



Shotwell Environmental Park:

C&D Landfill & Materials Recovery Facility

*Responsibly managing the
C&D disposal needs of citizens,
businesses and governments in the
Triangle area.*

Shotwell Environmental Park

4724 Smithfield Road
Wendell, NC 27591

Phone: 919-217-0045

Hours of Operation:

7:00 am–5:00 pm
Monday–Friday

Site Manager: Cooper Tharp

Owner Info: Shotwell Landfill, LLC, a
wholly-owned subsidiary of Meridian
Waste North Carolina, LLC

Cover Frequency: Weekly or when a
half-acre of C&D waste is exposed

Disposal Volume: Allowed by permit
365,000 tons annually; Other materials
may be accepted and recycled as per
permit.

CONSTRUCTION & DEMOLITION WASTE LANDFILL

Shotwell's C&D landfill focuses exclusively on receiving and managing non-hazardous construction and demolition (C&D) waste, providing Wake County and surrounding counties with an environmentally-sound disposal solution for debris generated from new construction, renovation projects, and demolitions. Through safe, efficient, and compliant processing of C&D materials, we help ensure that this specific waste stream is managed responsibly according to state and local regulations.



MATERIALS RECOVERY FACILITY (MRF)

Shotwell's state-of-the-art MRF significantly increases waste recovery and reuse both on- and off-site, complementing the operations of the landfill. By directing potentially recyclable loads to the MRF for processing first, mixed C&D materials that would otherwise have been buried, can be sorted and diverted to other projects. Meridian Waste's network of end users buy the separated, recoverable materials, or the company uses them beneficially on-site in landfill construction applications, such as access roads and erosion control.



The MRF removes the burden of material separation from the source and avoids the high costs associated with facilities that only accept source-separated materials, while also effectively extending the lifespan of existing C&D facilities, preserving valuable space, and reducing the need to permit new sites.



VITAL INFRASTRUCTURE ASSETS

Shotwell Environmental Park's C&D landfill and MRF provide a vital environmental service to the greater Triangle Region. Looking back ten years (2006), the population of Wake County was approximately 750,000. As of 2023, the population of Wake County increased by nearly 50% to a population of approximately 1,119,900. Counties surrounding Wake County are also growing—by 2035, the combined population of the Triangle Region is expected to grow an additional 24% to approximately 2,600,000.*

Population growth also means a **greater need for management of solid waste, including construction and demolition waste material** from urban and rural development. There has been a steady increase in C&D waste generation in Wake County since 2010 and the amount of C&D waste landfilled in 2019 represented a 162% increase compared to 2010 levels.**

C&D landfills are necessary and advantageous because they divert C&D material to dedicated C&D landfills that would otherwise be landfilled in a municipal solid waste (MSW) landfill.

This **preserves the longevity of MSW landfills** and **delays or eliminates the need for additional landfill sites**. In Wake County specifically, preserving the capacity of the active South Wake Landfill will also save taxpayer dollars by minimizing capital-intensive projects such as the need for constructing and closing additional cells, permitting expansions, or even permitting and constructing new geographic disposal locations.

"Great establishment. Well organized operation and the scale house staff are delightful!!!"

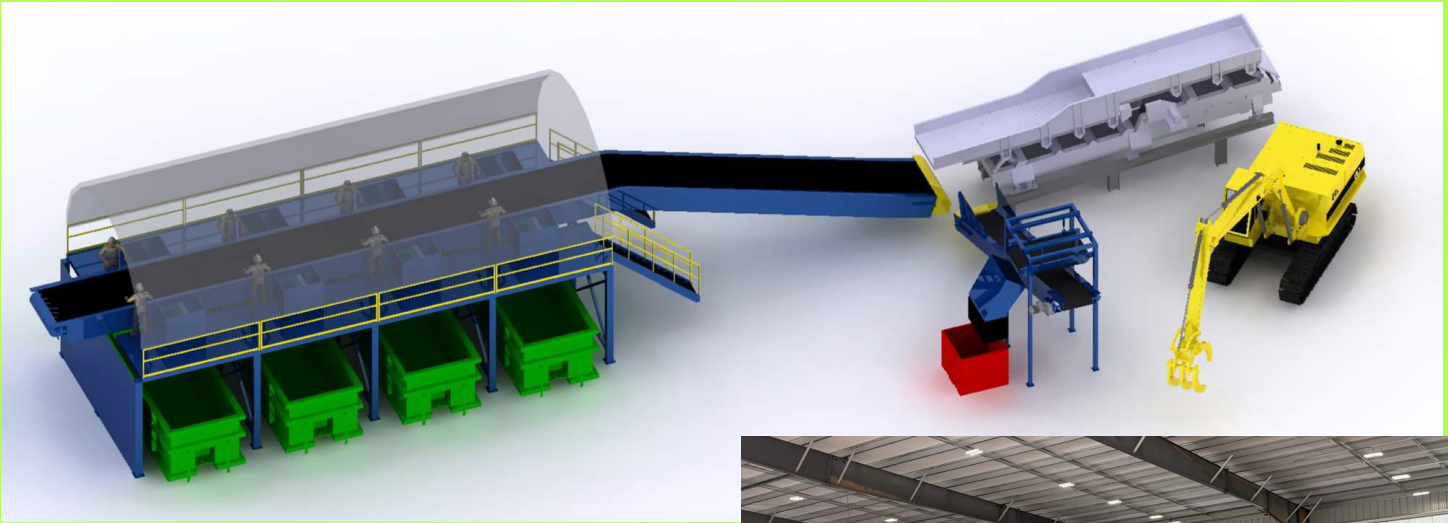
- David B., Customer
Google Review

"Great place to dump, Cooper is always quick to help if there is a problem. One of the best landfills I've been when it's raining."

- Calvin H., Customer
Google Review

* Population numbers obtained from the North Carolina Office of State Budget and Management

** Published in the Wake County 2020 Comprehensive Solid Waste Management Plan



OPERATIONAL OVERVIEW

The MRF is positioned at the entrance to the facility, providing convenient access following check-in at the Scale House, where loads of C&D waste are evaluated. Any identified as containing suitable amounts of recyclables will be diverted to the MRF.

Once a load is received, it is deposited on the inbound side of the equipment and then is loaded onto the conveyor where manned stations for material recovery will be performed. The recyclable material will be placed in bins by positive picking and magnets.

The line is versatile, and additional systems can be plugged into the MRF process as the types of recyclables in the waste stream are better identified. Furthermore, the MRF design can be adapted to

provide separate parallel lines of operation if the need dictates in the future.

Recyclables will be removed to external markets as the bins become full or when recyclables can be used on-site. They will be removed at least monthly or as storage requires.

The residual C&D material will be loaded onto a truck and sent to the working face each day for proper C&D waste disposal.

MRF GENERAL PROCESS FLOW

Initial Sorting:

1. PRE-SORTING ON TIPPING FLOOR
2. PRIMARY SCREEN (<2" SORTING)

Routed by Size:

- 3A. MATERIAL <2": FINES TRANSFER
- OR
- 3B. MATERIAL >2": TRANSFER CONVEYOR + SORT LINE CONVEYOR (STAFFED SORTING)

1. PRE-SORTING ON TIPPING FLOOR

The excavator Operator performs preliminary screening and material preparation during this initial stage of feeding newly-arrived debris into the system.

Stationed next to the infeed hopper of the Action Taper-Slot Direct-Feed Screener (the Primary Screen), the excavator deposits buckets of debris onto the drop zone of the Screener. As needed, the Operator will also be on the lookout for anything that is overly-large (typically concrete and metals) for the machinery, taking additional measure to separate out and pre-crush those items until the size is more suitable for processing.



2. PRIMARY SCREEN (<2" SORTING)

The Action Taper-Slot Direct-Feed Screener (the **Primary Screen**) is the first stage of the system, using vibration to jostle loose any extra small (<2") pieces to divert them through grates in the stair-stepped metal decks of the Screener. The Screener is spec'd at 60 in. wide x 33 ft. long, with 2-inch holes in the grates for sifting.

Designed in sections, the initial 6 feet of the Screener is a solid load plate that functions as the impact zone for materials deposited by the excavator. Debris from the impact zone is moved along to a lower screening deck, where holes in the surface enable small (<2") pieces to drop down onto the **Fines Transfer Conveyor**, which is positioned as a separate track beneath the main **Transfer Conveyor** and follows the same incline.

The **Primary Screen's** vibration action assists in dislodging small items and aids in moving materials down the line to the next piece of equipment, providing a metering function of the material at the same time.





3A. FINES TRANSFER (<2" SORTING)

The small (<2") pieces filtered out by the **Primary Screen** are deposited onto the **Fines Transfer Conveyor** which diverts them along a new processing path separate from the rest of the debris.

The **Fines Transfer Conveyor** runs beneath a magnet that removes pieces of metal sized 2" or less from the waste stream. The non-metallic materials that remain are then dropped into a bunker or roll off container. The primary use for this 2" material is generally Alternative Daily Cover (ADC) for use at the landfill.



3B-1. TRANSFER CONVEYOR (>2" SORTING)

The **Primary Screen** empties onto a rising slider **Transfer Conveyor**, designed to catch small clumps of debris as it reaches the end of the Screener, then takes the materials through the Vibrotech conveyor, where strong vibration action helps spread out the deposited materials, reducing pile depth.

This conveyor operates at a higher speed compared to the **Primary Screen**, enabling it to quickly rake up and then rearrange large massed piles into smaller ones, in preparation for the manually staffed **Sort Line Conveyor**.



Recovered Products/ Materials from the C&D Line:

Wood

Metals Aggregate

OCC

*Screened < 2" Fines
(Metals Removed by
Magnet)*



3B-2. SORT LINE CONVEYOR (STAFFED SORTING)

The **Sort Line Conveyor** brings the materials past several positions where manual labor is used to sort and divert items to individual commodities, dropping these selected materials down large chutes conveniently spaced along the conveyor path.

Typical items recovered include cardboard (OCC), clean wood (non painted/tainted), metals, and concrete.

Often, lower-volume items like copper cables, PET drink bottles, and non ferrous/brass items (door hinges) are also sorted and stored by staff into smaller totes along the sortline

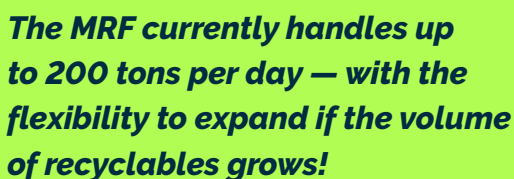
All materials that have not been diverted from the waste stream will be carried to the end of the **Sort Line Conveyor**, where they fall into a roll off container for transfer and final disposal within the landfill.





NO - TIRES

BARRELS AND DRUMS WILL NOT be accepted **UNLESS** they are empty and perforated sufficiently to ensure they contain no liquid or hazardous waste.



ACCEPTED MATERIALS

ACCEPTED
Landfill Disposal

INERT DEBRIS, including:

- CONCRETE
- BRICK
- CONCRETE BLOCK
- UNCONTAMINATED SOIL
- ROCK
- GRAVEL

ACCEPTED
MRF Recycling

PLASTIC (film and rigid)

FINES RECOVERED FROM THE RECYCLING PROCESS (such as dirt, wood particles, crushed/powdered concrete or asphalt, etc.)

OTHER RECOVERABLE MATERIALS



COMMUNITY PROGRAMS AND BENEFITS

Annual Shotwell Earth Day & Easter Egg Hunt

Annual Shotwell Earth Day Easter Egg Hunt: Shotwell invites the whole community to the recycling and disposal facility for outdoor activities such as a petting zoo, inflatable slides, field games, a Touch-A-Truck encounter, FREE meal and the highly anticipated Earth Day Easter Egg Hunt!

Annual Summer Splash Bash

For this summer event, Shotwell brings in water slides, a bounce house, fun activities, and offer free food and outdoor games, inviting all of our neighbors as well as community partners to tour the facility and enjoy a party before school starts.



Annual Gifting of the Turkeys

Meridian Waste staff donate Thanksgiving turkeys to neighbors of Shotwell Environmental Park.



"We came out to enjoy an amazing family day, and it truly was! They even had a pack of wipes on every picnic table — such a thoughtful touch. My kids loved the foam party and rinsed off on the awesome water slides. Our family had a blast and we're already looking forward to future events!"

- Natalie B.
Google Review

"If you ever have the chance to attend their Easter / Earth Day event, definitely go. It's a really great event. Great food, petting zoo, hay ride, cool slides and even prizes for the kids."

- Jonathan L.
Google Review

My daughter loved petting the goats, bunnies and chickens! The free food was amazing! It is so nice to find free events for families on a budget!

- Angel Fox
Google Review