved but requires the efforts of all residents, businesses, and State and local authorities to effectively control.~~

~~Disposal of special wastes such as lead acid batteries, tires, oil, transmission/hydraulic fluids and Freon are effectively controlled at the Transfer Station, and by Waste Management.~~

~~Disposal of other hazardous wastes such as paint, insecticides, and fungicides is a service that is lacking for the residents of the Eastern Panhandle. The last county wide household hazardous waste event was held in 2010. The Solid Waste Authority continues to work with the County Commission, The Jefferson County Water Advisory Committee and State agencies in an effort to better provide hazardous waste services, frequently published. The Authority would like to offer a free HHW collection day if resources were available. The issue has been discussed at several board meetings and research continues on just how to improve and establish collection of these materials.~~

Open Dumps and Litter Problems

Roadside litter and illegal dumping continues to present challenges for the community and the Solid Waste Authority. ~~The Solid Waste Authority~~ Working in cooperation with Keep Jefferson Beautiful, Inc., an all-volunteer, non-profit corporation for the elimination of trash and litter in Jefferson County, maintains a record as to the number, location, or nature of open dumps and heavily littered roads in Jefferson County. ~~This record is updated quarterly and shared with the responsible offices (e.g. SWA, Sheriff, and DEP). A number of promiscuous dumps have been cleaned up in cooperation with the Department of Environmental Protection utilizing Pollution Prevention Open Dump (PPOD) funds. This program will continue, as funds are available.~~

Since ~~2004~~ 2011, ~~the JCSWA along with~~ according to DEP statistics, the DEP's PPOD program ~~there have been~~ has cleaned 68 44 dumps cleaned up dump sites, 46 45.85 acres reclaimed, 590.12 378.97 tons of material removed, and 26,681 33,171 tires collected and over 2 miles of streams cleared.

Facilities Generating More Than Five Tons of Solid Waste Per Month

See Appendix B for a complete list of businesses estimated to produce over five tons of solid waste per month.

Mandatory Disposal

Apple Valley Waste has been approved by the WV Public Service Commission PSC and ~~contracted to perform~~ contractually preforms roadside pickup of both waste and recycling material for Jefferson County. Waste Management of West Virginia, Republic Services, and Panhandle Pumping are Public Service Commission certificated haulers able to provide service to commercial waste generators. The Cities of Ranson, Charles Town, and Shepherdstown have the equipment to provide collection service and transportation to a waste disposal facility. However, at this time, the only municipality collecting and transporting their residential waste is the Corporation of Shepherdstown.

Individuals who self-haul their waste to the Jefferson County Transfer Station are provided with a receipt that shows the Name of the individual, the date of waste disposal and the amount of waste disposed. The receipt acts as proof of proper disposal of solid waste at a West Virginia permitted solid waste facility.

With the current number of approve options for solid waste disposal and recycling the Solid Waste Authority is confident that all residents are readily able to satisfy the State mandatory disposal laws.

Recycling Issues

The SWA has continued to concentrate on expanding and making more available recycling opportunities for this panhandle area of West Virginia. In June of 2008 this facility established and put in motion a Recycling Co-op Operation. The infrastructure has been put in place which consists of a drive up ramp, two compactor containers and a compactor. Working close with Waste Management we now dedicate two hours per day to process commercial recycle vehicles and containers. The tipping floor is used to collect and load the material into tractor trailers. This material is transported to Recycling America for final processing. This recycling facility accepts single stream material. We presently have Corporation of Shepherdstown, City of Ranson, Waste Management, County Commission Maintenance, Apple Valley Waste, and of course Jefferson County Solid Waste Authority participating in this program. Approximately 120 ton per month is now processed through this program and is expected to increase as more commercial facilities come on board.

Electronic recycling, or E-cycling, has become a big issue recently. The JCSWA is researching possible solutions to address the growing problem of keeping outdated electronics out of the landfill.

Volunteers

The DEP's Adopt-A-Highway and Adopt-A-Spot programs have been very successful in Jefferson County. There are currently 95 56 organizations with 977 volunteers who collect litter on 143 111 miles of adopted highway throughout the community. Keep Jefferson Beautiful, Inc., is another group that is very active within the county. In cooperation with the JCSWA, this group helps maintain a record of open dumps and heavily littered roads in Jefferson County.

ALTERNATIVE APPROACHES TO SOLVING PROBLEMS

Funding Strategy for this

The Jefferson County Transfer Station is managed by the SWA and is funded primarily by the tipping fee approved by the Public Service Commission (PSC). Supplemental funding for certain Authority functions is provided from solid waste assessment fees processed through the West Virginia Solid Waste Management Board and grants from Jefferson County. A tipping fee and sales of mulch and compost products fund the wood and yard waste composting operation. The Solid Waste Authority operates under the premise of providing waste disposal for our users as the lowest possible cost; thereby minimizing financial impact upon users, and encouraging use of solid waste facilities rather than promiscuous illegal dumping.

Grants have been used to purchase equipment to support our recycling program. Examples of equipment would be a trommel screener, tractor, compost turner and water tank. The Solid Waste Authority has also purchased equipment for use in its electronic recycling program. ~~This facility has procured a dump truck and mesh trailers for composting and collecting recycling material. A new oil containment shed and recycling storage sheds were also constructed with grant funds.~~

Future grant funding will be needed to repair, and replace equipment as required. The SWA is dedicated to expanding and promoting recycling throughout the Community. ~~A portion of funds received by recycling grants will be dedicated to promoting recycling through education programs.~~

Hierarchy of Solid Waste Disposal

The Jefferson County Solid Waste Authority recognizes the hierarchy established in the WV Code 22C-4-1 and gives preference to alternatives in the following order of priority; 1) Source reduction, 2) Recycling, reuse and resource recovery, and 3) Landfilling.

The first step in controlling litter and managing waste disposal is a reduction in the amount of solid waste being generated. This could be achieved by drastic changes in attitudes toward convenience of disposable packaging and throw away products or by passage of laws prohibiting or regulating certain packaging materials of products. Manufacturing and packaging problems must be resolved on the state or federal level by enactment of laws; the result of which will reduce the source volume of solid waste.

The Authority will foster public education activities designed to impact the attitude of the consumer to voluntarily reduce his/her use of discardable products or packaging by disseminating information to encourage backyard composting and on how to prepare recyclables for collection. Even with the best educational plan, solid waste will contain a high percentage of material that should be removed from the solid waste stream for recycling. This plan details how the SWA will receive, remove, and recycle such material. An example is the removal of scrap metal and white goods from the waste stream for recycling by Conservit, Inc., in Hagerstown, MD.

The Authority has reviewed pertinent data concerning the county and concluded that land disposal of solid waste for Jefferson County is, after source reduction, recycling, reuse and resource recovery, the only viable means of disposal for the remaining waste stream.

~~The Authority has put in place a new Transfer Station to meet the demands of a growing population and increase waste requirements. Teaming with Waste Management we now have a covered tipping floor were customers back into the enclosed area and empty the waste directly on the concrete. This waste is loaded on to fifty-foot tractors trailers and transported both in and out of state. The LCS landfill could~~

~~not accommodate the increased waste demands for the surrounding counties. This new Transfer Station allows LCS to meet their waste requirements, and opens an outlet to meet the increase community waste requirements primarily due to the population increase in Jefferson County. The new transfer stations processes on the average of 4,200 ton per month.~~

Open Dumps

The JCSWA will continue working with the Keep Jefferson Beautiful, Inc., to record a listing of open dumps and heavily littered roads in Jefferson County. The Authority will also continue to work in cooperation with the West Virginia Department of Environmental Protection's Pollution Prevention Open Dump (PPOD) Program, the Division of Natural Resources' Law Enforcement Section and ~~local law enforcement on The Jefferson County Sheriff's department.~~

The Authority will actively promote the cleanup of roadside litter and open dumps by one or more methods:

1. Working with the Department of Environmental Protections' Make It Shine and other litter control programs. Business, civic groups, and volunteers will be actively encouraged to participate in the Adopt-A-Highway and Adopt-A-Spot Program. This program is very active now throughout the Jefferson County Community ~~which has resulted very positive on the effort to eliminate this problem in the area.~~ And has reduced the presence of roadside litter.
2. The SWA will cooperate with the Department of Environmental Protection in selecting open dumps for clean-up through the Pollution Prevention and Open Dump (PPOD) Program.
3. The SWA Solid Waste Authority will commit its own funds, as available; toward necessary expenses for personnel, equipment and other related costs for cleanup. This Authority ~~did procure a ground hog camera presently use by Division of Natural Resources to monitor problem areas in the community.~~

Use of Inmates for Litter Pick-Up

~~This SWA does support Keep Jefferson Beautiful who does in fact use the inmate program. This Authority cannot really take advantage of this opportunity due to the fact that constant oversight is required to ensure inmates do not disappear. The tasks performed daily are accomplished by one person. This Authority is aware of the program and would not object to taking advantage of the program if a task does~~

surface that the requirements of the program would be in place.——Working with the Jefferson County Sheriff’s Department the Solid Waste Authority has determined that there is limited availability for inmates to pick up roadside litter. The Jefferson County Sheriff has helped to implement a program that allows individuals with required community service to fulfill their requeriment through supervised litter pick-ups.

Coordination with Other Entities

This ~~The Solid Waste~~ Authority does indeed work with West Virginia DEP, state Division of Highways Jefferson County Commission to assist in the cleanup of roadside litter and open dumps. and ~~Waste Management Recycle America–~~ The Solid Waste Authority also works with Apple Valley Waste, Waste Management of West Virginia and Republic Services to provide a recycling program for both residential and commercial customers. ~~This Authority accepts recycling material in bulk and transports it to Waste Management Recycle America. This material can be comingled and compacted because it is separated at the Waste Management Recycling facility. This SWA also conducts on sight tours to school students, Cub Scouts, Girl Scouts, and both County and city actions groups interested.~~

Program to Enlist Voluntary Assistance

This ~~The Solid Waste~~ Authority does support Keep Jefferson Beautiful with the Adopt-A-Highway, and Make-It-Shine program. The contact information for these programs are announced on our SWA answering service are provided at the Transfer Station and on the Solid Waste Authority website. This Authority also accepts reports of problems areas through a digital form on the Authority’s website, and submits the information to Keep Jefferson Beautiful and the Sheriff’s Department. These programs have proven to be very beneficial to our community.

County Clean Up Programs

Jefferson County is becoming more aware of the waste requirements for this area. The WV Highway Department takes advantage of a grant for the once a year collection of tires at no cost to the customer. ~~The Jefferson County Commission has also sponsored and conducted an annual opportunity to dispose of electronic waste. This program was well received by the community residents, and the County Commission is working to put this opportunity in place as part of the Annual Budget.~~

PLAN CONCLUSIONS AND RECOMMENDATIONS

Siting of a Landfill

On September 3, 1992, the Leetown Landfill received a "Cease and Desist" order to stop accepting solid waste for burial. The closure order was based upon the concern for health and safety issues. The sealing and capping of the Leetown Landfill was completed in June 1997. Long term monitoring of nearby wells and run-off is being performed by the State.

Because the limestone karst geography that under ties most of the county contains many fractures, which would allow surface liquids to reach the water table, it is inherently unsuitable for use even for a state-of-the-art landfill. Furthermore, the cost of constructing a new landfill which would meet state and federal standards would have been in the range of \$500,000 to \$600,000 per acre at that time be cost prohibitive. ~~Even if a suitable site could be located, the construction cost for a modest 50-acre landfill would be around 35 million dollars.~~ For these reasons, it is not realistic to develop a new Landfill site anywhere in the county.

Jefferson County has concluded that with the closure of the Leetown Landfill and the reality that they can neither find a suitable new site nor afford to construct a triple lined landfill, it is difficult to envision a low cost stable solution to Jefferson County's solid waste disposal problems. Therefore, utilization of the present system of taking waste to out-of-county landfills will continue. Jefferson County Transfer Station remains the most efficient and cost effective option for solid waste disposal in Jefferson County.

Recommendations and Conclusions

The JCSWA recognizes that their main focus must be to work towards completing the previous goals and objectives set forth by this plan. Through the management and operation of the Jefferson County transfer Station and Recycling center the Authority will continue to provide waste disposal and recycling services for the surrounding community. The Authority will continue to work with the proper agencies to identify and eliminate the open dumps within the county and increase participation in the State's litter control programs. Also, the JCSWA will continue to educate residents on the importance of recycling and inform them of litter and solid waste laws.

AMENDMENT PROCESS

A mandatory update must take place every five years. However, the plan can be amended at any time. A public notice and hearings on updates or amendments shall be given and held in the same manner as described in 54CSR3, Section 7 of the rules. A revised plan is to cover a period of twenty (20) years and the Solid Waste Management Board must approve amendments in the same manner as the previous plan. Minutes from the Jefferson County Solid Waste Authority meetings in which the new, updated or amended plan is approved shall include:

1. New, updated or amended plan.
2. Previous plan submitted for approval by the Solid Waste Management Board.
3. Minutes signed by Chairman.
4. Authority's responsibility that it is legally constituted to conduct business.

**Jefferson County
Solid Waste Authority
Mandatory Garbage Disposal
Program**

MANDATORY GARBAGE DISPOSAL PROGRAM METHODS OF PROOF OF PROPER DISPOSAL

The W.Va. Code §22C-4-10 requires proof of proper disposal. Proof of disposal may consist of canceled checks or receipts of payment to a collection service or tipping fee at an approved landfill or transfer station or combination thereof, or other such proof as may be provided in any regulation promulgated by the West Virginia Department of Environmental Protection.

PROVISIONS FOR ITS ENFORCEMENT

Enforcement of mandatory solid waste disposal is effective immediately and will increase in activity directly relative to the appropriate agencies' abilities to carry out their respective provisions. The authority will continue to work cooperatively with the Division of Natural Resources, Department of Environmental Protection and all law enforcement agencies in Jefferson County to enforce the mandatory solid waste disposal laws of the State of West Virginia.

**Jefferson County
Solid Waste Authority
Recycling Plan**

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RECYCLING GOALS

Recycling is a very important issue for the Jefferson County Solid Waste Authority. A Web Site is presently being developed to promote recycling and other programs of interest that fall in our arena. One of the primary goals of the recycling program is educate and promote the importance of recycling. A good recycling program will of course reduce the waste collected and processed through all waste management facilities. Individuals must be made aware of the population increase which increases the waste processed. The goal in three words we hope to achieve is Promote Recycling Programs.

COLLECTION AND PROCESSING

In addition to the MSW Transfer Station the Jefferson County Solid Waste Authority operates a recycling center at the same location. Residents can bring their household recycling to be collected and recycled through our Single Stream program that includes all types paper and cardboard, plastic containers #1-#7, metal cans (aluminum, tin and foil) and glass (food and drink bottles). The Solid Waste Authority contracts with Apple Valley Waste to transport and process household recycling collected at the Jefferson County Recycling Center. All material is transported to the Apple Valley Materials Recovery Facility in Hagerstown Maryland for separation and preparation for sale.

The Authority's recycling center also accepts scrap metal, electronics, household batteries, clothing, thermostats containing mercury, used oil and used antifreeze. Yard Waste is also collected by the Authority and shredded to make mulch and compost.

Since 2011 Solid Waste Authorities across the state have developed and implemented a range of covered electronic device collection programs. The Jefferson County Solid Waste Authority manages a continuous collection program paired with an Electronic Recycling Trailer for all covered electronic devices. The program has been successful and to date has collected over 364 tons of covered electronic devices, cathode ray tube (CRT) monitors accounting for 85% of the material collected. Grants from both the Solid Waste Management Board and the Department of Environmental Protection have been critical to the success of the Jefferson County Program. In 2015 our Authority secured a West Virginia Public Service Commission approved tariff of \$10.00 per CRT monitor, to help support CRT recycling costs.

During the calendar year 2015 the Solid Waste Authority recycled 1235.76 tons through the various programs and services provided to the community.

Characterization of Waste Stream

GAI Consultants of Charleston conducted a study for the Solid Waste Management Board back in 1997 to determine the wastestream components in rural and urban areas

of West Virginia. The following chart shows the percentage of each component sampled for the MSW Characterization Study:

Paper	45.40%	Rubber	0.00%
Organics	16.90%	Construction Rubble	0.00%
Plastics	15.40%	Wood Products	0.10%
Glass	7.80%	Oversized Items	0.10%
Metals	5.30%	Miscellaneous and Fines	5.40%
Textiles	2.80%		

~~The Jefferson County Solid Waste Authority has agreed to accept the following single-streamed recyclables at the Transfer Station: plastics (#1-#7), glass (brown, clear and green), ferrous cans, aluminum, paper, newsprint, cardboard and magazines.~~

Existing and Anticipated Markets

The Jefferson County Solid Waste Authority works with local, national and global recyclers in an effort to offer a wide range of recycling programs. The Authority's proximity to large population centers and interstate highways allows the Authority to access a variety of recycling markets. As new recycling businesses and technologies impact recycling markets in the area, the Authority works to provide the community with consistent services for the recycling of desired items.

List of 2016 Markets and Vendors for collected materials:

- a. Household Recycling "Single Stream"- Apple Valley Waste, national and global market
- b. Scrap Metal- Conservit, Hagerstown, Maryland and Winchester Scrap, Winchester, Virginia
- c. Used Oil and Antifreeze- Spirit Services, Williamsport, Maryland.
- d. Electronics- Federal Prison Industries, national and global market
- e. Batteries- Battery Solutions, Howell, Michigan
- f. Clothing and Textiles, Planet Aid, global markets
- g. Mercury Containing Thermostats- Thermostat Recycling Corporation, Golden Valley Minnesota

~~Wishard's Tire recycling presently takes tires collected for recycling to a facility located in Baltimore, MD. RecOil takes our used motor oil, transmission fluid and hydraulic fluid to it facility in Pittsburgh, PA for recycling.~~

POTENTIAL STRATEGIES FOR COLLECTION OF MATERIALS

The Authority operates a drop off Recycling Center at the site of the Jefferson County Transfer Station. The Recycling Center drop off site has provided services to the community at the same location for over ten years. While the Recycling Center has seen success, in part because of its consistent location, increased advertising and the expansion of services offered have also contributed to its success. The Authority plans to continue the operation of the drop off Recycling Center for the foreseeable future.

Residents of Jefferson County also have the opportunity to participate in curbside recycling through the private hauling company Apple Valley Waste. The Apple Valley Waste program includes household recycling, collected using the "Single Stream" method, and yard waste recycling is also collected curbside.

Through the combination of the drop off site and curbside recycling the residents of Jefferson County have adequate access to recycling services. Both methods of collection allow for services to be added as desired by the community and as markets are available.

~~The SWA board members continue to address the problem with electronic recycling. This is a hot agenda item at the monthly meetings. The board is presently researching some possible solutions to address this issue. A future solution will hopefully be in the near future.~~

PUBLIC EDUCATION PROGRAM

~~The Jefferson County Solid continues to promote recycling through education in the form of contests throughout presentations at our local schools, participation in community events, maintaining an up to date brochure detailing information about services the Authority provides. The Solid Waste Authority also maintains a website and facebook page that provides information to the community about recycling and recycling services available. The Transfer Station and Recycling Center are also available for visits and tours by community groups who desire to learn more about the recycling process in Jefferson County. Participating in community activities such as the County Fair, and passing out information from our designated booth as related to recycling. This Authority conducts on site tours for groups such as boy scouts, girl scouts, and school sponsored visits.~~

APPENDICIES