



Department of
**Environment &
Conservation**

Waste and Scrap Tire Management Toolkit

A guide to managing end of use tires in Tennessee

Tennessee Department of Environment & Conservation | Guidance | Updated July 2022



Contents

Waste Tire Management in Tennessee	3
Tire Fee Breakdown.....	3
Common Waste Tire Terminology	4
Applicable Regulations	5
Tenn. Code Ann. section 67-4-1610. Fee Deduction -- Amount.....	5
Tenn. Code Ann. section 68-211-867. Waste Tire Disposal	5
Rule 0400-11-01-.04(2)(k)3. Solid Waste Processing and Disposal	7
County Responsibilities	8
o Waste Tire Collection Sites.....	8
Waste Tire Collection Site Permitting	9
o Fiscal Responsibilities	9
o Waste Tire Disposal.....	10
o Legacy Waste Tire Identified Sites vs Unpermitted Tire Sites	10
Waste Tire Collection	11
o Convenience Centers.....	11
o Contract/Dealer Collection.....	11
o Tire Disposal Options.....	12
Beneficial Uses of Waste Tires.....	13
o Determining Beneficial Use	13
Organizational Contacts	14
Frequently Asked Questions.....	16
Appendix I: Tennessee Environmental Field Office Reference Map	17
Appendix II: Waste Tire Management Self-Analysis	18
Figure 1 - Typical Waste Tire Responsibility Flow Chart.....	19
Figure 2 - Example Tire Fees for Additional Revenue	20
Figure 3 - Estimating Number of Tires at an Unpermitted Tire Disposal Site	21
Supplemental Information – DSWM Storage Policy	22

Waste Tire Management in Tennessee

The purpose of this toolkit is to provide resources for local governments who collect, manage, and arrange for disposal of waste tires.

- [The Tennessee General Assembly passed the Solid Waste Management Act of 1991 \(the "Act"\)](#), that allowed the Waste Tire Program to be initiated. Statute and solid waste rules ban whole tires from disposal in all Tennessee landfills. The Act requires each county to have at least one (1) site for reception and storage of waste tires. The Act also authorizes the Tennessee Department of Environment and Conservation (TDEC) to provide assistance grants to counties, and to develop a program to find beneficial reuses for their waste tires. As of July 1, 2022, counties may use revenues from the tire pre-disposal fee for disposal of waste tires in accordance with [Tenn. Code Ann. section 68-211-867\(d\)](#) in addition to beneficial end uses in accordance with [Tenn. Code Ann. section 68-211-867](#). Under its authorized powers, TDEC may cleanup unpermitted tire disposal sites (tire dumps) and seek cost recovery from the responsible party.
- Tire consumers fund the program through a \$1.35 pre-disposal fee paid on the sale of new tires sold at retail. This fee is collected on all new tires sold that travel on roads including those tires sold for farm tractors and equipment. You can learn more about the tire pre-disposal fee and find the necessary tax [return forms](#) by visiting the [Department of Revenue website](#).

Tire Fee Breakdown

Listed below are fees assessed on new tire or vehicle sales in Tennessee. The tire pre-disposal fee directly relates to tire disposal. The tire environmental fee¹ is administered through the Tire Environmental Act Program (TEAP) to fund projects that are creating or supporting beneficial end uses of waste tires in Tennessee.

- Pre-disposal fee Allocation:
 - \$0.10 – Dealer
 - \$0.25 – TDEC
 - \$1.00 – County of origin
- Tire Environmental Fee ([TEAP](#)):
 - \$5.00 – Automotive Sales (vehicles with four or less tires)
 - Fees assessed on vehicles with additional tires are determined according to a fee schedule obtained through the Office of Sustainable Practices (OSP)
 - OSP manages the TEAP for developing additional businesses for waste tire conversion into beneficial use.
- Common sources of scrap tire generation include tire dealerships, internet sales, new car sales, and mobile tire repair service (non-permanent site).

¹ Upon the first retail sale of a new motor vehicle that is to be titled and registered in Tennessee, a flat fee based on the number of the vehicle's wheels is assessed. See Tenn. Code Ann. section 68-211-303.

Common Waste Tire Terminology

- **CO** – TDEC Central Office located in Nashville
- **DOR** – Department of Revenue collects and distributes the tire pre-disposal fee revenue. DOR is responsible for distribution of collected fees to the respective county for costs associated with waste tire management.
- **DSWM** – the Division of Solid Waste Management is responsible for the protection, improvement, and promotion of health and environmental quality through the responsive, effective oversight of waste management activities and the beneficial use of recovered materials.
- **EFO** – [Environmental Field Offices](https://www.tn.gov/environment/contacts/about-field-offices.html) are located in eight regions in the state. The Environmental Field Offices and the counties served may be located: <https://www.tn.gov/environment/contacts/about-field-offices.html> or Appendix I
- **TDEC** – Tennessee Department of Environment and Conservation manages grants and provides technical assistance regarding waste tire disposal options and management practices.
- **Scrap Tires** – Also called by many and the Solid Waste Management Act waste tires, a tire that is no longer used for its original intended purpose, including but not limited to a used tire, a reusable tire casing, portions of a tire and but has market value to be utilized for other purposes.
- **TDOT** – Tennessee Department of Transportation may assist counties with cleanups through its Highway Beautification Office and its Litter Grant Program.
- **TDA** – Tire Derived Aggregate (TDA) consists of scrap tires cut into pieces that have a basic geometrical shape and range between 2 inches (50 mm) and 12 inches (305 mm) in size and are intended for use in civil engineering applications (ASTM D6270-08).
- **TDF** – Tire Derived Fuel is composed of shredded scrap tires. Concrete kilns, power plants, or paper mills may mix tires with coal or other fuels, such as wood or chemical wastes, and burn to improve the British Thermal Unit (BTU) value of the fuel materials.
- **Tires** – "Tire" means a continuous solid or pneumatic rubber covering encircling the wheel of a motor vehicle.
- **Waste Tires** – Used rubber tires that because of their abrasion state ("tire wear") are not safe for public traffic. Generators can send waste tires to beneficial use such as tire recycling.
- **WasteBin** – TDEC's Division of Solid Waste Management (DSWM) electronic database.

Applicable Regulations

Tenn. Code Ann. section 67-4-1610. Fee Deduction -- Amount

(a) For the purpose of compensating the dealer in accounting for and remitting the fee, a dealer shall be allowed a deduction of the fee due, reported and paid to the department in the amount of ten cents (10cent(s)) per tire reported on the return. No deduction from the fee shall be allowed if any such report or payment of the surcharge is delinquent.

(b) (1) Notwithstanding Chapter 994 of the Public Acts of 2000, or any other law to the contrary, the remaining amount of the fee levied by [§ 67-4-1603](#) that is not retained by the dealer pursuant to subsection (a) shall be allocated as follows:

(A) If a county does not have a tire grant contract with the department of environment and conservation pursuant to the tire grant program administered under [§ 68-211-867](#), one dollar (\$1.00) per tire sold in that county shall be sent directly by the commissioner of revenue to such county to be used for beneficial end use of waste tires in accordance with [§ 68-211-867](#) and not used for any other purposes. The remaining balance of the fee shall be allocated to the solid waste management fund established by [§ 68-211-821](#). The county shall include in its annual progress report to the department of environment and conservation pursuant to [§ 68-211-814\(a\)](#) data on how many waste tires it manages and what is done with them; or

(B) If a county has a tire grant contract with the department of environment and conservation pursuant to the tire grant program administered under [§ 68-211-867](#), or had such a tire grant contract that was in effect at the time the fee was imposed, the remainder of the fee per tire sold in that county shall be allocated to the solid waste management fund established by [§ 68-211-821](#). The department of environment and conservation shall return a minimum of one dollar (\$1.00) per tire sold in such counties to the county under its grant contract. If the grant contract either does not allow the department of environment and conservation to return a minimum of one dollar (\$1.00) per tire sold in a county to such county, or would require repayment of any such funds, the department of environment and conservation shall return a minimum of one dollar (\$1.00) per tire sold in such county to the county through additional grants, unrelated to the tire grant contract, for beneficial end use of waste tires in accordance with [§ 68-211-867](#) and not used for any other purposes. Such counties are not required to submit any additional workplan, budget, or other similar document. Any such additional grants shall be based on one dollar (\$1.00) per tire sold in the county minus any amounts returned under the tire grant contract. The county shall include in its annual progress report to the department of environment and conservation pursuant to [§ 68-211-814\(a\)](#) data on how many waste tires it manages and what is done with them.

(2) It is the purpose of this subsection (b) to require that a minimum of one dollar (\$1.00) of the one dollar and thirty-five cents (\$1.35) per tire pre-disposal fee be returned to the county in which the fee was imposed regardless of whether the county has a tire grant contract with the department of environment and conservation.

Tenn. Code Ann. section 68-211-867. Waste Tire Disposal

(a) The department of environment and conservation is directed to develop a program to manage the waste tire program for beneficial end use.

(b) For the purposes of this section, "beneficial end use" includes the following:

(1) Cement manufacturing;

(2) Burning of tire-derived fuel in contained industrial boilers for the capture of energy;

(3) Production of tire-derived fuel, provided the department approves the planned use of the processed tire material;

(4) The crumbling or pyrolysis of tire material, provided the processor provides for the planned use of the processed tire material under such requirements established by the department;

(5) Recreational applications, including, but not limited to, playgrounds, running tracks, and walking paths; or

(6) Any use otherwise deemed appropriate by the department of environment and conservation and for which either the board has promulgated rules or the department has developed and published policies; provided, that this section shall not be construed to require or mandate the use of products or materials resulting from waste tires. The board shall not promulgate any rules, and the department shall not establish any policies mandating the use of products or materials resulting from waste tires. It is the specific intent of the general assembly that any use of products resulting from the waste tire program is entirely voluntary on the part of the end user.

(c)

(1) The department is authorized to use funds available from the solid waste management fund to contract directly with an approved beneficial end user or its designated agent for recycling of waste tires. Each beneficial end user or agent awarded such a contract shall demonstrate to the department's satisfaction the ability to provide collection, management and transportation to its facility of all eligible and available waste tires generated within the area or county specified by the department. Any such contract shall be subject to approval by the county legislative body of each county in whose territory the contract shall be operative. Any such contract shall also require an appropriate performance bond from any entity producing tire-derived fuel or crumbling or pyrolysis of tire material to ensure proper storage, transportation and ultimate sale or disposal of such materials.

(2) From funds available from the solid waste management fund, the department may provide grants to assist counties in locating, collecting and appropriately disposing of waste tires. Any county receiving a grant under this subdivision (c)(2) after July 1, 2000, shall not assess a tipping fee on the waste tires received at a county waste tire collection site so long as the amount of the grant covers the cost of the county's waste tire management program.

(3) From funds available from the solid waste management fund, the department may provide grants to local education agencies, municipalities or counties to utilize recycled shredded tires for recreational applications.

(4) Any county or entity requesting or applying for a grant or entering a contract with the department shall submit, prior to being approved for a grant or contract, a workplan and budget to reflect the expenditures of the grant or contract. The grants or contracts are to fulfill the objective of recycling waste tires and to assure that all expenditures of the contracts, grants, or any additional local tipping fees are not exceeding the cost of the county's waste tire management program.

(d)

(1) A landfill shall not accept whole, unshredded waste tires for disposal. Landfill operators shall segregate whole, unshredded waste tires at landfills and provide a temporary storage area for such tires until transported to an appropriate facility to be used for an approved beneficial end use as defined in this section, or the tires are shredded and disposed of pursuant to subdivision (d)(2) and regulations promulgated by the board.

(2) The remaining balance of the fee must be allocated to the solid waste management fund established by § 68-211-821.

SECTION 2. This act takes effect on July 1, 2022, the public welfare requiring it, and applies to any tire pre-disposal fee received by the commissioner of revenue after July 1, 2022, regardless of when the fee was imposed.

Rule 0400-11-01-.04(2)(k)3. Solid Waste Processing and Disposal

3. Discarded Tires

(i) No landfill shall accept for disposal any whole tires. Tires received at Class I, Class II, Class III and Class IV disposal facilities shall be managed as follows:

(I) Tires may be disposed of in the same manner as other waste after they have been shredded, chipped, chopped, sliced, or have been otherwise processed and are rendered not whole to effectively prevent floating.

(II) Whole tires or shredded, chipped, chopped or circumferentially sliced tires may be stored on site provided that the tire storage areas conform with the following standards:

I. The storage area shall be surrounded by an 18 inch high earthen berm to manage run-on and run-off and be sufficient to contain water in the event of a fire, and to provide that:

A. All surface run-off is directed around the site;

B. All rain water collected within the berm must be directed to an appropriate release point; and

C. All fire control water can be contained until release is approved.

II. Tire piles shall be restricted to the following dimensions - 200 feet long, 50 feet wide, and 15 feet high. Whole tires shall be covered by a material sufficient to shield the tires from precipitation or an effective insect vector and rodent control program shall be established.

III. A buffer zone of at least 50 feet wide shall separate tire piles from each other and from active disposal areas.

IV. In order to reduce the risk of fires;

A. The storage areas and the buffer zone shall be kept free of brush and high grass;

B. No flammable liquids may be stored nor may equipment with an open flame be utilized in or within 50 feet of the storage area;

C. Communication equipment, capable of immediately notifying the responding fire department, shall be maintained; and

D. A letter assuring response from the responding fire district must be filed with the Division and the telephone number of the responding fire district must be posted at the facility. If service is not available specific fire control measures must be specified by letter to the Division.

V. The storage area may not be located:

A. On an active disposal area;

B. On a closed disposal area, unless no remaining area is available and remedial closure is specified in writing to the Division;

C. On an area to be utilized for disposal within one year;

D. In the 100 year floodplain, unless the demonstration is made to the Commissioner as required at subparagraph (n) of this paragraph; and

E. In wetlands, unless the demonstration is made to the Commissioner as required at subparagraph (p) of this paragraph.

VI. Tires or shredded tires may not be stored for more than one (1) year without the written approval of the Division. The operator shall maintain records sufficient to establish the date each tire pile within a storage area was begun.



County Responsibilities

Counties are responsible for the management of waste tires within their respective boundaries. The Department of Revenue collects the tire pre-disposal fee from new tire transactions within the county. These funds are then disbursed to the county to be used to support the collection and management of waste tires for better end uses.

o Waste Tire Collection Sites

Each county shall provide directly, by contract or through a solid waste authority, at least one site to receive and store waste tires if adequate sites are otherwise not available in the county for use of residents of the county. Counties may use county personnel or a private contractor to maintain and operate the site. Counties may designate a maximum number of tires allowed per household per year without additional charge. Typical collection sites include landfills, convenience centers, highway garages, and recycled material recovery centers. Tires or shredded tires may not be stored for longer than a year without DSWM's approval.

Waste Tire Collection Site Permitting

The criteria outlined below will assist local municipalities, counties, or other interested parties in obtaining permits and determining a waste tire collection location.

- Notify the proper [EFO](#) that has oversight of the county of interest.
- Meet all local zoning, permitting and land use applications relative to the site, including:
 - Apply for storm water permitting
 - Approach the region's solid waste board for discussion and review
- EFO will coordinate with the CO for any required permitting or permit by rule requirement.
- Layout should provide sufficient space for incoming and outgoing transit vehicles including regular safe drop off.
- Securing access to some method to weigh the tires or have appropriate conversion tables to count and track the tires.
- Tires should be kept off the ground and covered to prevent any water accumulation.
- EFO will list the site in the DSWM's [WasteBin](#) database for tracking and accountability.
- Facilities must comply with the permit requirements, rules, and statutes and are subject to random inspection by the respective EFO.

○ **Fiscal Responsibilities**

Counties are responsible for managing the funds received from collection of the tire pre-disposal fee on tires purchased within their respective borders. Counties receive these funds from DOR on a quarterly schedule. Counties may only use funds from the waste tire pre-disposal fee for waste tire management activities and are subject to audit requirements by the State Comptroller. Counties may call DOR at 615-253-3254 to receive information regarding fee payment tracking. DOR provides web links and passwords to aid counties seeking to track waste tire revenue within their county.

The state developed a financial management tool, referred to as the *Waste Tire Management Self-Analysis*, to measure the effectiveness of waste tire programs. The financial tool assists counties in calculating all costs associated with waste tire management by capturing and accounting for all fees and other costs to provide a balance sheet of revenues and expenses. New tire dealers may arrange with a county to accept waste tires and provide credit for the tire pre-disposal fee paid to DOR. Counties and municipalities may require additional fees for the operation of their programs. The Waste Tire Management Self-Analysis form and link are in Appendix II.

- **Waste Tire Disposal**

Providing waste tire disposal options to the public is the responsibility of the counties' local governing body. The county should evaluate different options to determine whether operating independently or in partnership with other counties and municipalities through a Hub and Spoke agreement is preferred. Combining resources through partnership agreements can lower costs and remove excess burden placed on smaller communities required to provide disposal services. Partnership agreements may also potentially reduce disposal costs by increasing the volume of waste tires available for processing.

- **Legacy Waste Tire Identified Sites vs Unpermitted Tire Sites**

In 2014, TDEC staff identified legacy unpermitted waste tire sites across Tennessee. The counties are responsible for maintaining accountability of unpermitted waste tire sites and former legacy waste tire sites. Per TDEC policy, cleanup of any unpermitted waste tire site discovered after 2014 is the responsibility of the county. Resources available through law enforcement, [TDOT's Litter Grant Program](#), and [TDEC EFOs](#) may assist with identifying and eliminating new unpermitted waste tire disposal sites.



Counties and municipalities often receive complaints concerning unpermitted tire sites. To manage these sites, the county should establish a clear local policy for accepting complaints and routing them to the appropriate agency for investigation and follow up.

Waste Tire Collection

○ **Storage Requirements**

DSWM's [Tire Storage Policy](#) and Rule 0400-11-01-.04(2)(k)3 describe storage requirements for collection sites, including the following:

- Store and manage tires in a manner that does not give the impression of disposal. The site should provide some means of moving product off site for beneficial use.
- Store tires off the ground to avoid storm water issues.
- Store tires in a manner that water will not accumulate inside the tires or in a manner that attracts vermin or mosquitos.
- Operator must demonstrate proof of vector control if storing in an open top trailer or equivalent storage method that does not have a roof or cover structure.



○ **Convenience Centers**

In addition to the above requirements, the following apply to convenience centers:

- Convenience centers are subject to regular inspections by the EFOs. Center operators should store tires in compliance with all applicable Convenience Center regulations.
- Typical storage units consist of an enclosed roll-off container, storage sheds, Quonset huts, carports, or tarping.

○ **Contract/Dealer Collection**

The [Act](#) requires counties to have at least one site for the collection of waste tires. Some counties choose to contract with vendors to collect and manage the waste tires. The vendor contract should contain appropriate scopes to meet the needs of the county and comply with the Act's requirements including those related to storage and disposal of waste tires and maintaining the appropriate documentation. Counties may use funding received from collection of the pre-disposal fee to assist with payment for these services.

○ Tire Disposal Options

Individual Contract or Specific Sources: Counties may contract with a tire processor or end user of their choice. Before entering into contracts, counties should review the terms of the contract, including how the vendor handles price changes, extensions, and the parties' options to terminate. The local government should seek legal counsel to review the terms of a proposed tire-handling contract from the perspective of agency interests as a priority. Counties should request legal counsel's review of these in a county – collector – processor agreement(s) to ensure the best interests of the county are met. TDEC DSWM provides a *Waste Tire Management Self-Analysis* worksheet to aid a county in reviewing the current tire collection operation.

Hub and Spoke Partnership Approach: Counties may work together to share infrastructure and conduct negotiations to gain economy of scale of waste tires sent to tire processors. With larger volume, non-duplicated infrastructure, and centralized collection or pickup, a partnership receives increased cost savings and a reduced handling rate from the tire processor. Through collaboration, the partnership can designate a lead agency or contractor to manage all the associated administrative fees and responsibilities. It is necessary to use a strong business model and communicate with all partners involved in the operation.

Tire Shredding for Landfilling: Local governments may purchase tire-shredding equipment to convert whole waste tires to a size acceptable and manageable for use as a fill material in civil engineering projects or for different aspects of landfill use. The appropriate EFO must approve use of the shredded tires in landfill projects in advance.

Beneficial Uses of Waste Tires

○ Determining Beneficial Use

TDEC must approve an application for beneficial end use of waste tires. The interested party should contact the appropriate EFO or the DSWM's permitting section in the CO. The permitting process and description of the desired operation should be provided to show how the tires will not become a liability in future years. Tires continue to be a liability in future years if they maintain the tire shape. Tires that are cut or shredded become regular solid waste. Counties receive credit for beneficial use in the Annual Progress Report (APR) reporting process.

Civil engineering projects that incorporate waste tires and tire-derived materials is another option for beneficial use of tires. The DSWM's permitting section has approved tires to be used as foundation materials, materials for septic line drain field (approved by TDEC's Division of Water Resources specific to the manufacturer), and in road construction projects by using crumb rubber in asphalt. When waste tires are processed into a form that is in the crumb rubber format, the material can also be used for walking trails and tracks. Counties and municipalities can encourage the use of tire-derived materials by sharing and utilizing the materials with local and state park and recreation departments.

Organizational Contacts

[Tennessee County Tire Collection Locations](#)

- <https://www.tn.gov/environment/program-areas/sw-mm-waste-tire-program/sw-mm-waste-tire-collection-sites.html>

[Tennessee Department of Revenue](#)

- New Businesses: New tire businesses are required to register and receive an Account Number in each county that the business has a location. This will be a different number from the sales tax registration number.
- <https://www.tn.gov/revenue/taxpayer-education/new-businesses.html>

[Revenue Help](#)

- <https://revenue.support.tn.gov/hc/en-us>

[DOR Departmental Contact Info:](#)

- <https://www.tn.gov/revenue/about-us/contact-us/departmental-contact-information.html>

[DOR Office Locations:](#)

- <https://www.tn.gov/revenue/about-us/contact-us/office-locations.html>

[Oil and Tire Fees:](#)

- <https://www.tn.gov/revenue/taxes/oil-and-tire-fees.html>

[Tire Pre-Disposal Fee return \(TIR 408\)](#)

- <https://www.tn.gov/content/dam/tn/revenue/documents/forms/oiltire/tir408.pdf>

[Tennessee Department of Transportation](#)

- <https://www.tn.gov/tdot/environmental-home/environmental-highway-beautification-office/beautification-litter-grant.html>

Clarification of Registration Numbers and locations (DOR):

- Maintenance/Registration Unit: (615) 741-8994/fax (615) 532-9784

Quarterly tire report and password update (DOR):

- For County Governments use for password update: 615-253-3254

[Liberty Tire Recycling](#)

Corporate Office
Pittsburgh, PA
Phone: (412) 562-1700
Email: Corporate@libertytire.com
Tennessee Contact: Byron Hurtado
Phone: (404) 355-0547
Email: bhurtado@libertytire.com

[Patriot Recycling Inc](#)

247 North Industrial Dr.
Bristol, TN 37620
Phone: (423) 573-1205
Email: office@patriotrecycling.com

[Rockwood Sustainable Solutions](#)

<http://www.rockwoodrecycling.com/>
Phone: (615) 293-2997
Email: recycle@rockwoodrecycling.com
510 Hartmann Drive
Lebanon, TN 37087

[Cemex](#) Cement manufacture

www.cemex.com/
6212 Cement Plant Road, Knoxville, TN 37924
Phone: (865) 541-5500

[B&B Tire Landfill](#)

For Landowners/Private Individuals Only
1316 County Highway 9, Hayden, AL 35079
Phone: (205) 647-6736

[Friendly Environment](#)

<https://www.erosioneel.com/>
Phone: (931) 639-0729
Contact: Steve Sliger
erosioneel@aol.com

SilverBait, LLC

Brunomail77@gmail.com
(931) 636-5491

Frequently Asked Questions

- ***What constitutes a beneficial end-use of scrap tires?***

A particular application must provide certain engineering benefits over traditional materials. A particular application must provide certain economic benefits over traditional materials. The tire is entirely consumed or loses its identity as solid waste. Except for whole tire fuel, the material used is a value-added product. The application causes no present or future environmental problems. The application saves landfill space. The use is not merely a creative disposal method.

- ***Can I turn county residents away if they want to drop off tires?***

No, the statute requires at least one site to receive and store waste tires..

- ***What lessons can be learned from the pay as you throw concept? Can it be applied it to a tire program?***

Residents may be willing to pay for a safe and legal way to properly dispose of tires if they are given the option.

- ***Who is responsible for tire management in my county?***

Contact the respective county solid waste department. Find that list [here](#).

- ***Who should I report a suspected unpermitted tire dump site?***

Contact the local county solid waste department or the appropriate EFO for the county where the dump site is located.

Additional resources for illegal waste tires may be reported to Cities and Municipalities in the Codes Enforcement, Planning and Zoning Offices in addition to the Fire Marshall.


Appendix I: Tennessee Environmental Field Office Reference Map

Environmental Field Offices

<https://www.tn.gov/environment/contacts/about-field-offices>

Have a question about Tennessee's Environment?
Call 1-888-891-TDEC (8332)
ask.tdec@tn.gov

	Nashville 711 R.S. Gass Boulevard Nashville, Tennessee 37243 Phone: (615) 687-7000	Cookeville 1221 South Willow Avenue Cookeville, Tennessee 38506 Phone: (931)520-6688	Johnson City 2305 Silverdale Road Johnson City, Tennessee 37601 Phone: (423)854-5400
Memphis 8383 Wolf Lake Drive Bartlett, Tennessee 38133 Phone: (901) 371-3000	Jackson 1625 Hollywood Drive Jackson, Tennessee 38305 Phone: (731) 512-1300	Chattanooga 1301 Riverfront Parkway, Suite #206 Chattanooga, Tennessee 37402 Phone: (423) 634-5745	Knoxville 3711 Middlebrook Pike Knoxville, Tennessee 37921 Phone: (865) 594-6035
		Columbia 1421 Hampshire Pike Columbia, Tennessee 38401 Phone: (931) 922-8121	



TN Department of
**Environment &
Conservation**

Appendix II: Waste Tire Management Self-Analysis

The table provided below is a financial self-analysis to get a general understanding of your tire management costs. For additional resources and sources of funding, please refer to the Resources section of this toolkit. For digital copies please double click [here](#) to access the file.

RESET

Waste Tire Management Self Analysis

This tool is designed to provide collection operations
a look into the finances of managing tires.

REVENUE	Example Only Year 2017	Enter Time Period 2017	
(A) New Tire Dealer Sales Fee (\$1 per tire sold in County)	\$15,478	\$ 70,154.76	This information is obtained from Department of Revenue or County Clerk
(B) Other fees	\$25	\$ 0.00	Other fees collected if applicable
(C) Tire Disposal Fee charged at drop off site	\$15	\$ 102,000.00	Optional fees you can charge to cover disposal costs (see Tire Fees Table)
(D) Net Revenue	\$15,518	\$ 180,154.76	Add lines A+B+C for total revenue generated from managing tires
(E) Local Dealer Disposal Agreement	\$500	\$ 0.00	Fees levied to local dealer by acting as disposal outlet for waste tires
(F) Total Potential Tire Management Revenue	\$16,018	\$ 180,154.76	Add Lines D + E
Tire Disposal Fees			
(G) Total Tons of Tires Disposed	50	816.00	Total tons of tires collected for established time period.
Waste Tire Tipping Charges			
(H) Per Ton Disposal Fee (Ex. \$60/Ton)	\$35	\$ 80.00	Established disposal rate with tire recycler.
(I) Disposal Total	\$1,750	\$ 40,900.00	Line H times Line G
(J) Trailer Rental Fee - Monthly (x12)	\$250	\$ 3,000.00	Fee for utilizing processor trailer for storage
(K) Transportation Fee	\$400	\$ 14,500.00	Fee for transporting trailer to processor
(L) Additional Fees (Demerage)	\$15	\$ 0.00	Fee for not meeting "generation rates" of tires for processor or trailer delivery
(M) Fuel surcharge - ""\$.30per Mile assumption x miles driven	\$125	\$ 2,402.00	Fuel Surcharge will generally be on the processor invoice. Subject to frequent changes
(N) Total Tire Disposal Expenses	\$5,150	\$ 49,622.00	Add Lines I-M.
General/Administrative Expenses directly related to Waste Tire Management			
(O) Salaries and wages	\$2,000	\$ 0.00	Obtained from approved budget
(P) Facility Rent	150	\$ 0.00	Obtained from approved budget
(Q) Utilities (Electric, Water, Gas, Phone, etc.)	50	\$ 0.00	Obtained from approved budget
(R) Office supplies	10	\$ 0.00	Obtained from approved budget
(S) Equipment maintenance & rental (Loader, Grapple Hook, Canopy, etc.)	1,500	\$ 0.00	Budget and Rental Invoices
(T) Total General/Administrative Expenses	\$3,729	\$ 0.00	Add Lines O-S.
(U) Total Operating Expenses	\$8,879	\$ 49,622.00	Total of Tire Disposal Fees and General Admin. Add line N and line T.
(V) NET INCOME (LOSS)	\$7,139	\$ 110,542.76	Subtract line F from line U.
(W) Annual Tire Disposal Budget	\$12,000		Obtained from approved budget
(X) Budget Balance	\$6,850	\$ 110,542.76	Subtract line W from line V

Figure 1 - Typical Waste Tire Responsibility Flow Chart

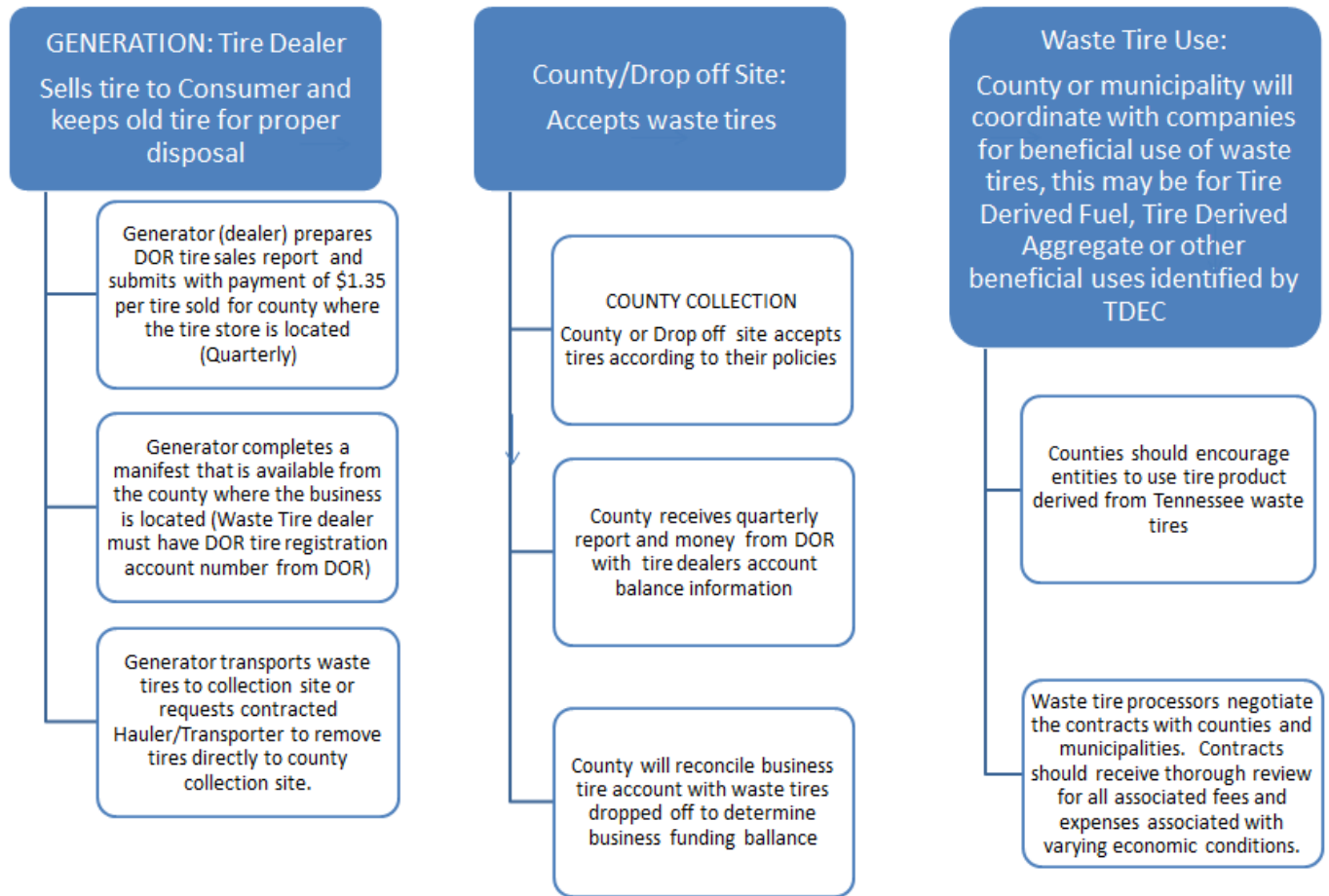


Figure 2 - Example Tire Fees for Additional Revenue

Suggested Tire Fees charged at tire collection site	Off Rim	Mounted on Rim
Passenger Tires (less than 19 inch rim size)	Up to 4 per month = Free \$2.00 each add'l	\$5.00 Each
Truck tires (19 to 24.5 inch rim size)	\$5.00 Each	\$10.00 Each
Super Singles Tractor Trailer tire	\$7.00 Each	\$14.00 Each
ATV, Lawn Mower, Small Aircraft, Motorcycle	\$2.00 Each	\$4.00 Each
Oversized Tires (larger than 24.5 inch rim)		
Skid Steer, Small Tractor, Large Aircraft	\$10.00 each	\$20.00 each
Medium Tractor, Road Grader	\$25.00 each	\$50.00 each

Figure 3 - Estimating Number of Tires at an Unpermitted Tire Disposal Site

APPROXIMATIONS FOR MEASURING LOOSE PILES

Average weight of one whole passenger tire = 20 lbs. = 1 PTE (Passenger Tire Equivalent)

Average weight of one whole semi-truck tire = 100 lbs.= 5 PTEs

Whole passenger tires	10 PTEs/yd ³
Whole "semi" truck tires	3 semi-truck tires/yd ³
Single pass/rough shreds	27-30 PTEs/yd ³ (550-600 lbs/yd ³)
2-inch shreds	42-47 PTEs/yd ³ (850-950 lbs/yd ³)

APPROXIMATE RANGE OF NUMBERS OF PTEs

	Whole passenger tires	Single pass rough shreds	2-inch shreds
one 2500 ft² pile (50' X 50' X 14')	12,963	34,992 - 38,880 (36,936 average)	54,432 - 60,912 (57,672 average)
one 2500 ft² pile (50' X 50' X 8')	7,410	20,007 - 22,230 (21,118 average)	31,122 - 34,827 (32,974 average)
10,000 ft² (4 - 2500 ft² piles)	51,852	140,000 - 155,520 (147,760 average)	217,728 - 243,648 (230,668 average)

APPROXIMATE NUMBER OF WHOLE PTEs IN EACH PILE

PILE SIZE (in feet)	10 FT HIGH	11 FT HIGH	12 FT HIGH	13 FT HIGH	14 FT HIGH	20 FT HIGH	CONSTANT for one foot height increase or decrease
50'X50'	9,259	10,185	11,111	12,037	12,963	18,519	926
100'X50'	18,519	20,370	22,222	24,074	25,926	37,037	1,852
100'X100'	37,037	40,741	44,444	48,148	51,852	74,074	3,704
150'X100'	55,556	61,111	66,667	72,222	77,778	111,111	5,555
200'X200'	148,148	162,963	177,778	192,593	207,407	296,296	14,815
1 ACRE	161,333	177,467	193,600	209,733	225,867	322,667	16,133
2 ACRE	322,667	354,933	387,200	419,467	451,733	645,333	32,267
3 ACRE	484,000	532,400	580,800	629,200	677,600	968,000	48,400

(Based on 10 whole PTEs/yd³ & 43,560 square feet per acre)

COMPACTION WILL INFLUENCE THE TOTAL. COMPACTION IS INFLUENCED BY OVERALL HEIGHT OF PILE AND LENGTH OF STORAGE TIME IN PILE.

Supplemental Information – DSWM Storage Policy

Tennessee Department of Environment and Conservation Division of Solid Waste Management

Storage of Solid Waste Incidental to Recycling, Reuse, Reclamation or Salvage GUIDANCE

The intent of this guidance is to provide the Division of Solid Waste Management (DSWM) Field Offices with methodology for assessing compliance with the conditions for a permit exemption for the storage of solid waste incidental to its recycling, reuse, reclamation or salvage. One of the conditions for exemption requires storage in a manner that minimizes the potential for harm to the public and the environment. The storage of solid waste incidental to its recycling, reuse, reclamation or salvage, including non-new tires, must be conducted in a manner that does not create harm to the public or environment. An example of creating harm to the public would be the storage of non-new tires in a way that allows the pooling of water, creating breeding habitats for vectors, such as mosquitoes, which are known transmitters of the West Nile and Zika viruses.

Applicable Statutes and Regulations

The following Tennessee state statutes and DSWM Rules Governing Solid Waste Processing and Disposal are applicable to the storage of solid waste incidental to its recycling, reuse, reclamation or salvage.

T.C.A. § 68-211-103(9) defines solid waste disposal as:

"Solid waste disposal" means the process of permanently or indefinitely placing, confining, compacting, or covering solid waste;

T.C.A. § 68-211-104(3) and (4) state:

It is unlawful to:

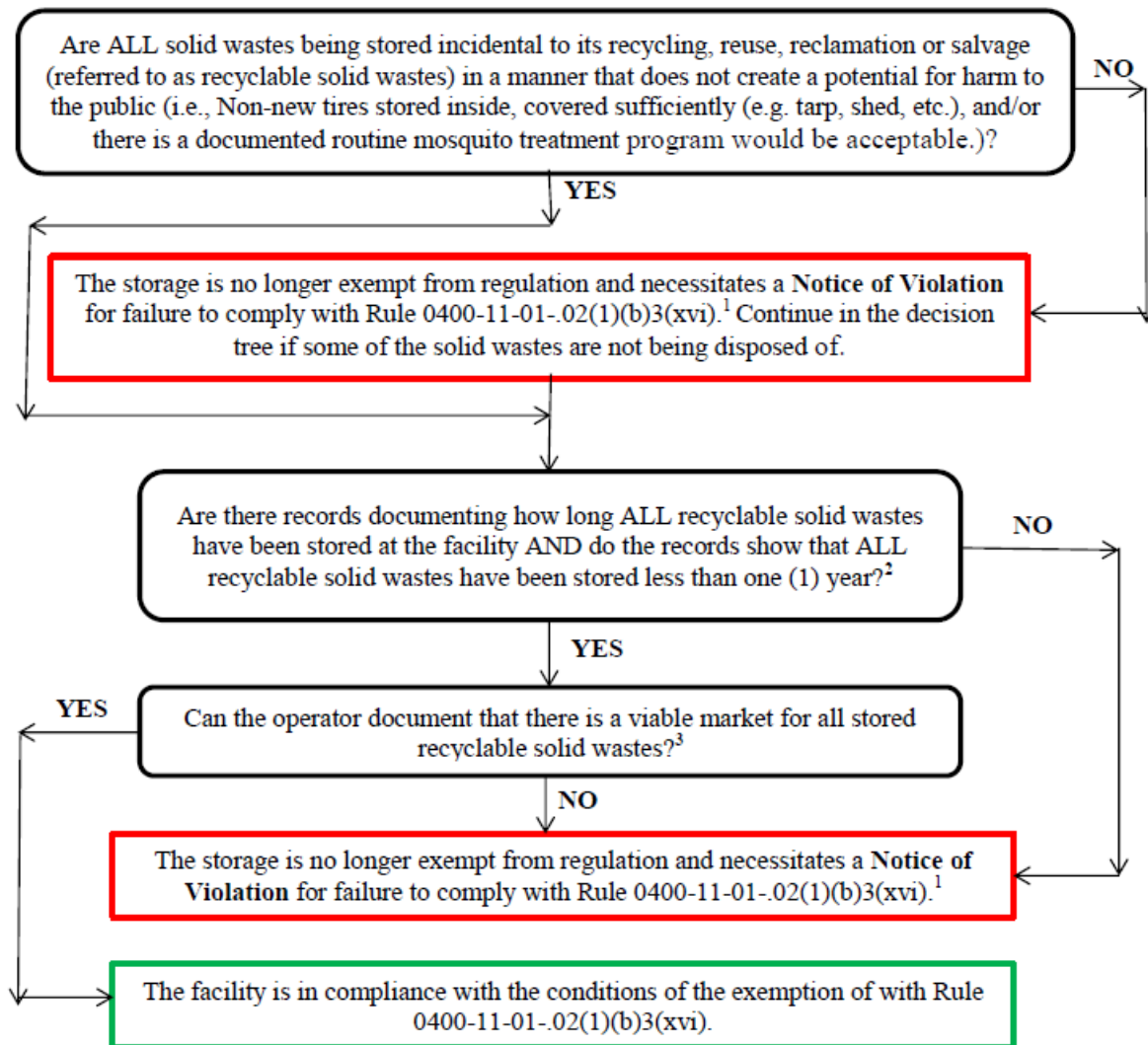
- (3) *Construct, alter, or operate a solid waste processing or disposal facility or site in violation of the rules, regulations, or orders of the commissioner or in such a manner as to create a public nuisance; or*
- (4) *Transport, process or dispose of solid waste in violation of this chapter, the rules and regulations established under this chapter or in violation of the orders of the commissioner or board.*

Rule 0400-11-01-.02(1)(b)3(xvi) provides the conditions for a permit exemption for the storage of solid waste incidental to its recycling, reuse, reclamation or salvage and states:

- (xvi) *The storage of solid waste that is incidental to its recycling, reuse, reclamation or salvage provided that upon request of the Commissioner, the operator demonstrates to the satisfaction of the Commissioner that there is a viable market for all stored waste and provided that all waste is stored in a manner that minimizes the potential for harm to the public and the environment. Material may not be stored for more than one (1) year without written approval from the Division.*

Decision Flow Chart

An investigation into whether the storage of solid wastes is incidental to its recycling, reuse, reclamation or salvage is conducted if the DSWM Field Office receives a complaint. DSWM staff should use the following Decision Flow Chart when conducting the complaint investigation. (Note: If there is evidence that all, or some of, the solid waste is being disposed of and the landowner exclusion is not applicable, then the owner/operator should be cited for unlawful disposal. Evidence of disposal includes solid waste placed as fill, in a ravine, saplings/heavy vegetation growing through or surrounding the solid waste, etc.)



¹ The Notice of Violation will require the action necessary, including removal from the site to an authorized offsite facility if appropriate, to correct the reason(s) for the Notice of Violation.

² The records must include: 1) The amount of recyclable solid waste stored at the facility; 2) The amount of recyclable solid waste generated onsite and received from offsite in the previous 12 months; 3) The amount of recyclable solid waste that has been sold and moved offsite in the previous 12 months; and, 4) A description of the system in place to document how long recyclable solid waste has been stored at the facility (e.g. dating tires, grouping tires by the date they were generated, etc.). Recyclable solid waste may be stored for more than a year if authorized in writing by the DSWM.

³ In addition to the information in footnote 2 above, the operator must show documentation (such as bills of sale) for all the recyclable solid waste reported as sold and that there is a market to sell ALL recyclable solid waste stored at the facility



Tennessee Department of Environment and Conservation, Authorization No. 327487.
No. of copies, 111. This public document was promulgated at a cost of \$3.35 per copy.
August 2018.