

Permit Application Package

City of Durham Transfer Station Durham, North Carolina

Prepared for:

The City of Durham Solid Waste Services Durham, North Carolina



and

Waste Industries Raleigh, North Carolina



August, 2014

BARNARD ENGINEERING, P.C.
Civil • Environmental • Geotechnical



BARNARD ENGINEERING, P.C.

Civil • Environmental • Geotechnical

August 18, 2014, Rev. 9-10-14

Mr. Ed Mussler, P.E.
Permitting Branch Head
North Carolina Department of Environment and Natural Resources
Solid Waste Division
217 West Jones St.
Raleigh, NC 27603

Re: Proposed Additional City of Durham Transfer Station
2115 East Club Blvd.
Durham, Durham County, NC

Dear Mr. Mussler,

We are forwarding this letter and associated attachments as application for a new Transfer Station to be located adjacent to the existing City of Durham Transfer Station at the above referenced address. Waste Industries was awarded the operations contract for the City of Durham, and as part of that contract, committed to building a new transfer station. The Transfer Station facility will include a 15,000 square foot transfer station with an attached 500 square foot office / break room facility, parking areas for employees, transfer trailers and additional areas for maneuvering. The facility will be owned by the City of Durham and operated by Waste Industries or a contractor to Waste Industries. The property is owned by the City of Durham. This application will be considered a Substantial Amendment to the existing permit. The Contact information is included at the end of this document.

The City has approved the Site Plan and is currently reviewing the Construction Plan Submittal. The Erosion Control Plan is under review by NCDENR Energy, Mineral and Land Resources Section. I anticipate final approvals within three to four weeks.

The proposed Transfer Station will be the MSW Transfer Facility and will be located approximately 120 feet east of the existing transfer station at the City of Durham's existing facility located at 2115 East Club Blvd, Durham, North Carolina. The existing building will be used for recycling and other materials as outlined in the revised Operations Plan. The property is identified by tax parcel id number 168556 and consists of 12.83 Acres with an IL zoning classification. The overall facility consists of several parcels, but the majority of the construction will be on the above referenced parcel. The site is within the city limits of the City of Durham.

The facility will continue to accept MSW from Durham, Chatham, Granville, Orange, Person and Wake counties. The waste will be taken to the Sampson County Landfill in Roseboro, North Carolina, Permit number 82-02. Daily tonnages may range from 650 to 1,100 tons per day with an average of approximately 800 tons per day.

Access to the site will continue to be off of East Club Boulevard, State Route 1669. East Club Blvd is maintained by NCDOT. Incoming waste will arrive at the site from either direction on East Club Boulevard. Outbound waste will use East Club Boulevard to access Interstate 85.

We contacted NCDOT's local office regarding the need for a traffic study. Based upon the traffic count we supplied to NCDOT, no improvements to the local streets are warranted. A copy of the email from NCDOT is attached.

The existing driveway, scales and scale house will continue to serve the facility. The existing maneuvering areas will continue to serve the existing building and new maneuvering areas will serve the new building. Inbound traffic will flow to the new building will utilize the existing concrete drive which serves the existing building. A new drive located in the southeast corner of the existing maneuvering area will provide access to the new maneuvering area. This drive and the new maneuvering area will be paved with heavy duty asphalt or concrete. Concrete paved approach slabs will be provided in front of the transfer station at the tipping floor.

Tractor trailer traffic will serve the new building from the back of the building similarly to the existing building. However the new building utilizes two back-in loading pits in place of the pull through pit of the existing building. The maneuvering areas for the tractor trailers will be gravel to provide ease of maintenance.

Site access will be controlled as it is now; by a system of fences, gates and tree buffers. Landscaping will be provided as required by the City of Durham.

Signage is currently be provided at the gate to inform customers of acceptable wastes, hours of operation, contact information and other required information. Additional traffic signage will be added if required to direct the flow of trucks to the proper building.

The Transfer Station will be a 15,000 square foot partial grade separation style facility with two loading pits. The tipping floor is 8-feet higher than the loading pit floors. Lift-over walls located along each loading pit provides protection for the transfer trailers and safety for facility employees. The remainder of the tipping floor is surrounded by 10-foot tall push walls to allow

for waste storage and building protection. All of the walls are plated with steel plates to provide long-term wear protection. The lift-over wall is plated with steel on the top as well to provide additional wear protection. Additional steel plates will be attached to the top of each push wall and the building frame to keep waste from falling between the push wall and the building skin. Deflector plates will be installed in each loading pit above the transfer trailers to assist in loading the trailers.

The floor of the transfer station consists of two separate floors. The first, lower floor is a structural floor designed to accept the loads from the collection trucks and the wheel loader. The second floor is a sacrificial floor installed above the structural floor. This floor is intended as a wear surface to protect the structural floor from damage. As the facility ages, the sacrificial floor can be replaced wholly or in sections without compromising the structural integrity of the building. This two floor system will also be installed in each loading pit.

A liquid management system will be incorporated into the building design through several design features. First, the tipping floor is sloped from the center toward the center of each lift-over wall. Scupper holes located in the base of the walls allow liquids to drain into the loading pit. The floors of the loading pits are sloped to two axle scale pits which collect the liquids and direct them to the sanitary sewer system. The axle scales are hydraulic units designed to be used in periodically submerged situations. Second, a two foot by 6-inch high mountable “speed bump” will be poured at the entrance to the tipping floor and the loading tunnel. This “speed bump” will prevent leachate from draining out of the building.

The scale pits in the loading tunnel drain by gravity through 8-inch diameter piping to 1500 gallon oil/water separators then on to the City of Durham Sanitary Sewer System for treatment and disposal.

The site will be connected to the public water system to provide potable water for site usage. Water will be available in the break room for employee use, and at the Transfer Station for wash down.

We have attached a USGS quad sheet with the site delineated, a copy of the FEMA Firm Map for the area, a full set of Civil Site Drawings, a copy of the proposed Operations Plan and a copy of the letter from NCDOT regarding the facility. Please contact us if you need further information or clarification.

Contact information for the facility is shown below. Invoices for Permit fees and annual fees should be sent to Donald Long, Director of City of Durham Solid Waste Services.

Owner: City of Durham

Donald Long, Director
Solid Waste Management Department
City of Durham, 101 City Hall Plaza, Durham, North Carolina 27701
Phone :(919) 560-4186 ext. 32222 Fax (919) 560-1132
[Email: Donaidlong@durhamnc.gov](mailto:Donaidlong@durhamnc.gov)

Bruce Woody, Solid Waste Disposal Manager
Solid Waste Management Department
City of Durham, 101 City Hall Plaza, Durham NC 27701
W:(919) 560-4186 ext. 32253 M:(919) 452-5919 F:(919)560-1197
[Email: bruce.woody@durhamnc.gov](mailto:bruce.woody@durhamnc.gov)

Operator: Waste Industries

Bill Davidson, General Manager
Waste Industries, 148 Stone Park Court, Durham, NC 27703
W:(919) 596-1363 F:(919) 598-1852
[Email: William.davidson@wasteindustries.com](mailto:William.davidson@wasteindustries.com)

Contract Operator: Hilco Transport, Inc.

Chuck Jones,
Hilco Transport, Inc., 7700 Kenmont Rd.
PO Box 35049, Greensboro, NC 27425
W:(336) 273-9441 M:(336) 273-9701
[Email: cjones@hilcotransport.com](mailto:cjones@hilcotransport.com)

Engineer: Barnard Engineering, P.C.

John D. Barnard, P.E.
1534 Saratoga Blvd.
Indian Trail , NC 28079

If you have any questions or require further information, please call.

Sincerely,
Barnard Engineering, P.C.

A handwritten signature in black ink that reads "John D. Barnard". The signature is written in a cursive style with a large initial "J" and "B".

John D. Barnard, P.E.
Principal

Attachments: USGS Quadrangle
 FEMA FIRM Panel
 NCDOT email
 Approved Site Plan Drawings
 Operation Plan

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[Email: bruce.woody@durhamnc.gov](mailto:bruce.woody@durhamnc.gov)

Operator: Waste Industries

Bill Davidson, General Manager
Waste Industries, 148 Stone Park Court, Durham, NC 27703
W:(919) 596-1363 F:(919) 598-1852
[Email: William.davidson@wasteindustries.com](mailto:William.davidson@wasteindustries.com)

Contract Operator: Hilco Transport, Inc.

Chuck Jones,
Hilco Transport, Inc., 7700 Kenmont Rd.
PO Box 35049, Greensboro, NC 27425
W:(336) 273-9441 M:(336) 273-9701
[Email: cjones@hilcotransport.com](mailto:cjones@hilcotransport.com)

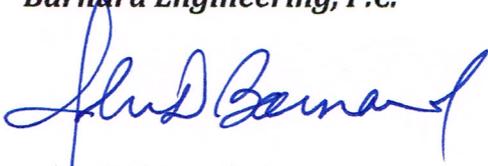
Engineer: Barnard Engineering, P.C.

John D. Barnard, P.E.
1534 Saratoga Blvd.
Indian Trail , NC 28079

If you have any questions or require further information, please call.

Sincerely,

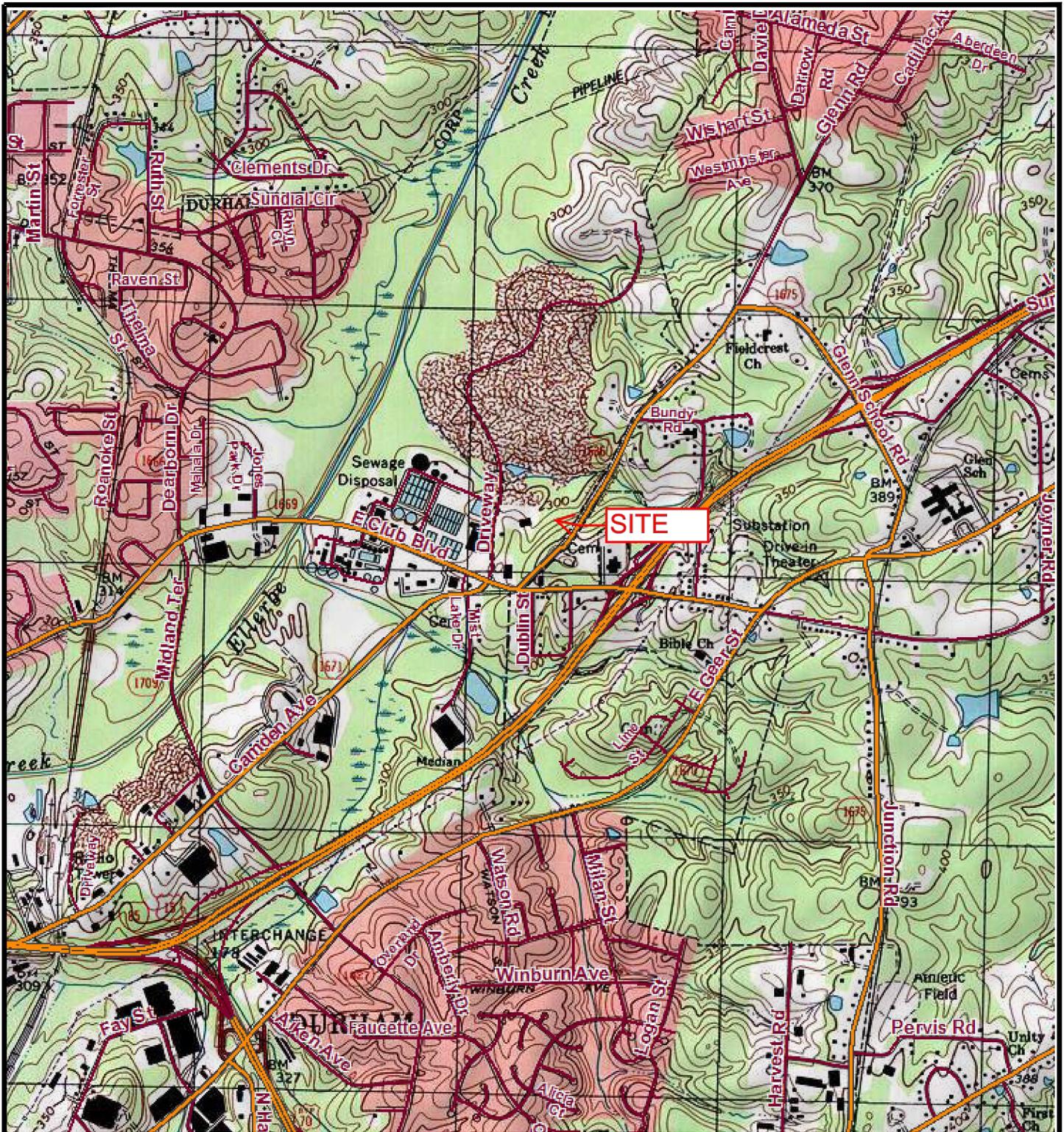
Barnard Engineering, P.C.



John D. Barnard, P.E.
Principal



Attachments: USGS Quadrangle
FEMA FIRM Panel
NCDOT email
Approved Site Plan Drawings
Operation Plan



**USGS MAP OF
SITE AREA**

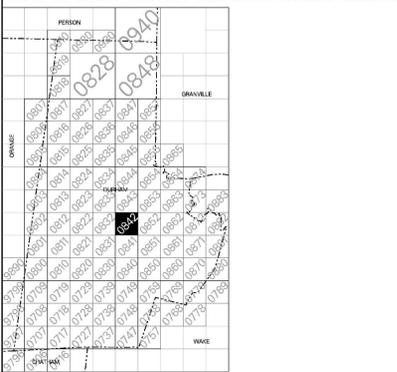
**CITY OF DURHAM TRANSFER STATION
SOLID WASTE PERMIT APPLICATION**

FIGURE 5

**WASTE INDUSTRIES
3001 BENSON DRIVE
RALEIGH NC**

BARNARD ENGINEERING, P.C.
1534 Saratoga Blvd., Indian Trail, NC 28079
(704) 421-3067
www.barnardengineeringpc.com
N.C. License No. C-3679

STATE OF NORTH CAROLINA FIRM PANEL LOCATOR DIAGRAM



DATUM INFORMATION

The projection used in the preparation of this map was the North Carolina State Plane (NAD 83). The horizontal datum was the North American Datum of 1983, GRS80 ellipsoid. Differences in datum, ellipsoid, projection, or Universal Transverse Mercator zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdictional boundaries. These differences do not affect the accuracy of this FIRM. All coordinates on this map are in U.S. Survey Feet, where 1 U.S. Survey Foot = 1200/3937 Meters.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988 (NAVD 88). These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. An average offset between NAVD 88 and the National Geodetic Vertical Datum of 1929 (NGVD 29) has been computed for each North Carolina county. This offset was then applied to the NGVD 29 flood elevations that were not revised during the creation of this statewide format FIRM. The offsets for each county shown on this FIRM panel are shown in the vertical datum offset table below. Where a county boundary and a flooding source with unrevised NGVD 29 flood elevations are coincident, an individual offset has been calculated and applied during the creation of this statewide format FIRM. See Section 6.1 of the accompanying Flood Insurance Study report to obtain further information on the conversion of elevations between NAVD 88 and NGVD 29. To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the North Carolina Geodetic Survey at the address shown below. You may also contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at www.ngs.noaa.gov.

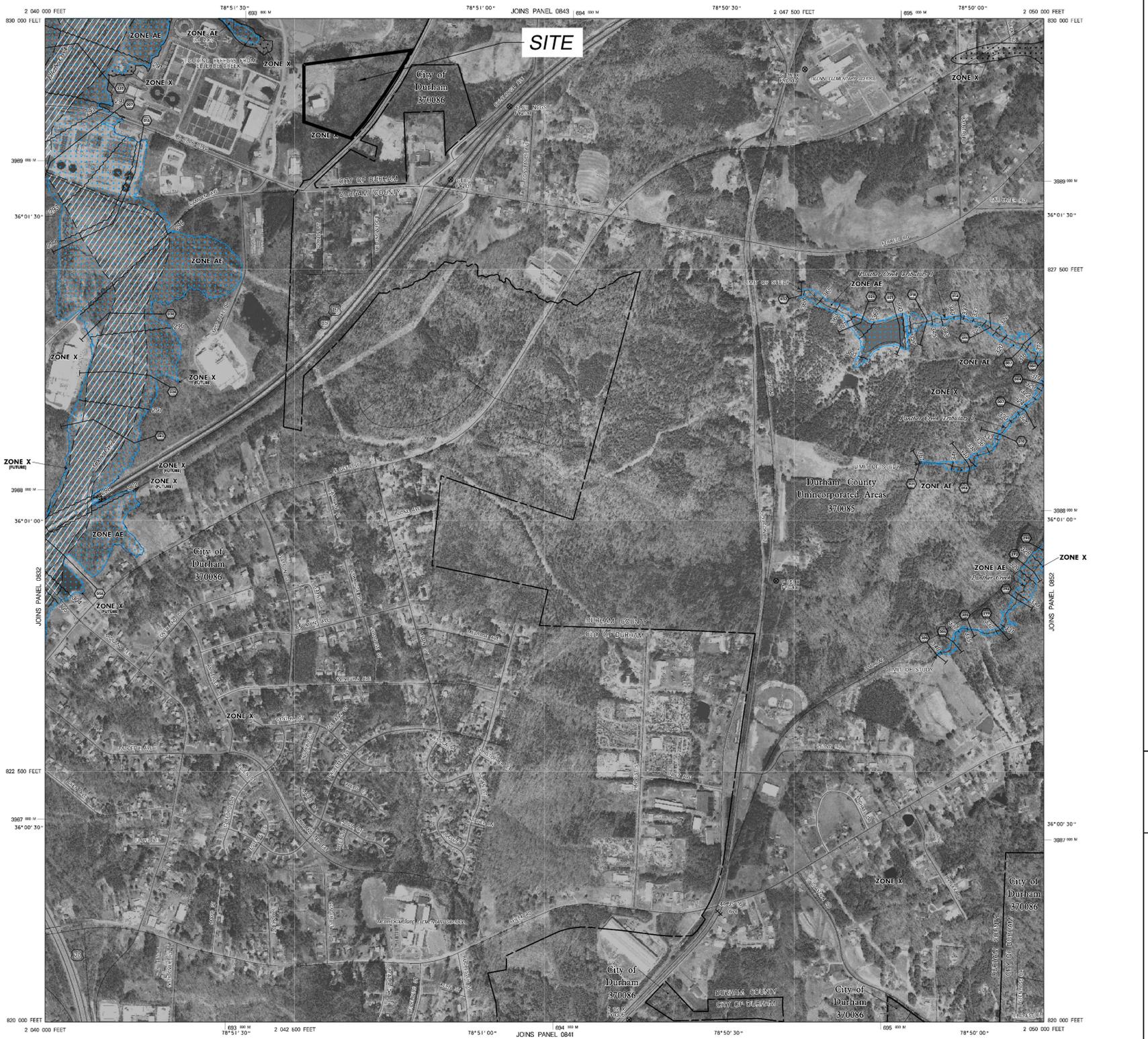
County	Average Vertical Datum Offset (ft)
Durham	-0.83

Example: NAVD 88 = NGVD 29 + (-0.83)

All streams listed in the Flood Hazard Data Table below were studied by detailed methods using field survey. Other flood hazard data shown on this map may have been derived using either a coastal analysis or limited detailed riverine analysis. More information on the flooding sources studied by these analyses is contained in the Flood Insurance Study report.

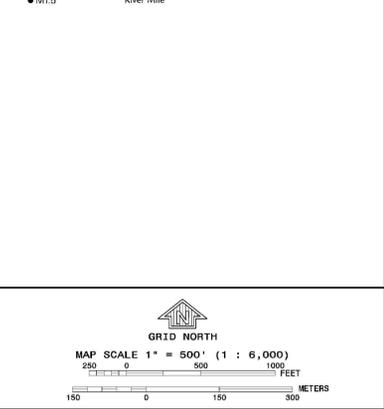
Stream Section	Stream Station*	Flood Damage Unit	1% Annual Chance Flood Elevation (feet NAVD 88)	1% Annual Chance Flood Elevation (feet NGVD 29)	Floodway Width (feet)
DOOSE CREEK					
007	725	6,768	292.6'	292.6'	40' / 24'
015	1,840	6,768	284.1	284.3	525' / 41'
032	2,260	6,768	285.7	285.8	200' / 140'
036	3,379	6,768	296.9	296.9	450' / 150'
042	4,235	6,768	297.3	297.4	450' / 23'
058	5,813	6,801	302.8	302.9	370' / 25'
CLIFFER CREEK					
332	33,175	NA	290.6	NA	560'

* Feet above mouth. † Feet above confluence with Neuse River.
Elevation includes backwater effects from Elberta Creek.



LEGEND

- SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD**
 - The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equalled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones AE, AH, AO, AR, AP9, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.
 - ZONE A** No Base Flood Elevations determined.
 - ZONE AE** Base Flood Elevations determined.
 - ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
 - ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
 - ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
 - ZONE AP9** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
 - ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.
 - FLOODWAY AREAS IN ZONE AE**
 - The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.
 - OTHER FLOOD AREAS**
 - ZONE X** Areas of 0.2% annual chance flood; areas of future conditions 1% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
 - OTHER AREAS**
 - ZONE X** Areas determined to be outside the 0.2% annual chance and future conditions 1% annual chance floodplain.
 - ZONE D** Areas in which flood hazards are undetermined, but possible.
 - COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS**
 - OTHERWISE PROTECTED AREAS (OPAs)**
- CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.
- 1% annual chance floodplain boundary
 - 0.2% annual chance floodplain boundary and future conditions 1% annual chance floodplain boundary
 - Floodway boundary
 - Zone D boundary
 - CBRS and OPA boundary
 - Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
 - Base Flood Elevation line and value; elevation in feet*
 - Base Flood Elevation value where uniform within zone; elevation in feet*
- *Referenced to the North American Vertical Datum of 1988
- Cross section line
 - Transect line
- Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
1000-meter Universal Transverse Mercator grid ticks, zone 17
2500-foot grid values; North Carolina State Plane coordinate system (IPRZONE 3200, State Plane NAD 83 feet)
North Carolina Geodetic Survey bench mark (see explanation in the Datum Information section of this FIRM panel).
National Geodetic Survey bench mark (see explanation in the Datum Information section of this FIRM panel).
River Mile



NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 4.4, "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures in this jurisdiction.

To obtain more detailed information in areas where Base Flood Elevations (BFEs) and/or Floodways have been determined, users are encouraged to consult the Flood Profiles, Floodway Data, Limited Detailed Flood Hazard Data, and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Base map features shown on this map, such as corporate limits, are based on the most up-to-date data available at the time of publication. Changes in the corporate limits may have occurred since this map was published. Map users should consult the appropriate community official or website to verify current conditions of jurisdictional boundaries and base map features. This map may contain roads that were not considered in the hydraulic analysis of streams where no new hydraulic model was created during the production of this statewide format FIRM.

This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Please refer to the separately printed Map Index for an overview map of the county showing the layout of map panels, community map repository addresses, and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

If you have questions about this map or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA MAP (1-877-336-2627) or visit the FEMA website at www.fema.gov.

An accompanying Flood Insurance Study report, Letter of Map Revision (LOMR) or Letter of Map Amendment (LOMA) revising portions of this panel and digital versions of this FIRM may be available. Visit the North Carolina Floodplain Mapping Program website at www.ncfloodmaps.com, or contact the FEMA Map Service Center at 1-800-368-2666 for information on all related products associated with this FIRM. The FEMA Map Service Center may also be reached by fax at 1-800-368-9620 and its website at www.msc.fema.gov.

For community map revision history prior to statewide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent at the North Carolina Division of Emergency Management or the National Flood Insurance Program at the following phone numbers or websites:
NC Division of Emergency Management (919) 715-8000 www.ncemcontrol.gov/nfip National Flood Insurance Program 1-800-638-6620 www.fema.gov/nfip

This digital Flood Insurance Rate Map (FIRM) was produced through a unique cooperative partnership between the State of North Carolina and the Federal Emergency Management Agency (FEMA). The State of North Carolina has implemented a long term approach of floodplain management to decrease the costs associated with flooding. This is demonstrated by the State's commitment to map floodplain areas at the local level. As a part of this effort, the State of North Carolina has joined in a Cooperating Technical State agreement with FEMA to produce and maintain this digital FIRM.

www.ncfloodmaps.com

NFIP

PANEL 0842J

FIRM FLOOD INSURANCE RATE MAP NORTH CAROLINA

PANEL 0842

(SEE LOCATOR DIAGRAM OR MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	CD No.	PANEL	SUFFIX
DURHAM, CITY OF	37008	0842	-
DURHAM, COUNTY	37006	0842	-

Effective Date: **MAY 2, 2008**

Map Number: **3720084200J**

State of North Carolina
Federal Emergency Management Agency

CITY OF DURHAM TRANSFER
STATION SOLID WASTE PERMIT
APPLICATION
WASTE INDUSTRIES
3001 BENSON DRIVE
RALEIGH NC

FLOOD INSURANCE
RATE MAP

CHECKED JOB PROJECT NO. 2010-6
DRAWN JOB DATE 10-31-13
JOB DATE 10-31-13
AS SHOWN

NATIONAL FLOOD INSURANCE PROGRAM

SEAL 19665

FIGURE 2

BARWARD ENGINEERING, P.C.
1534 Saratoga Blvd., Indian Trail, NC 28079
(704) 441-3067
www.barwardengineeringpc.com
N.C. License No. C-3679

John Barnard

From: Watson, Jason L <jwatson@ncdot.gov>
Sent: Monday, February 03, 2014 4:16 PM
To: jdbarnard22@gmail.com
Cc: Goodwin, Mike K; bill.judge@durhamnc.gov; Davis, Robert L; Craig, Mark W
Subject: City of Durham Solid Waste Transfer Station (D1300349)
Attachments: NCDOT Traffic Information.pdf

Mr. Barnard,

Based on the traffic data provided, the Department will not require a dedicated right turn lane at this time. Any future expansion of the site may require the additional of a right turn lane and/or other road improvements.

Please feel free to pass this along as needed.

--

Jason Watson
NCDOT

Email correspondence to and from this sender is subject to the N.C. Public Records Law and may be disclosed to third parties.

Operations Manual

**City of Durham Transfer Station
2115 East Club Blvd.
Durham, North Carolina**

Prepared for:

**The City of Durham Solid Waste Services
Durham, North Carolina**



August, 2014

Operations Manual

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Durham, North Carolina**

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August, 2014

Table of Contents

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1.0 INTRODUCTION

1.1 PURPOSE

This Operations Plan for the City of Durham Transfer Station located within the City's Waste Disposal & Recycling Center, presents general guidance for facility operations. This plan has been prepared in accordance with the North Carolina Solid Waste Rules 15A NCAC 13B .0402, Operational Requirements for Transfer Facilities. The Operational Plan will address the following issues:

- Destination of Waste
- Facility Operations
- Drainage Control and Water Protection
- Disease and Vector Control
- Sign and Safety Requirements
- Access and Security Requirements
- Facility Inspections

All personnel involved with the management or supervision of the operations will be required to review this document and to maintain the facility in accordance with all applicable laws and requirements. A copy of this document shall be kept on file at the Transfer Station scale house at all times.

1.2 FACILITY LOCATION

The Transfer Station is located on the premises of the City's Waste Disposal & Recycling Center which is within the Corporate Limits of the City of Durham in Durham County at the intersection of East Club Boulevard and Camden Avenue. The address for transfer facility is 2115 East Club Boulevard. Durham, North Carolina 27704.

Interstate 85, Exit 179, is located approximately 0.3 mile east on East Club Boulevard from the Transfer Station entrance. The Transfer Station property has been zoned by the City of Durham as I-2 (light industrial) which is suitable for the development of public facilities, which include solid waste Transfer Stations.

1.3 FACILITY DESCRIPTION

The City of Durham Waste Disposal & Recycling Center combines several operations into one facility. The site contains a scale house at the entrance, a citizen's drop off area, a household hazardous waste collection facility, a yard waste collection area and two transfer buildings. The scale house attendant coordinates where on the site incoming traffic is directed.

All inbound traffic must cross the scales. Two inbound scales allow for easier and more efficient movement of inbound traffic. Residents and small vehicles are directed to the citizen's drop off area and large commercial collection vehicles are directed to one of the two transfer station buildings.

The original Transfer Station, located to the west of the second Transfer Station, will potentially be used for several operations including, recyclable material transfer, and yard waste transfer depending upon the needs of the City. In the event of a problem with the other building, this building may also be re-tasked to handle MSW. The operational procedures for each material are covered in Section 9 of this plan.

The second Transfer Station, located to the east of the original Transfer Station, will be used for the transfer of Municipal Solid Waste.

Descriptions of both buildings are below.

1.3.1 Original Building

The original building is a four bay pre-engineered metal building that provides a covered tipping floor area. A full grade separation loading tunnel is located along the northern side of the building while the entrance to the tipping floor is on the south side of the building. The facility was formerly serviced by a pre-load compactor on the west side of the loading pit and open top loading on the trailers on the east side. The June 2013 revision to the Operations Plan removed the pre-load compactor from operation. It is intended that all material will be handled by open top loading on both sides of the loading pit. In the event two different materials are being handled simultaneously, barriers such as concrete bin blocks or “jersey barriers” will be used to physically separate the two materials.

A concrete apron provides access to the south side of the Transfer Station, which opens to the approximate 7,200 square foot tipping floor. The loading tunnel is located along the northern end of the tipping floor approximately 14 feet below the tipping floor elevation.

Both the tipping floor and loading bay are equipped with drains to capture any leachate or wash water generated in the Transfer Station. These drains are located along the entrances to the tipping floor and in the lower level loading bay floor. Leachate and small solids are trapped by the oil water separator which is periodically pumped empty by a hazardous waste contractor and disposed of appropriately.

1.3.2 New Building

The second Transfer Station is a 15,000 square foot, pre-engineered metal building with a tipping floor and two loading pits. This facility is a partial grade separation, or lift and load type of Transfer Station. The traffic enters the building from the south side. Waste is dumped onto the tipping floor and is either moved to the rear storage areas of the building or immediately loaded into trailers. The loading pits are located on both the east and west sides of the building and are 8 feet below the tipping floor. A four foot tall concrete “lift-over” wall separates the tipping floor from the loading pit and provides a barrier to keep the loader from damaging the transfer trailer. The storage areas are located along the north side of the building and incorporate a 10 foot tall concrete “push” wall. This wall provides vertical storage, building protection and a reaction barrier for the loader when picking up stored MSW to load into the trailer.

Leachate in this building is directed to the loading pits by floor slope. Scupper holes in each lift-over wall allow leachate to drain from the tipping floor to the pit. Sumps located in each pit collect the leachate and direct it by gravity to an oil water separator and then to the City of Durham sewer system. The oil water separators will be maintained regularly as required by the City Permit.

1.3.3 Other Facilities within the Waste Disposal and Recycling Center

A drop-off convenience center which accepts recycling, white goods, tires, antifreeze, motor oil, and trash from residents also located on the same property. Forty cubic-yard open top containers are used to accept MSW from customers in small vehicles that should not be directed to the tipping floor for safety reasons.

A vicinity map is included as Figure 1. A site plan is included as Figure 2. Schematic floor plans of each building are included as Figures 3 and 4.

1.3.4 Facilities Contacts

The City is the owner and permit holder of the Waste Disposal and Recycling Center and Transfer Stations. As of July 1, 2013, the City contracts with Waste Industries to operate the Transfer Stations; they subcontract the daily operation to Hilco Transport, Inc. (Hilco). The contract term begins on July 1, 2013 and lasts for ten years (June 30, 2023). The primary contacts for operation of this facility are:

Donald Long, Director
Solid Waste Management Department
City of Durham, 101 City Hall Plaza, Durham, North Carolina 27701
Phone :(919) 560-4186 ext. 32222 Fax (919) 560-1132
[Email: Donaidlong@durhamnc.gov](mailto:Donaidlong@durhamnc.gov)

Bruce Woody, Solid Waste Disposal Manager
Solid Waste Management Department
City of Durham, 101 City Hall Plaza, Durham NC 27701
W:(919) 560-4186 ext. 32253 M:(919) 452-5919 F:(919)560-1197
[Email: bruce.woody@durhamnc.gov](mailto:bruce.woody@durhamnc.gov)

Bill Davidson, General Manager
Waste Industries, 148 Stone Park Court, Durham, NC 27703
W:(919) 596-1363 F:(919) 598-1852
[Email: William.davidson@wasteindustries.com](mailto:William.davidson@wasteindustries.com)

Chuck Jones,
Hilco Transport, Inc., 7700 Kenmont Rd.
PO Box 35049, Greensboro, NC 27425
W:(336) 273-9441 M:(336) 273-9701
[Email: cjones@hilcotransport.com](mailto:cjones@hilcotransport.com)

2.0 WASTE ACCEPTANCE CRITERIA

In accordance with 15A NCAC 13B .0402(1), a transfer facility shall only accept those wastes which it is permitted to receive. The Transfer Station will accept municipal solid waste (MSW) (i.e., residential, commercial, and industrial waste), recyclable materials and yard waste.

2.1 SERVICE AREA

The Waste Disposal Facility will accept waste generated in the following counties:

- Durham
- Chatham
- Granville
- Orange
- Person
- Wake

2.2 NON-COMMERCIAL WASTES

Passenger vehicles and pickup trucks lacking an automated dumping capability will be directed by scale house personnel to the appropriate areas at the convenience center for unloading.

Residents bringing recyclable items, motor oil, anti-freeze, cooking oil, white goods, and tires will be directed to the convenience center. Attendants will then direct them to the proper bays or bins.

Residents with reusable items will be directed to the Swap Shop. Examples of reusable items are small appliances, bicycles, cookware, fans, and radios. All items must be clean and in working order.

Customers with non-recyclable/non-reusable items (trash) will be directed to cross the scales. The resident will leave a small deposit and then travel to the unloading area. An attendant will ask what is being delivered. The customer will then be directed to the appropriate disposal location, depending on the type of trash they are disposing. The residents must unload their own trash. Once the waste is unloaded, the customer goes back over the scales to calculate the tare weight. The customer could possibly owe additional fees, depending on how heavy the load was.

Municipal solid waste and recyclable materials collected at the Convenience Center will be hauled by the City Staff to the appropriate Transfer Station building for transfer and disposal. Materials collected at the Convenience Center which are not allowed in the Transfer Stations will be disposed of properly.

2.3 COMMERCIAL WASTE

The Transfer Stations have been designed to handle an average tonnage rate of 650 tons per day and a peak rate of 1,100 tons per day. The daily tonnage rate is subject to change due to fluctuations in the amount of waste delivered to the facility on any given day and seasonal fluctuations. The expected

annual tonnage for the facility is about 124,000 tons of MSW. However, the City reserves the right to accept up to 200,000 tons per year without further approval.

Incoming waste to the Transfer Station originates from public and private collection vehicles. The public and private waste collection vehicles consist of rear, front, and side loader truck types, as well as dump body vehicles. Industrial and commercial waste will also be transported to the facility by private waste haulers.

Easily retrievable recyclable items such as white goods, tires, or televisions/computers may be removed from the tipping floor if they were inadvertently brought in with a load of MSW. However, no small recyclable items will be separated from putrescible garbage on the tipping floor.

Where recyclable materials are brought in the form of comingled collected recyclables, they will be handled in the original Transfer Station, separate from MSW to minimize contamination.

2.4 PROHIBITED WASTES

The following wastes will not be accepted at the Waste Disposal and Recycling Center:

- Infectious waste,
- Medical waste,
- Radioactive waste
- Industrial wastewater sludges,
- Drums or barrels unless empty and perforated sufficiently
- Asbestos,
- Commercial animal waste (i.e. animal shelter waste),
- Oyster shells
- Hazardous waste as defined by 15A NCAC 13A .0101(11), including hazardous waste from conditionally exempt small quantity generators.
- Polychlorinated biphenyls (PCB) wastes as defined in 40 CFR 761 with the exception of trace amounts found in materials such as consumer electronics.
- Bulk or non-containerized liquid wastes unless the waste is household waste other than septic waste and waste oil. A liquid determination will be performed by the standard Paint Filter test.

The following wastes will be accepted at the Public Convenience Center to be handled outside of the Transfer Station operation.

- Whole Scrap Tires,
- Used Oil,
- White Goods,
- Lead Acid Batteries,
- Discarded e-waste
- Rigid plastic containers
- Aluminum cans

In the event a hauler attempts to deliver waste which the Waste Disposal and Recycling Center is not permitted to receive, the hauler will be stopped and be directed to the appropriate disposal facilities. In the event that prohibited waste is inadvertently discharged at the Transfer Station, operating personnel will isolate the waste within the Transfer Station building. Site operators will receive periodic training on the identification and handling of prohibited wastes. A licensed waste disposal contractor will be brought in to remove and properly dispose of the prohibited waste.

The City will prepare a report for any attempted delivery of waste which the Waste Disposal and Recycling Center is not permitted to receive, including waste from outside the permitted Transfer Station service area. The report will be forwarded by the City to:

Department of Environmental and Natural Resources
Solid Waste Section
585 Waughtown Street,
Winston-Salem, NC 27107
336-771-5000

3.0 TRANSFER STATION OPERATIONS

3.1 OPERATING HOURS

The facility will typically receive waste Monday through Friday from 7:30 am to 4:30 pm and Saturday between 7:30 am and 12:00 pm. The facility will typically be closed on Sundays and designated holidays. However, maintenance may be conducted during times that the facility is closed for waste acceptance. A sign will be posted at the entrance to the Transfer Station identifying the hours of operation.

3.2 EQUIPMENT

Since the facility is a transfer facility and not a final disposal destination, the only equipment required for the safe and effective operation are rubber tire front-end loaders, transfer trailers, and scales.

Additional or different equipment may be used to facilitate loading operations when the primary equipment experiences downtime. A contractor working for the City (Operator) will provide primary equipment, backup equipment, and equipment maintenance. The Operator will also provide transfer vehicles, transport the waste, and provide the maintenance of the transfer vehicles and all operation equipment connected with the Transfer Station.

3.3 WASTE HANDLING

Waste collection vehicles delivering waste for transfer will enter the facility from East Club Boulevard and proceed along the entrance road to the scale to be inspected and weighed. Identification information with tare weights recorded on user vehicles will be maintained in the scale house for City vehicles and account customers. Trucks without identification information on file will be re-weighed for tare weight prior to exiting the facility. Authorized vehicles, after being weighed, will proceed along the access road to the appropriate Transfer Station building.

The Operator will then direct vehicles waiting to unload to back into the appropriate facility onto the tipping floor utilizing the building entrance located on the south side of the respective building. The procedure is the same for each building and is as follows:

The vehicles then back onto the tipping floor to an area designated by the Operator. Once the vehicle is in position, the waste load is discharged directly onto the tipping floor and an employee conducts a visual screening of the waste materials. After the collection vehicles exit the Transfer Station building, a front-end loader is utilized to either load the waste directly into the trailer or the push the waste against the push wall in the storage area. Temporarily stored waste is then taken from the pile near the push wall and loaded into the top load trailer in the loading pit. During peak hours, an additional front-end loader can be utilized to manage the waste and keep all traffic areas clear. The front-end loader operator will attempt to mix the waste loads to distribute the various types of wastes received throughout the loads to achieve better compaction of the material and optimal transportation weight in each trailer.

Once the trailer has been filled, it is removed from the respective loading pit and is staged in the gravel area to the northwest of the Transfer Station buildings. The waste is then transported to an appropriate off-site permitted disposal facility. The primary disposal site for MSW is Sampson County Disposal, in Roseboro, NC, permit # 82-02. The City has also designated the Uwharrie Environmental Landfill in Mt, Gilead, NC, permit # 62-04-MSWLF, and the Brunswick Landfill located in Lawrenceville, VA. as alternate MSW disposal locations. Other MSW landfills with acceptable service area may also be used. NCDENR will be notified if the final disposal destination changes in the future.

Recyclable materials will be hauled to a permitted processing facility. Currently, the City is utilizing the SONOCO facility in Raleigh, North Carolina. Other facilities may be used based upon waste stream, hauling cost and commodity prices.

The weight of the trailers will be recorded at the permitted disposal facility. All data from the permitted facility will be provided to the City for its records. The data will then be compiled into an annual written report by the City to be submitted to NCDENR.

3.4 BACK-UP OPERATIONS

Equipment breakdown will be mediated by bringing in loaders from other locations which may include rentals. The City may allow the contract use of its loaders in times of emergency.

3.5 INSPECTION OF WASTES

Access to the facility is controlled by the scale operator(s) located along the entrance way to the facility. All waste entering the facility must pass the scale house prior to entering the transfer building. Scale house operators ask customers what type of materials they are bringing. Any unacceptable loads are documented and alternative disposal centers are suggested.

Passenger vehicles and light trucks are directed to the convenience center or yard waste transfer area. Staff will make a visual inspection of waste to ensure that no improper materials are being disposed of.

Vehicles with automated dumping capabilities are directed to the tipping floor. As waste is deposited onto the tipping floor, the operator will conduct a visual screening of the waste materials. Should unacceptable waste be found, the driver of the vehicle will be instructed to terminate dumping and the unacceptable material will be segregated from the acceptable material and managed as necessary.

Should a hauler consistently deliver unacceptable material, they will be denied further access to the Transfer Station, and the local office of NCDENR will be notified so that appropriate investigations can occur.

Random waste screening will also be practiced by the operator. A minimum of 1% of all incoming loads, with a minimum of one load, are to be screened each day by the Operator. A copy of the inspection form is located at the end of this document. Records of all waste screening loads are maintained in the Operator's office.

3.6 TRAFFIC CONTROL

Access to the Transfer Station is controlled by the scale operator. All collection vehicles arriving at the facility are directed to the appropriate tipping floor or convenience center by the scale operator after their weight is recorded. Each truck is directed by the loader operator at the tipping floor to a location the operator desires. After unloading their waste, those vehicles that do not have tare weights previously recorded are required to re-enter the scales and be re-weighed to establish a tare weight.

3.7 SANITATION PLAN

The Transfer Stations, convenience center, scale house, and grounds, will be kept in a manner that is conducive with providing a safe working environment at all times. Trash cans and roll-off containers will be emptied on a regular basis.

3.7.1 Tipping floors & Trailer Loading Areas

Each loader is equipped with a rubber edge to limit wear and tear on the concrete tipping floor during normal operations. This rubber edge will also act as a squeegee to scrape the floor clean at the end of the day. The tipping floors will be cleared of wastes at the end of each working day. The loading area for the open-top trailers is cleaned on an as needed basis and at least once per day. Debris from the trench drains in the original Transfer Station will be removed monthly, or as needed. The sumps in the MSW Transfer Station will be cleaned as needed about at least once per month. The fans in each building are cleaned annually or as needed.

3.7.2 Litter control

All incoming waste vehicles are required to have their loads covered upon arrival at the facility. Outbound transfer trailers are also required to cover their loads. This practice will help minimize the amount of litter at the facility. Throughout the day, and at the end of each day, facility personnel will police the area for windborne litter. Any litter discovered at the end of the operating day will be stored in an onsite dumpster for disposal the next day.

3.7.3 Convenience center and roll-off area pads

The Convenience center and roll-off area pads are swept by attendants during lulls in customer arrival.

3.7.4 Odor control

Odors are controlled by prompt unloading and transfer of all delivered waste at the Transfer Station. The open bay design also promotes fresh air exchange. Under normal operating conditions, odors are not expected to pose a problem.

4.0 DRAINAGE CONTROL AND WATER PROTECTION REQUIREMENTS

The Transfer Stations will be operated so as to prevent stagnate water from coming in contact with discharged waste and to contain and properly discharge collected leachate.

The Transfer Station buildings will be emptied and swept at the end of each operating day. The MSW facility floor will also be washed down with water at least three times per week. The leachate collection systems of each building will properly collect any wash water/leachate generated from the incoming trucks, and minimize areas of stagnate water within the Transfer Station. The leachate systems of both buildings incorporate oil / water separators and are directly connected to the City of Durham sanitary sewer system.

5.0 DISEASE AND VECTOR CONTROL

The Transfer Stations shall provide effective vector control measures for the protection of human health and the environment. Disease vectors are defined as any rodent, flies, mosquitoes, or other animals, including insects, capable of transmitting disease to humans.

Control of disease vectors will be maintained by implementation of a cleaning program, which involves removal of waste, leachate, and wash water from all operating areas. The removal of waste at the end of each operating day will protect against migration of vectors into and from the Transfer Station buildings. Stagnant ponded water shall be prevented from occurring to control mosquito breeding. If problems controlling disease vectors occur, a licensed exterminator shall be utilized to control the vectors.

6.0 SIGN AND SAFETY REQUIREMENTS

6.1 SIGN REQUIREMENTS

The Transfer Stations shall post signs at the Transfer Station entrance indicating operational procedures, hours of operation, and the permit number. Signs shall be clearly posted stating that no hazardous or liquid waste can be received. Traffic signs and markers shall be provided as necessary to promote an orderly traffic pattern to and from the discharge areas and to maintain efficient operating conditions.

6.2 OPEN BURNING OF WASTE

Open burning of waste shall be prohibited at the Transfer Station.

6.3 FIRE PROTECTION EQUIPMENT

Fire suppression equipment shall be provided to control accidental fires and arrangements shall be made with the local fire protection agency to immediately provide fire-fighting services when needed. The Transfer Station buildings will be equipped with an appropriate number of fire extinguishers to effectively control small, accidental fires as well as on-site firefighting hose connected to a direct water supply. Local fire departments will be notified when needed.

6.4 NOTIFICATION OF FIRE

Fires that occur at the Transfer Station require verbal notice to the Division of Solid Waste within 24 hours and written notification shall be submitted within 15 days. Verbal and written notification shall be submitted to the Raleigh Regional Waste Management Specialist:

Department of Environmental and Natural Resources
Solid Waste Section
585 Waughtown Street,
Winston-Salem, NC 27107
336-771-5095

The fire notification form is located on the NCDENR Solid Waste Section Website at the following address: portal.ncdenr.org/web/wm/sw/forms.

7.0 ACCESS AND SECURITY REQUIREMENTS

7.1 TRANSFER STATION ACCESS AND SECURITY

The facility must be secured by means of gates, chains, berms, fences, and other security measures approved by the Division of Solid Waste Management to prevent unauthorized entry. All vehicles delivering waste to the Transfer Station will enter and exit through the existing access control gate. Unauthorized vehicle access to the facility is prevented by a chain-link fence surrounding the Transfer Station property.

7.2 ATTENDANT

The facility will have a full-time scale operator located in the scale house during operating hours. In addition, a Transfer Station attendant will be at the facility at all times during operating hours. Both the scale operator and Transfer Station attendant will be responsible for verifying that all vehicles comply with the permitted operational requirements.

7.3 ACCESS ROAD

The access roads for the facility will be constructed of an all-weather surface (asphalt, concrete, or graded aggregate) and shall be maintained in good condition. Potholes, ruts, and debris on the roads shall receive immediate attention in order to avoid damage to the vehicles. Access roads will be re-graded as necessary to maintain a positive slope for adequate drainage. Since collections and transfer vehicles travel at low speeds within the facility dust generation is not expected to pose a problem.

8.0 FACILITY INSPECTIONS

There will be regular inspections conducted at the Transfer Station. Inspections will be conducted by City personnel who are trained and familiar with the operations of the facility. Items that will be inspected monthly will include, but not be limited to the following:

- transfer trailers & roll-off containers
- tipping floor & push wall
- fire extinguisher and fire hose
- electrical controls
- water lines
- trench drains
- oil water separator

9.0 RECYCLING AND OTHER OPERATIONS

9.1 RECYCLABLE MATERIAL HANDLING

The original Transfer Station will be used primarily to transfer curbside and commercially collected comingled recyclables. MSW will be handled in the new building located immediately to the east of this building.

The City collects curbside residential recycling on a regular Monday through Thursday schedule from approximately 7:00 am to 5:00 pm. Collection schedule adjustments will be made as necessary to account for holidays, peak collections, equipment breakdowns, staffing issues, and other unforeseen circumstances. Commercial haulers also collect curbside and commercial recyclables throughout the week.

Trucks hauling collected recyclable materials will come to the facility and cross the scales to be weighed. They will then proceed to the tipping floor of the original Transfer Station to dump. This material will be loaded into open top trailers or temporarily stored on the tipping floor. All materials stored on the tipping floor will be loaded into open top trailers by the end of each working day except under extreme circumstances.

9.2 RECYCLABLE MATERIAL TONNAGE

The City of Durham expects to receive 12,000 -15,000 tons of recycling each year. Because of the lower compaction rates necessary with recycling and the low weight of many recyclable materials in comparison to their volume, more trailers will be required to haul these materials than MSW. The City will contract with a hauler to provide sufficient equipment to properly operate the facility.

9.3 CONTAMINATED RECYCLABLE MATERIAL LOADS

Loads will come from residential recycling routes. Recycling loads may contain small amounts of household garbage mixed with the recycling. After each recycling load is dumped on the floor, the truck driver and the facility Operator will conduct a visual inspection of the load. If the garbage contamination is less than 20%, all materials will be stored for loading into trailers for transport to a material reclamation facility (MRF). The MRF will be responsible for sorting the garbage from the recycling as part of their normal processing system. Our agreement with the MRF contractor will have guidelines to ensure proper disposal of any contaminants.

If a load is found to contain garbage contamination in excess of 20%, the loader operator will segregate this load from the other clean recycling materials. The contaminated load will be moved to the MSW Transfer Station for disposal.

The loader operator who identified the contaminated load will make written notice of which truck the load originated from. This information will be shared with the City the next work day, so the City knows where to concentrate their educational efforts.

9.4– MSW MATERIAL HANDLING (Alternate Option)

In the event that the new transfer building has to be shut down for repairs, the original Transfer Station will be re-tasked to accept MSW. In this event, other activities will be temporarily suspended while the MSW activity is taking place. Operations will be conducted as specified above.

10.0 YARD WASTE OPERATIONS

10.1 COMPOST FACILITY

The City also owns and operates a Type 1 Composting facility (permit # 32-04) on an adjacent property to the north of the Transfer Station and closed landfill. Customers for the compost facility use the same entrance and scales as the Transfer Station customers. After weighing at the scale house, compost facility customers are directed to the yard waste dumping area.

10.2 YARD WASTE CONVENIENCE SITE

The City operates a small dumping area, approximately 100ft by 100 ft. for small yard waste customers to unload materials. This convenience site is in the northwest corner of the Transfer Station trailer parking area. The types of customers that use this area are typically cars, pick-ups, and minivans. These customers unload either onto the ground or directly into a loader bucket. The loader then loads the yard waste into a 40 cubic yard roll-off container that is transported to the compost facility for grinding. The use of this convenience area prevents small vehicles from travelling the half mile distance over the closed landfill to the compost facility. It also allows for greater waste screenings of the loads the City has found to be most contaminated with non-yard waste materials. Larger trucks and trailers bypass this area and unload directly at the waste receiving area at the compost facility.

The yard waste convenience site is manned by an attendant anytime that unloading occurs to ensure that waste is properly screened. Material promptly loaded into a roll-off container for storage. All yard waste is either stored in the roll-off container or delivered to the compost facility at the end of each operating day.

11.0 WASTE SCREENING FORM

A copy of the waste screening form is located on the next page.

DURHAM



1 8 6 9
CITY OF MEDICINE

City of Durham

Transfer Station

Waste Load Inspection



Date and Time: _____ Mon Tue Wed Thu Fri Sat Sun

Person Conducting Inspection: _____

Hauler and Truck #: _____

Type of Waste: _____

Waste Origin: _____

Vehicle Type

City Vehicle: Yes No

- Front Loader
- Rear Loader
- Roll off
- Trailer

Was the load accepted? Yes No

Any banned recyclables? Yes No

Comments: _____

Scanned By	Date	DOC ID	Permit
Backus	09/03/2013	19302	3212T-TRANSFER-1999



North Carolina Department of Environment and Natural Resources

Division of Waste Management

Pat McCrory
Governor

Dexter R. Matthews
Director

John E. Skvarla, III
Secretary

September 3, 2013

Mr. Chris Marriott
Solid Waste Disposal Manager
City of Durham, Solid Waste Management Department
101 City Hall Plaza
Durham, NC 27701

Re: Permit to Operate Modification
City of Durham Transfer Station
Durham County, Permit No. 32-12T, Document ID No. 19302

Dear Mr. Marriott:

Please find the enclosed Permit to Operate for the City of Durham Transfer Station, Permit No. 3212T-TRANSFER-1999, which approves the requested modifications to the facility permit. The approved transfer station operations plan is also included.

In general, the facility permit does not reiterate permit conditions which are included in the Solid Waste Management Rules, 15A NCAC 13B, nor does it restate specific conditions which are included within the approved plans. Please review the conditions of the permit thoroughly.

If you have questions about your permit, please contact me at (919) 707-8257 or by email at pat.backus@ncdenr.gov. The Environmental Senior Specialist for the facility is John Patrone. He can be reached at (336) 771-5095 or (919) 280-4814.

Sincerely,

Digitally signed by Patricia M. Backus, P.E.
DN: cn=Patricia M. Backus, P.E., o=Solid Waste Section,
ou=DWM, email=pat.backus@ncdenr.gov, c=US
Date: 2013.09.03 11:01:48 -0400

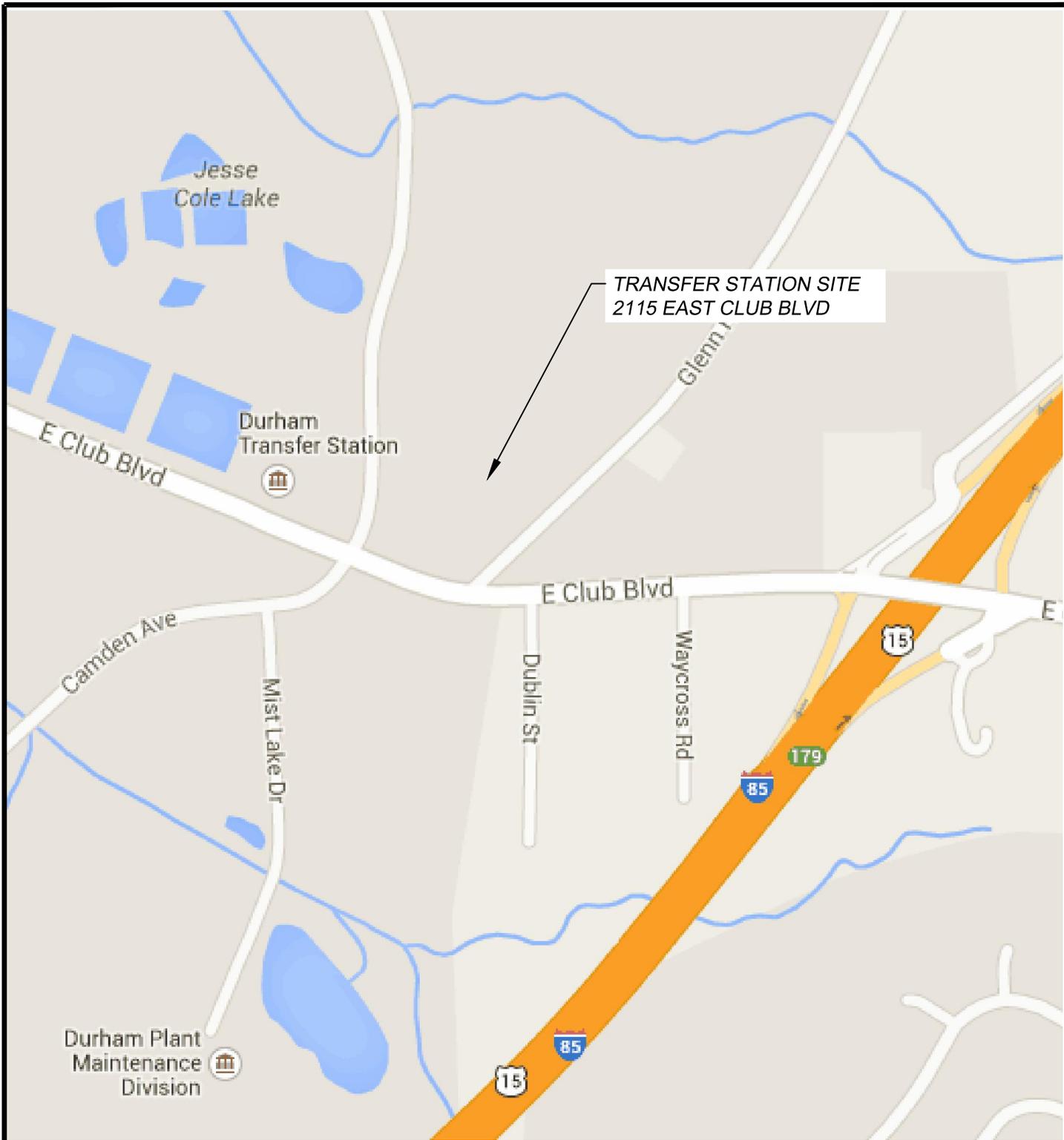
Patricia M. Backus, P.E.
Environmental Engineer
Solid Waste Section

Enclosures

cc: Bill Davidson, General Manager, Waste Industries
Ed Mussler, P.E., Permitting Branch Head
Jason Watkins, Western District Supervisor
John Patrone, Environmental Senior Specialist

1646 Mail Service Center, Raleigh, North Carolina 27699-1646
Phone: 919-707-8200 \ Internet: <http://portal.ncdenr.org/web/wm/sw>

An Equal Opportunity \ Affirmative Action Employer



**SITE LOCATION
MAP**

**CITY OF DURHAM TRANSFER STATION
OPERATIONS PLAN**

FIGURE 1

**CITY OF DURHAM SOLID WASTE SERVICES
1833 CAMDEN AVE
DURHAM NC 27704**

