

Application for Permit to Construct **City of Raleigh Solid Waste Transfer Facility**



City of Raleigh, North Carolina

APPROVED
DIVISION OF WASTE MANAGEMENT
SOLID WASTE SECTION
DATE 10/24/03 BY DJS

PERMIT TO CONSTRUCT
92-33
RALEIGH CENTRAL FILE COPY

August, 2002

HAZEN AND SAWYER
Environmental Engineers & Scientists

September 24, 2002

Mr. Jim Barber
Eastern Area Engineer
North Carolina Department of Environment and Natural Resources
401 Oberlin Rd., Suite 150
Raleigh, NC 27605



Re: Application for Permit to Construct
City of Raleigh Solid Waste
Transfer Facility
H&S No. 330588

Dear Mr. Barber:

On behalf of the City of Raleigh, enclosed are three copies of the Application for Permit to Construct for the proposed Solid Waste Transfer Facility adjacent to the Wilders Grove Landfill for review. The Application has been prepared in accordance with 15A NCAC 13B .0401 and .0402 and includes the following sections:

- Section 1 – Introduction**
- Section 2 – Transfer Facility Siting Criteria**
- Section 3 – Description of Transfer Facility Construction**
- Section 4 – Transfer Facility Operations**
- Section 5 – Application Drawings**

Note that an Environmental Assessment (EA) for this facility was submitted in accordance with the North Carolina Environmental Policy Act in 2001. A “Finding of No Significant Impact” was issued on December 17, 2001.

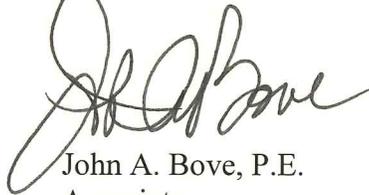
HAZEN AND SAWYER

Mr. Jim Barber
DENR Solid Waste Section
Page 2 of 2

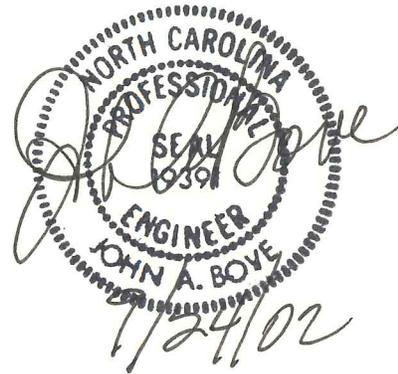
This Application is provided for review and approval of the Solid Waste Section. If you or your staff have any questions or require additional information, please contact us. We will gladly meet with you or your staff to address any questions or comments.

Very truly yours,

HAZEN AND SAWYER, P.C.



John A. Bove, P.E.
Associate



Attachments

cc: Gerald Latta SWS Director City of Raleigh (w/ Attachments)
James Coffey, DENR Solid Waste Section (w/o Attachments)

1.0 INTRODUCTION

This Application for Permit To Construct a Transfer Facility (“The Application”) has been prepared for the City of Raleigh in accordance with 15A NCAC 13B .0401 and .0402. An Operations Plan is included in this Application.

The proposed City of Raleigh Transfer Facility is located within the Wilders Grove Landfill Facility Boundary south of the main disposal unit closed at the end of 1997. The 14-acre site, owned by the City of Raleigh, was occupied by an operations center for a large electrical contractor until mid-2002. The site is bounded by Crabtree Creek, I-440, and soil borrow areas and closed landfill owned by the City of Raleigh.

The City plans to manage up to 3000 tons of Municipal Solid Waste (MSW) per day at the facility. The service areas include Wake County, as well as Durham, Johnston, Chatham, and Franklin Counties. Only MSW will be managed at the Transfer Station. The City may conduct recycling activities at the site, but no disposal will be conducted.

The Transfer Station will be a single span metal building with two loading pits. The trailers will be filled by direct loading (no compactors) using front end loaders. Wash water will be collected from the tipping floor and sent via City sewer for treatment at the City’s Wastewater Treatment Plant.

The Application is divided into siting, construction and operations sections as outlined below:

- Section 2.0 – Transfer Facility Siting Criteria
- Section 3.0 – Description of Transfer Facility Construction
- Section 4.0 – Transfer Facility Operations
- Section 5.0 – Application Drawings

2.0 TRANSFER FACILITY SITING CRITERIA

2.1 Site Description

The project site is on a 14-acre parcel located inside the limits of the City of Raleigh in Wake County. A Vicinity Map is provided on Figure 2-1 and a Location Plan is provided on Figure 2-2. The site is currently zoned I-1 (Industrial Use). The site is located within the Wilders Grove Landfill Facility Boundary.

The City acquired the property in 2000, although it was used as the operations base for Pike Electric Co., a large electrical contractor until mid-2002. In early 2001, the City added this property to its permitted Wilders Grove Landfill Facility Boundary, although no disposal operations have occurred nor are any planned for this site. The site is bounded to the north and east by the Wilders Grove Landfill property (owned by the City of Raleigh), to the west by a permitted soil borrow area (City of Raleigh) and to the south by a Norfolk Southern railroad line and Crabtree Creek. The proposed US 64 Bypass is planned just south of the site. The proposed alignment of the US 64 Bypass is along the south bank of Crabtree Creek. An Area Plan showing the surrounding properties, Drawing S-1, is provided in Section 5.0, Application Drawings of this Application.

The property was used by Weyerhaeuser Company as a cardboard recycling plant until the facility was destroyed by fire in 1980. The site was vacant until 1987 when Pike Electric Co. began operations there. Pike Electric used the site as their Raleigh operations center, including material storage and operated approximately 75 line maintenance and other support vehicles.

Access to the site is limited to a non-public extension of Corporation Parkway, a City maintained street. The site slopes generally to the south with maximum elevations approximately 210-ft. and lowest elevations approximately 170-ft along Crabtree Creek. Approximately 11.5 acres of the 14-acre site are presently cleared of vegetation. Most of this area is occupied by existing structures (see Section 2.2 of this Application for description of existing structures), concrete pavement or crushed stone aggregate-surfaced parking and storage areas. A detailed site plan is provided in Existing Conditions Plan, Drawing S-2 Section 5.0, Application Drawings of this Application.

2.2 Existing Structures

The existing structures were used in the Pike Electric operation. These structures will remain in place until the transfer facility is constructed. At that time, some buildings may be demolished to allow construction of the new transfer station and related roadways. A brief description of each building is provided below. Refer to Drawing S-2 for building locations.

Office – An 1800 square foot one story block structure was used as the office for Pike Electric. The building contains offices and restrooms and is serviced by a septic system. Water is supplied by a well, but bottled drinking water is provided for employees. An inactive truck scale is located to the south of the building. The City plans to utilize this structure in the proposed project. The building will be connected to City water supply and sanitary sewer. At this time, interior remodeling of the building is anticipated.

Shop – A 5500 square foot shop building is located in the central portion of the site. This single story metal building has one drive-through bay for vehicle maintenance as well as two additional vehicle bays. Sanitary facilities (septic) are provided. An above ground fuel tank used to refuel Pike Electric's vehicles is located between the shop and office. This tank will be relocated prior to Transfer Facility construction. The City plans to use the shop as a warehouse/recycling building where recycled products are shipped for transport to the end use market. No structural modifications are planned at this time.

Storage Buildings – Two metal storage buildings are located on the south end of the site adjacent to the railroad tracks. The larger of the two structures is a 6000 square foot metal building with concrete slab. This building also includes a truck loading dock and former railroad spur. The smaller of the buildings is a 2400 square foot metal building that is used to store equipment and spare parts. It is anticipated that this smaller building will be demolished during Transfer Station construction. The larger building may be used for City storage, but will likely not be associated with the transfer operations.

2.3 Siting Criteria

The proposed City of Raleigh Transfer Facility meets all applicable siting criteria for this type of facility. Demonstration of siting compliance is provided below.

2.3.1 Zoning

The site is located in and zoned by the City Of Raleigh as I-1, Industrial. This zoning designation allows for the construction and operation of a transfer facility. An Approval Letter demonstrating that the site meets the City's zoning requirements is provided in Attachment 2-1.

2.3.2 Wetlands

The proposed construction does not impact wetlands. The site has been used for industrial development in the past and is already cleared and graded. An additional 1.2-acres of vegetated area will be cleared to support the proposed project. A June 27, 2001 site jurisdictional area determination conducted by EcoScience Corp. indicated that no wetlands have been identified in the proposed development areas. The report, which is

provided in Attachment 2-2, has identified a small area of low-value wetlands adjacent to the railroad tracks. This approximately 0.1-acre wetland area has been formed from detention of runoff from the project site along the railroad embankment. This area will not be impacted by the proposed construction since it is outside the project area.

2.3.3 Cultural Resources

The site has been previously disturbed by industrial development, including the current facilities, the former Weyerhaeuser Company plant and the existing railroad line. No buildings of historic value exist on the site. A demonstration request was sent to the North Carolina Department of Cultural Resources State Historic Preservation Office. A letter response dated July 18, 2001 indicates that no items of historic significance are present on the site. This letter is provided as Attachment 2-3.

2.3.4 Natural Heritage Program

There are no designated parks, scenic or recreational areas or state natural areas on or adjacent to the site. A determination to this effect submitted by the Natural Heritage Program is provided in Attachment 2-4.

2.3.5 Endangered Species

The US Fish and Wildlife Service was contacted to determine the presence of federally protected species on or near the site. The Fish and Wildlife Service responded in a letter dated July 25, 2001 (included as Attachment 2-5 of this Application) that stated that suitable habitat for any Federally protected species known to occur in the area does not exist on the project site and that no further action is warranted.

2.3.5 Erosion Control

An Erosion and Sediment Control Plan will be submitted to the NCDENR Division of Land Quality for approval. Since there will be relatively little ground disturbance activities required for construction, the Erosion and Sediment Control devices needed are minor in scope. Existing surface water runoff control structures will be improved and new structures will be added. Erosion and Sediment Control structures will be installed prior to land disturbance in accordance with the approved Plan.

2.3.5 Storm Water Management

Liquid that drains from or contacts the refuse on the tipping floor and in the loading area will be collected and pumped via sanitary sewer to the City of Raleigh Neuse River Waste Water Treatment Plant. According to staff at the NCDENR Division of Water Quality (DWQ), a NPDES Permit for storm water discharge will not be required for this facility.

Storm water runoff from the remainder of the site will be routed through a BMP (Best Management Practice) device prior to discharge. BMPs include sediment basins, filters, lined ditches and catch basins. The design of the storm water management system will comply with City of Raleigh Storm Water Regulations.

2.4 Environmental Assessment

In accordance with the North Carolina Environmental Policy Act (SEPA), an Environmental Assessment (EA) was prepared for this project. The State Contact was Paul Crissman of the Solid Waste Section in Raleigh. The EA (SCH File # 02-E-4300-0221) was submitted on August 1, 2001. On December 17, 2001 the SEPA Coordinator issued a "Finding of No Significant Impact" (FONSI) for the proposed facility. The EA and FONSI are in the City and State files if further information is required. Much of the siting investigation outlined in this Application was conducted to support the EA.

The following information completes this section:

Figure 2-1 – Vicinity Map

Figure 2-2 – Location Map

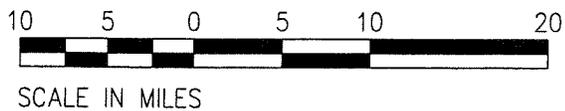
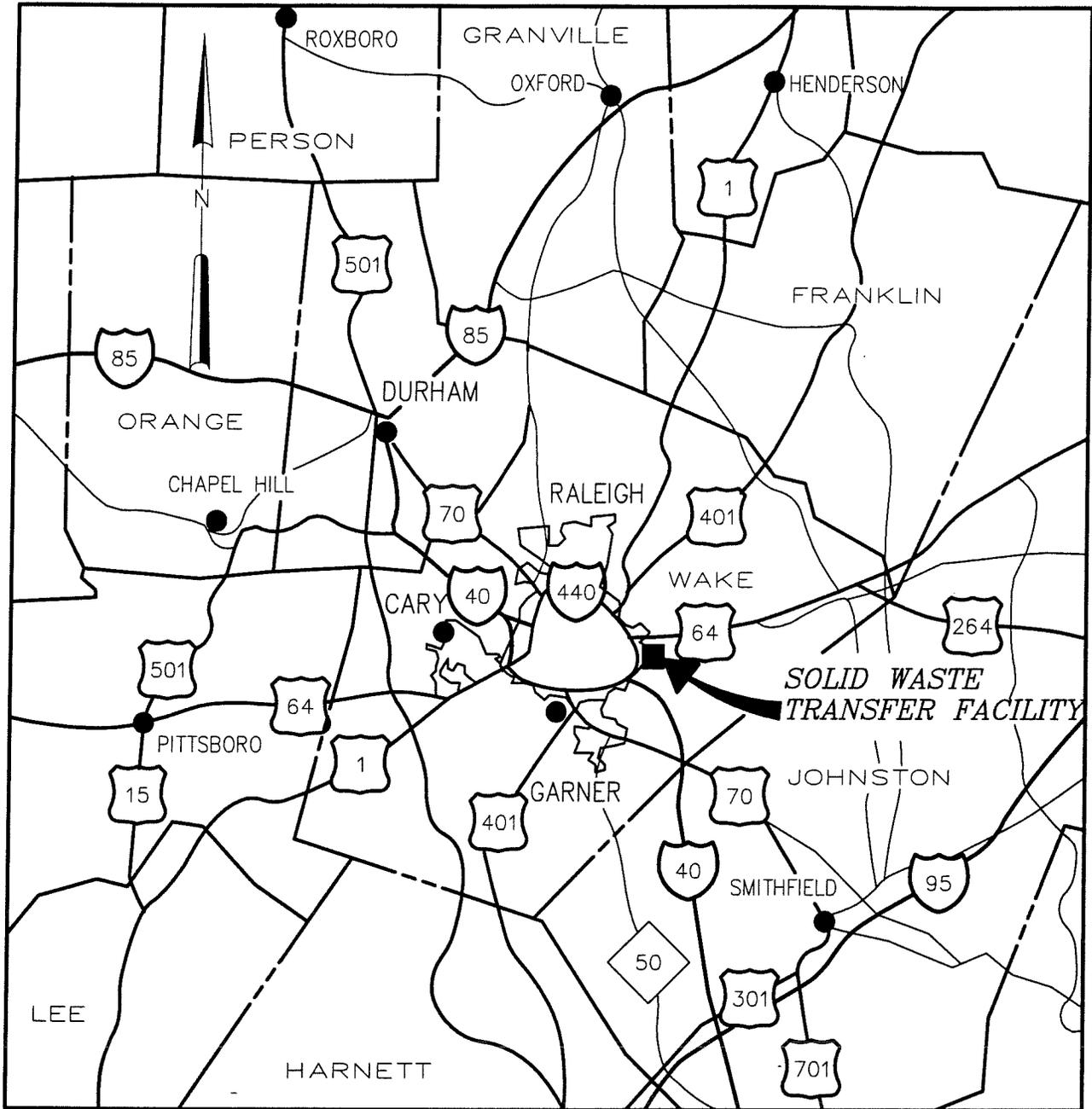
Attachment 2-1 – Zoning Approval Letter

Attachment 2-2 – Wetlands Report

Attachment 2-3 – Cultural Resources Letter

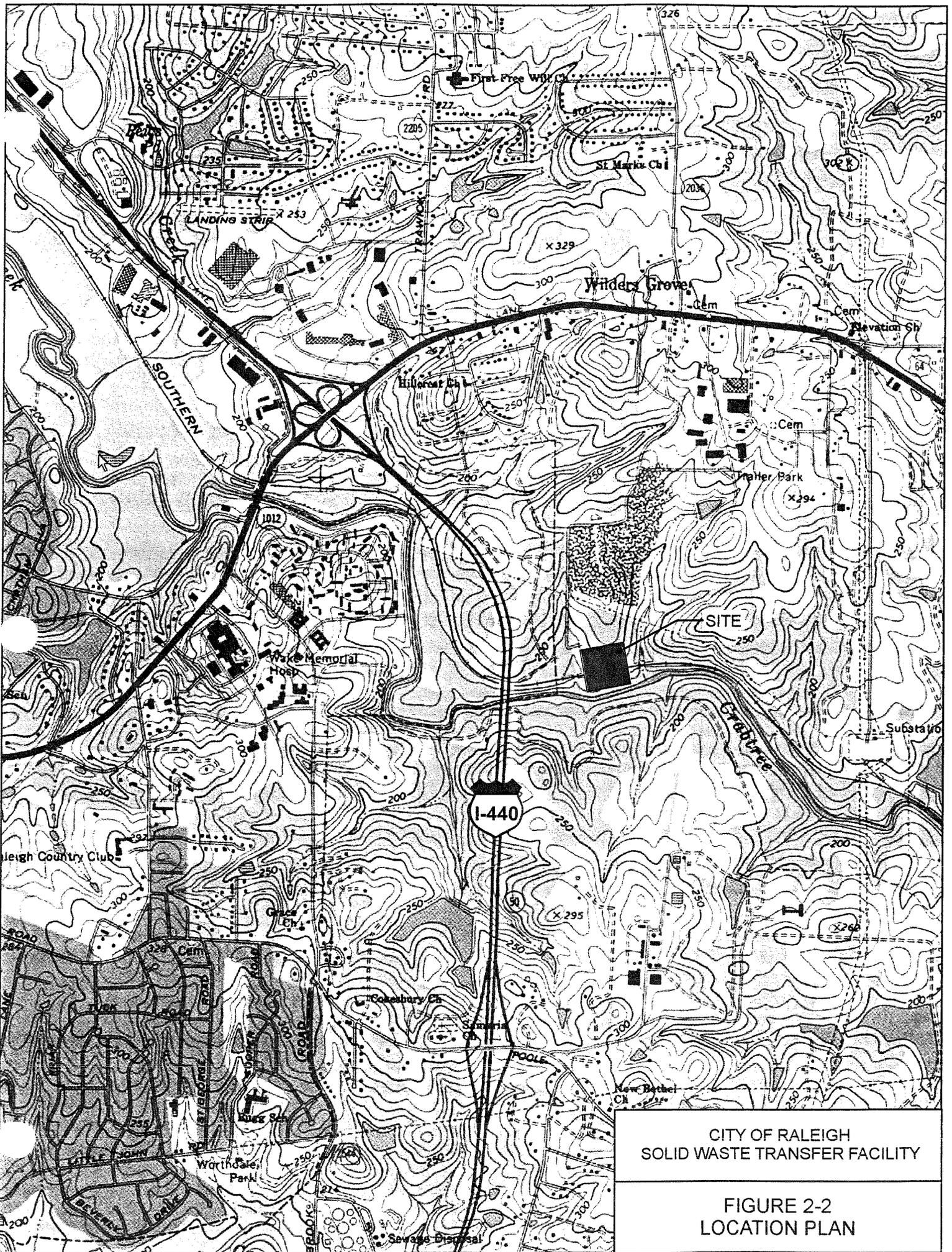
Attachment 2-4 – Natural Heritage Program Letter

Attachment 2-5 – US Fish and Wildlife Service Letter



CITY OF RALEIGH SOLID WASTE
TRANSFER FACILITY

FIGURE 2-1
VICINITY MAP



CITY OF RALEIGH
 SOLID WASTE TRANSFER FACILITY

FIGURE 2-2
 LOCATION PLAN

ATTACHMENT 2-1

**CITY OF RALEIGH ZONING APPROVAL
LETTER**



RECEIVED

JUN 18 2001

HAZEN & SAWYER, PC
RALEIGH, NC

City Of Raleigh
North Carolina

June 12, 2001

Mr. Jim Coffey
NCDENR
NC Solid Waste Section
1646 Mail Service Center
Raleigh, NC 27699-1646

Dear Mr. Coffey:

RE: Solid Waste Transfer Station Permit

This letter certifies that the City of Raleigh Solid Waste Transfer Station at the proposed location of 4130 New Bern Avenue in Raleigh meets all zoning and subdivision ordinances.

If further information is needed, please advise.

Carolyn H. Carter
Assistant City Manger-Operations
(919) 890-3070

cc: Solid Waste Services Director
✓ Hazen & Sawyer, PC
file

ATTACHMENT 2-2

ECOSCIENCE REPORT ON WETLANDS



EcoScience

1101 Haynes Street Suite 101 Raleigh, NC 27604 Telephone: 919.828.3433 Fax: 919.828.3518

RECEIVED

JUL 10 2001

HAZEN & SAWYER, P.C.
RALEIGH, NC

July 9, 2001

Mr. John Bove, P.E.
Hazen and Sawyer, P.C.
4011 WestChase Boulevard
Raleigh, North Carolina 27607

Re: Results of an On-site, Section 404 Jurisdictional Area Determination
City of Raleigh Solid Waste Transfer Facility, Wake County, NC

01-084

Dear John:

EcoScience Corporation (ESC) personnel conducted a site jurisdictional area determination at the above-mentioned site on Wednesday, June, 27, 2001. This letter summarizes the findings of the site investigation.

Physical Features

The site is located in a developing commercial/industrial area just south of the Wilders Grove landfill and east of the I-440 beltline. The site is primarily developed as a gravel parking lot with service buildings associated with an existing solid waste transfer facility. The transfer facility is bounded on all sides by mixed pine/hardwood forest. A tract of cleared land occurs near the northwest corner of the transfer facility and adjacent to the west side of the facility access road. The southern extent of the site is an east-west oriented railroad track.

The terrain is characterized by a general slope downward to the south to the floodplain of Crabtree Creek. Linear depressions, oriented on a north-south axis, occur both east and west of the transfer facility, guiding runoff southward to the Crabtree Creek floodplain. The eastern depression contains an intermittent stream, while the western depression contains multiple ephemeral channels. Crabtree Creek is a tributary within the Neuse River basin. Site elevations range from a high of approximately 250 feet (along the gravel entrance road north of the transfer facility) to a low of approximately 186 feet (along the toe of the railroad bed fill).

According to the county soil survey, the site contains three soil mapping units: Appling sandy loam, Louisburg loamy sand, and Faceville loamy sand. The National Resources Conservation Service (NRCS) considers all of these map units to be non-hydric. Appling soils are mapped across the majority of the site. Appling sandy loam is a well-drained, moderately permeable soil typically

EcoScience Corporation

Mr. John Bove, P.E.

July 9, 2001

Page 2

found on side slopes and rounded divides in Piedmont uplands. The Louisburg sandy loam is mapped in the central portion of the site under the existing transfer facility. This series is a deep, somewhat excessively drained soil with moderately rapid permeability. Louisburg soils are typically found on side slopes and rounded divides in Piedmont uplands. Faceville loamy sand is mapped in the southwest corner of the site. The Faceville series is a very deep, well-drained soil with moderate permeability. This series is typically found on terraces along large streams.

Biological Features

The vegetation surrounding the site primarily consists of mixed pine/hardwood forest. On upper slopes and ridges, the canopy contains northern red oak (*Quercus rubra*), white oak (*Q. alba*), mockernut hickory (*Carya tomentosa*), pignut hickory (*C. glabra*), sweetgum (*Liquidambar styraciflua*), loblolly pine (*Pinus taeda*), and tulip tree (*Liriodendron tulipifera*). Understory species include flowering dogwood (*Cornus florida*), eastern red cedar (*Juniperus virginiana*), sourwood (*Oxydendron arboreum*), black cherry (*Prunus serotina*), red maple (*Acer rubrum*), and red mulberry (*Morus rubra*). Scattered vines and herbs include muscadine (*Vitis rotundifolia*), Christmas fern (*Polystichum acrostichoides*), trumpet creeper (*Campsis radicans*), Virginia creeper (*Parthenocissus quinquefolia*), green-brier (*Smilax rotundifolia*), ebony spleenwort (*Asplenium platyneuron*), strawberry bush (*Euonymus americana*), and false strawberry (*Duchesnea indica*).

The lower portions of slopes support species characteristic of a moist environment such as willow oak (*Q. phellos*), American beech (*Fagus grandifolia*), ironwood (*Carpinus caroliniana*), hop hornbeam (*Ostrya virginiana*), and American sycamore (*Platanus occidentalis*). Vegetated wetland pockets adjacent to the toe of the railroad bed contained green ash (*Fraxinus pennsylvanicum*), tag alder (*Alnus serrulata*), netted chain-fern (*Woodwardia areolata*), soft rush (*Juncus effusus*), Chinese privet (*Ligustrum sinense*), spotted touch-me-not (*Impatiens capensis*), and Nepal microstegium (*Eulalia vimineum*).

The site is expected to have moderate wildlife value as a result of the variation of on-site habitats and adjacent development. The day of the site visit was warm and sunny. No mammals were observed; however, evidence of on-site mammals include tracks of Virginia opossum (*Didelphis virginiana*), white-tailed deer (*Odocoileus virginianus*), and raccoon (*Procyon lotor*). On-site bird observations include species characteristic of forest edges and interiors such as northern mockingbird (*Mimus polyglottos*), eastern towhee (*Pipilo erythrophthalmus*), mourning dove (*Zenaida macroura*), blue jay (*Cyanocitta cristata*), Carolina chickadee (*Parus carolinensis*), tufted titmouse (*Baeolophus bicolor*), Carolina wren (*Thryothorus ludovicianus*), brown thrasher (*Toxostoma rufum*), American

EcoScience Corporation

Mr. John Bove, P.E.

July 9, 2001

Page 3

robin (*Turdus migratorius*), summer tanager (*Piranga rubra*), and red-bellied woodpecker (*Melanerpes carolinus*). No terrestrial reptiles or amphibians were identified.

Jurisdictional Area Determination

The U.S. Geological Survey (USGS) topographic quadrangle (Raleigh East, NC) indicates only one stream in the vicinity of the site: an intermittent stream flowing south to Crabtree Creek along the eastern boundary of the site. The county soil survey indicates two intermittent streams in the vicinity of the site: one east and one west of the site and both flowing south to Crabtree Creek. National Wetlands Inventory (NWI) mapping indicates that only the eastern drainage contains an intermittent stream. NWI mapping describes this stream as a palustrine, forested, broad-leaved deciduous, temporarily flooded jurisdictional system (PFO1A). Field surveys concluded that the western drain contains only multiple, ephemeral channels resulting from concentrated release of storm water from higher in the drainage basin and no areas subject to jurisdiction by the U.S. Army Corps of Engineers (COE) and N.C. Division of Water Quality (DWQ). The eastern drainage appears to be an intermittent stream likely subject to COE and DWQ jurisdiction; however, this drainage is outside of the project boundary and will not be affected by proposed site improvements.

A single band of vegetated wetland occurs at the toe of the railroad bed along the southern border of the site. This band of vegetated wetland extends approximately 600 feet down the railroad bed, varies in width from 1 foot to 20 feet, and is approximately 0.1 acre in size. This wetland is apparently a result of the ponding of runoff by the railroad bed. A cursory investigation found no drainage pipe allowing surface water to pass south through the railroad bed to Crabtree Creek. Soils within this wetland were gleyed and contained mottles and oxidized rhizospheres. Vegetation within this wetland has already been characterized above.

Permit Issues

Only two areas in the vicinity of the site are considered to be subject to jurisdictional consideration by the COE and DWQ: 1) the vegetated wetland at the toe of the railroad bed along the southern border of the site and 2) the intermittent stream located east of the transfer facility. The vegetated wetlands are limited in size and are a result of anthropogenic disturbances and provide little value to the adjacent ecosystem. For these reasons, resource agencies are not expected oppose impacts to the wetland area.

The Neuse River riparian buffer rules are also an issue for this site. According to the rules, a 50-foot vegetated buffer must be protected to each side of streams indicated on either USGS topographic mapping or county soils mapping. These map sources indicate an intermittent stream both east and west of the transfer facility; therefore, the Neuse River riparian buffer rule is in effect for a 100-foot

EcoScience Corporation

Mr. John Bove, P.E.

July 9, 2001

Page 4

buffer centered on both of these streams as drawn on the soils map. Any interest in impacting these buffers will require contact with the DWQ.

Summary

- The site is located in a developing industrial area east of Raleigh. Resources on the site are not considered unique or significant.
- The site contains jurisdictional wetlands and no streams subject to permit review by the COE and DWQ.
- County soils mapping indicates that intermittent streams occur both east and west of the transfer facility, causing the Neuse River riparian buffer rule to be in effect along the reaches of these mapped streams.

I hope the information provided in this letter is useful for your planning purposes. If you have any questions about this information, please feel free to give me a call. ESC is available for further coordination and consultations, if requested. Thank you for selecting ESC for this important project.

Yours truly,

ECOSCIENCE CORPORATION



Alexander P. (Sandy) Smith
Senior Scientist

ATTACHMENT 2-3

**DEPARTMENT OF CULTURAL RESOURCES
RESPONSE LETTER**



North Carolina Department of Cultural Resources

State Historic Preservation Office

David L. S. Brook, Administrator

Michael F. Easley, Governor
Lisbeth C. Evans, Secretary

Division of Archives and History
Jeffrey J. Crow, Director

RECEIVED

July 18, 2001

JUL 24 2001

John A. Bove, PE
Hazen and Sawyer
4011 West Chase Blvd.
Raleigh, NC 27607

HAYZEN & SAWYER, PC
RALEIGH, NC

Re: Proposed Transfer Facility, City of Raleigh, Wake County, ER 01-10068

Dear Mr. Bove:

Thank you for your letter of June 22, 2001, concerning the above project.

We have conducted a review of the project and are aware of no properties of architectural, historic, or archaeological significance, which would be affected by the project. Therefore, we have no comment on the project as currently proposed.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, Environmental Review Coordinator, at 919/733-4763.

Sincerely,

David Brook
Deputy State Historic Preservation Officer

DB:kgc

	Location	Mailing Address	Telephone/Fax
Administration	507 N. Blount St, Raleigh, NC	4617 Mail Service Center, Raleigh 27699-4617	(919) 733-4763 • 733-8653
Restoration	515 N. Blount St, Raleigh, NC	4613 Mail Service Center, Raleigh 27699-4613	(919) 733-6547 • 715-4801
Survey & Planning	515 N. Blount St, Raleigh, NC	4618 Mail Service Center, Raleigh 27699-4618	(919) 733-4763 • 715-4801

ATTACHMENT 2-4

**DIVISION OF PARKS AND RECREATION
NATURAL HERITAGE PROGRAM
RESPONSE LETTER**

North Carolina
Department of Environment and Natural Resources
Division of Parks and Recreation

Michael F. Easley, Governor
William G. Ross Jr., Secretary
Philip K. McKnelly, Director



July 5, 2001

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JUL 10 2001

HAZEN & SAWYER, P.C.
RALEIGH, NC

Mr. John A. Bove
Hazen and Sawyer, P.C.
4011 WestChase Blvd.
Raleigh, NC 27607

Subject: Proposed Solid Waste Transfer Facility, City of Raleigh, Wake County

Dear Mr. Bove:

The Natural Heritage Program has no record of rare species, significant natural communities, or priority natural areas at the site nor within a mile of the site. However, the City of Raleigh's Anderson Point Park, which is currently being developed, lies about two miles downstream of the proposed site. This park is not a significant natural heritage area, but the Program wishes for Hazen and Sawyer to be aware of this park and to solicit comments from the City of Raleigh regarding any potential impacts to the park.

You may wish to check the Natural Heritage Program database website at www.ncsparks.net/nhp/search.html for a listing of rare plants and animals and significant natural communities in the county and on the topographic quad map. Please do not hesitate to contact me at 919-715-8687 if you have questions or need further information.

Sincerely,

Harry E. LeGrand, Jr., Zoologist
Natural Heritage Program

HEL/hel

ATTACHMENT 2-5

**US FISH AND WILDLIFE SERVICE
RESPONSE LETTER**



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Raleigh Field Office
Post Office Box 33726
Raleigh, North Carolina 27636-3726

RECEIVED

JUL 26 2001

TO: John Bove
Hazen & Sawyer

RE: City of Raleigh Transfer Facility # 30588
Project Name/Location/County

6/22/01
Date of Incoming Letter

01-5298
Log Number

Thank you for your letter requesting information from the U.S. Fish and Wildlife Service (Service). This form provides the Service's response pursuant to section 7 of the Endangered Species Act, as amended (16 U.S.C. 1531 *et seq.*) (ESA) and the Fish and Wildlife Coordination Act, as amended (16 U.S.C. 661 *et seq.*). If you have any questions or comments, please contact this office at (919) 856-4520.

_____ A current list of Federally-protected species and their habitat requirements which may occur within the general project area (county) can be found on our website at <http://nc-es.fws.gov>. If your project area contains habitat suitable for the Federally-listed species known to be present within the county (from the website listing), we recommend that surveys be conducted to determine the species' presence or absence from the site. Upon completion of the surveys, please report your findings to this office (including the survey date, survey methods, qualifications of staff conducting the survey, and a determination of the affects of the proposed project on Federally-listed species).

_____ If the proposed project will be removing pines greater than or equal to 10" (diameter at breast height) or 30 years of age in pine or pine/hardwood habitat, surveys should be conducted for active red-cockaded woodpecker cavity trees in appropriate habitat within a 1/2 mile radius of project boundaries. If red-cockaded woodpeckers are observed within the project area or active cavity trees found, the project has the potential to affect the red-cockaded woodpecker, and you should contact this office at (919) 856-4520 for further information.

✓ _____ Based on the information provided, it appears that your project site does not contain suitable habitat for any Federally-listed species known to occur in the area. We believe that the requirements of section 7(a)(2) of the ESA have been satisfied. We remind you that obligations under section 7 consultation must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered; (2) this action is subsequently modified in a manner that was not considered in this review; or, (3) a new species is listed or critical habitat determined that may be affected by the identified action.

Deb W. Fante 7/25/01
Endangered Species Biologist Date

SECTION 3.0 DESCRIPTION OF TRANSFER FACILITY CONSTRUCTION

3.1 Site Layout

The proposed project includes a transfer station building, a scale house, utilities, roads, parking areas, and a limited amount of site grading. The proposed location of the new structures is shown on Proposed Site Plan, Drawing S-3, Section 5.0, Application Drawings of this Application. The proposed transfer station is a 28,000 square foot (140 feet by 200 feet in area) single story metal building approximately 40 feet in height. The north facing side of the building will be open to allow free truck access. The floor of the structure will be a reinforced concrete slab. A portion of the floor will be a structural slab to allow transfer tractor-trailers to be positioned below the floor. Refuse will be loaded into the trailers through open pits in the slab. The building will be equipped with a ventilation system and numerous skylights to supplement the electric area lighting.

Refuse hauling vehicles, as well as operations staff and visitors, enter the north end of the site on the main access road. This asphalt-paved road is an extension of Corporation Parkway, a City roadway. The extension is owned by the City of Raleigh, but it is not a public road. The road will be used only as access to the Transfer Facility portions of the Wilders Grove Landfill, and City owned borrow areas located west of the site.

Customers will be directed to the tipping floor via at-grade access road that passes in front of the office. The trucks will use the 20,000 square foot concrete apron to back into the Transfer Station and discharge their load. These vehicles will exit the site using the same access road and be processed at the outgoing scale as required.

Vehicles used to haul the refuse to the landfill will enter the site at the same location as customers. The empty tractor trailers will enter the pit area beneath the Transfer Station by means of a two-lane one-way road that splits off of the main access road. Once loaded, the trailers will be hauled out of the pit area, covered by a tarp, and hauled from the site. The loaded trailers loop around to the west on a separate at-grade road, which connects to the main access road. Trailer storage areas are provided at the west end of the loop, as shown on Drawing S-3.

Staff and visitor parking will be provided adjacent to the office as well as at the shop and Transfer Station itself.

The existing shop will be used by the City for light vehicle maintenance and for special recycling needs such as electronics. The main equipment bay will be used to load palletized recycled materials into trailers for shipment to processing facilities or other markets. This operation will be operated by the City of Raleigh Department of Solid Waste Services separate from the Transfer Facility.

New water and sewer lines will be constructed from the current terminus at Corporation Parkway to the site. The water line will be designed to provide fire protection as well as drinking and cleaning service. A sewer pump station will be constructed to convey sewage and drainage from the tipping floor to the City's POTW.

3.2 Scale House and Scales

The scale house will be approximately 1000 square foot in area and will be located at the site entrance. A doublewide trailer or metal building will be constructed for this purpose. The scale house will host the scale operators, offices, records, computers and communication equipment. Sanitary facilities will be provided. Three truck scales will be installed adjacent to the scale house to weigh incoming and outgoing refuse loads.

The existing access road into the site will be widened to accommodate projected traffic as well as to provide a safe queue area.

3.3 Office

The existing office will be used as the site office for City operations personnel. The building interior will be remodeled to accommodate City offices and records as necessary. Sanitary facilities will be connected to the sanitary sewer via the new pump station. The existing septic system will be properly abandoned. The office will be serviced by the new water line extended down Corporation Parkway.

Staff and visitor parking will be provided to the west of the building.

3.4 Transfer Station

The proposed Transfer Station is designed to accommodate 3000 tons of refuse per day with operations extending as long as 24-hours per day. The structure will be a pre-engineered metal building with concrete tipping floor, push walls and full grade separation loading pits. A detailed description of the Transfer Station is provided below. Elevation drawings of the proposed building are provided in Drawings S-4 (east-west elevation) and S-5 (north-south elevation), Section 5.0 of this Application.

The proposed Transfer Station will be a pre-engineered metal building to provide a flexible, durable and economical facility. The building will be designed as a single span. The open design will allow optimum operations and minimize risk of damage compared with multi-bay designs. The north face of the building (where the customers enter to unload) will be open. Due to the location and surrounding land uses, this approach will not result in odor or noise impacts to neighboring properties.

Lighting will include numerous skylight panels on the roof and walls as well as high output industrial lamps within the building. Exterior lighting will be provided in the apron area as required. Ventilation will be aided by roof mounted blowers located on the south side of the building, which will be activated as needed during operations.

A reinforced concrete apron measuring approximately 100 by 200 feet will be constructed outside of the building entrance. The apron will provide turning areas for each customer, and a vehicle inspection area. A spotter will direct each incoming vehicle to back into an available slot for load discharge. This will allow the entire active area of the tipping floor to be utilized and provides an opportunity to “pre-sort” different type of loads for more efficient operation.

The tipping floor will be constructed using durable (5000 psi) reinforced concrete. The 90 by 180-foot tipping floor will be constructed in panels to allow for future maintenance. Concrete push walls (15 to 20-ft high) faced with steel plates will be constructed along the east and west sides of the tipping floor. The push walls will be designed to resist static and dynamic refuse and equipment loading typical for Transfer Station operations.

Two loading pits are planned for the south face of the building. The pits will be 10 by 50 feet in size and will be offset to allow coincident loading. The tipping floor will be designed as a cantilever to cover the full width of the trailers. The pit openings will be approximately 16 to 17-feet above the base of the underlying loading area. The inner perimeter of the pits will be fitted with a combination of steel plates and flexible bumpers to minimize spilling of the refuse during loading.

Loading areas will be designed to allow independent coincident loading of two trailers. Guide rails will be provided along each side of the loading areas to assure the trailers are properly located within the loading area before loading. A walkway will provide egress for the tractor drivers before and after trailer loading. Truck scales will be provided to allow operations staff on the tipping floor to monitor trailer weight during loading. A display will be mounted above each pit as well as inside the Facility Manager’s office.

Liquid collected from the tipping floor and the trailer loading areas will be collected separately in a series of inlets and conveyed to a pump station. This system will be described in more detail in Section 4.4 of this Application.

SECTION 4.0 TRANSFER FACILITY OPERATIONS

4.1 Service Area and Quantities

The Transfer Facility will be owned by the City of Raleigh. Operations will likely be contracted to a qualified private firm, although the City will provide a Facility Manager and be responsible for day to day operations. A private company will be selected for hauling of the refuse to an approved landfill. Municipal Solid Waste (MSW) will be hauled to the site by City of Raleigh Department of Solid Waste Services crews, other government collection agencies, commercial haulers and private industries.

The proposed transfer facility is planned to serve residents, businesses, industry and commercial haulers in Wake County as well as Johnston, Durham, Franklin and Chatham Counties. This includes, but is not limited to the Cities of Raleigh, Cary, Garner, Wake Forest, Morrisville, Rolesville, Wendell, Zebulon and the Research Triangle Park. Haulers operating in unincorporated areas within these Counties will also be served. The users of the proposed transfer facility will be dependent on the location of the landfill, the presence of other transfer facilities in the region, and the hauling distance to the proposed project site.

The City of Raleigh will establish the cost for municipalities, industries and commercial haulers using the proposed transfer facility. The cost, which may be established by contract, will include operation of the transfer station, hauling of the refuse to the landfill and disposal in the landfill. The City of Raleigh Solid Waste Services Department currently collects, on average, 500 tons of refuse from residents each day. This is expected to grow significantly over the next decade. In addition to the curbside and multi-family collection, it is estimated that another 600 to 1000 tons per day is collected from industry and commercial sites within the City limits. As much as 1000 tons per day may be generated by other municipalities and commercial haulers outside Raleigh. To meet the needs of its growing population and to serve other citizens and municipalities in the area, the proposed facility will be designed and operated to manage as much as 3000 tons of Municipal Solid Waste (MSW) per day.

4.2 Waste Acceptance Criteria

The Transfer Facility will only accept Municipal Solid Waste (MSW) in compliance with 15A NCAC 13B .0402(1). For purposes of this Application, "accepted" material refers to materials that will be unloaded on the tipping floor for purposes of disposal. Additional material, such as discarded electronics, may be brought to the site for recycling purposes. These materials will be managed in separate structures from the Transfer Station itself.

The following materials will not be accepted for management in the Transfer Station (except where small quantities for residential loads are exempted by law):

- Hazardous Wastes
- Liquid Wastes
- Radioactive Wastes
- Septage
- Animal Wastes
- Infectious or Medical Wastes

Whenever a hauler attempts to deliver prohibited materials to the Transfer Facility; The Facility Manager will prepare an incident report and forward it to the Solid Waste Services Director and the NCDENR Solid Waste Specialist.

Drums and barrels will be accepted only if the containers are empty and perforated or crushed prior to shipment to the Transfer facility. Animal carcasses will be accepted only when the Facility Manager is contacted in advance and special provisions are made for direct unloading of the carcasses into trailers. Only animal carcasses used for university research or hauled by local government agencies (e.g. City or County Animal Control) will be accepted.

Asbestos will not be accepted for processing.

The City's Facility Manager may decide not to accept loads that contain excessive amounts of recyclable material, yard waste, or other material that is not generally managed in a MSW landfill. Such loads may be rejected or objectionable material separated from the load prior to loading into trailers.

4.3 General Facility Operations

A detailed description of Facility operations, including fire control, safety and vector control, is provided in the Operations Plan, Attachment 4-1 of this Application. This section summarizes the operations and procedures.

4.3.1 Hours of Operation

The transfer facility will be open to accept loads between the hours of 4:00 AM and 7:00 PM Monday through Friday and between 7:00 AM and 7:00 PM on Saturday. The facility will be closed on Sundays and designated holidays except in emergency situations as designated by the Solid Waste Services Director. Operations staff may work past 7:00 PM to assure that all refuse is properly loaded and trailers are secured and staged properly. The hours of operation may be adjusted by the Director to accommodate fluctuations in the waste load, transportation problems or landfill disposal problems. The facility will be designed and staffed to accommodate 24-hour operation

when required. The availability of the landfill for disposal may dictate extended hours of operations for the transfer facility.

4.3.2 Equipment

The City will contract operations of the Transfer Facility to an experienced contractor. City personnel will operate the scales. The equipment required to operate the facility will be specified in bid and contract documents. The contract operator will be given the flexibility to provide a specific brand and type of equipment based on the operator's experience in transfer operations. The City will have the right to approve or reject proposed equipment either prior to accepting a bid or after a specified trial period. The operator will be responsible for maintenance of the equipment and for providing the proper number of vehicles and spare parts to maintain operations of the Transfer Station. A description of the equipment necessary to operate the Transfer Facility is provided below.

Loaders (2 minimum) – Refuse will be loaded into trailers using wheeled loaders such as Volvo L-90C with solid tires. The base of the loader buckets will be fitted with a protective rubber or neoprene bumper to protect the tipping floor and to allow more complete cleanup of the floor. Ram attachments will be provided for refuse compaction inside the trailer as needed. A dedicated loader equipped with a ram may be utilized to facilitate loading during high demand periods if required.

Refuse Hauling Trailers – An undetermined number of open top refuse hauling trailers will be provided by the contractor responsible for hauling the refuse to the landfill. Each trailer will be fitted with a tarp to cover the load during transport. The contractor has the option to provide walking floor trailers.

Yard Tractor (1 minimum) – A dedicated yard tractor will be kept on site to spot trailers in the loading or storage areas as needed. This tractor will not be used for transport to the landfill.

Backhoe (1) – A backhoe will be kept on site for routine maintenance of roads, ditches and sediment basins. The backhoe will also be used in general site cleanup. It may also be used to assist in inspection of refuse loads within vehicles or on the tipping floor.

Site Tractor (1) – A small tractor or wheeled loader will be kept on site for minor maintenance tasks. A sweeper attachment will be available for road and tipping floor cleanup when needed.

Miscellaneous – Other equipment may be needed for occasional maintenance tasks, but may not be kept on site. These include a dump truck, a crane truck, loadall, and water truck. This equipment will be provided by the operations contractor.

4.3.3 Tipping Floor Operation

Once haul vehicles are weighed at the scale house, they will be directed to the stop sign at the concrete apron outside the transfer station. From this stop sign, each vehicle will be directed to the proper location on the tipping floor by the spotter. Vehicles will turn around on the apron and back into the building where directed. Once the truck is in the proper location and secured, the load will be dumped onto the tipping floor. The spotter will visually observe the vehicle immediately prior to and during load discharge for evidence of unacceptable material. In the event that such material is identified, the spotter will immediately notify the Facility Manager and isolate the load and vehicle using cones, barrels, warning tape, etc. (See the Operations Plan for Waste Screening procedures.)

As many as eight vehicles can discharge their loads at one time. The spotter will direct each vehicle to an open unloading area on the basis of the status of trailers in the loading area, the type of waste in the vehicle and the number of offloading vehicles on the tipping floor and waiting on the apron. Single household vehicles and private or commercial pickup trucks may be limited to certain "bays" near the push walls at the far ends of the transfer station. This restriction is necessary due to the length of time needed for unloading of these vehicles as well as for the safety for the drivers. The City, for safety or efficiency considerations, may prohibit or restrict operations for this type of vehicle. If necessary, the City will provide a separate loading area for pickup trucks.

Loaders will push the refuse either directly to the pit, to the push walls for loading or to an existing stockpile of refuse. Loader operators and the spotter will be in radio communication and visual contact to properly manage the tipping floor.

The loader operators will place the refuse into the trailer, distribute and compact each load and assure that each trailer is within the specified weight range. Monitoring the scale readouts while loading will aid in efficient operation. If a trailer is out of compliance, some refuse may have to be removed.

Once the trailer is filled, an audible signal will be given to the tractor operator and the loaded trailer is removed. Once the loader operator verifies that another properly staged trailer is in place, the operation is repeated. No refuse is to remain at the edge of the pit during trailer staging so that material is not inadvertently pushed on top of the tractor, trailer or operator.

Loaded trailers will be pulled to a location just outside the transfer station building to level off the top of the load as required and to place a tarp over the load.

All refuse will be removed from the tipping floor and loaded into trailers at the end of the day's operation. No refuse will remain on the tipping floor after operations are completed for the day.

The tipping floor should be washed at least once per day, usually at the end of the day. Once the refuse is cleared from the floor, the exposed floor is washed using the hoses supplied in the building. Water that contacts the tipping floor enters a dedicated drainage system through inlets on the floor. Service lids are removed from the inlets during washing.

4.3.4 Vector Control

Vector control at the Facility includes air borne or water borne litter, noise, odor, flies, rodents or other vermin. Since the Facility does not include disposal of solid waste, vectors such as flies, rodents, etc. are not expected to be of concern. Proper operations and management of odor and litter will further mitigate these vectors. There are no occupied residences or businesses in the vicinity of the site, so no extensive odor or noise controls are anticipated,

Litter may be generated by uncovered or secured loads, from the trailer loading operations or from the tipping floor itself. Litter from refuse haulers can be minimized by requiring that all loads be covered and by reducing speeds of the vehicles between the scales and the tipping floor. Assuring that loads are discharged well within the building will reduce blowing litter on the tipping floor. Maintenance of the skirts around the pits and proper trailer staging will reduce litter generated during loading.

Litter fence will be installed in the trailer tarping area (on top of and next to retaining walls) to collect litter where needed. Operations staff will conduct litter cleanup on at least a daily basis.

At this site, dust may be generated from roadways. Paved roadways will be kept clean and mud and debris should be cleaned up promptly. Trailer staging areas may be surfaced with aggregate, which may become dusty when dry. A water truck may be used to manage these areas when necessary.

Noise is associated with normal operations of a transfer station. Generally, the noise levels are greatest within the transfer station itself during discharge of refuse and loading into trailers.

Noise outside the building may be generated from vehicles while driving, loading or unloading containers or backing (back up alarms). This noise is a normal part of facility operations and is acceptable only during facility operating hours.

Proper management of the refuse and wash waste will minimize odor at the Facility. The tipping floor will be cleared of refuse at the end of each day. Trailers will be covered while awaiting pickup and transport to the landfill. Filled trailers will not be left on the Facility for more than 48 hours except under emergency conditions.

4.3.5 Fire Control

The City of Raleigh Fire Department will respond to fire or hazardous material emergencies at the Facility. At least one hydrant will be provided on site. Water hoses are provided within the Transfer Station itself for use when necessary. A description of operations staff responsibilities is provided in Section 1.4 of the Operations Plan, Attachment 4-1 of this Application.

4.4 Contact Water Management

Water that contacts the tipping floor and trailer loading area is collected and drained into a pump station. From this pump station, contact water is conveyed into the City of Raleigh sanitary sewer for treatment. No contact water will be discharged directly to the surface waters.

A series of drains will be located on the tipping floor. The tipping floor is designed to drain liquid to these inlets and not allow runoff outside the building. Under normal operations, the drains will be covered with a service lid to prevent clogging from refuse. The lid has small perforations but is resistant to clogging by refuse. During floor washing, the covers are removed to allow more efficient drainage. The inlets are connected by a series of drainpipes installed beneath the floor slab. The drain from the tipping floor leads to a solids separator. This is a buried structure that separates solids and floatables and allows them to be collected by a screen and basket. Oil management can be provided by adding floating absorbents to the vessel. This approach allows solids to be removed from the discharge before entering the pump station, which minimizes pump damage and extends pump life. The solids separator should be inspected on at least a weekly basis and cleaned out as needed. Materials removed from the separator can be disposed at the landfill.

In the event that liquid hazardous waste contacts the tipping floor and drains to the pump station, the pump controls at the pump station will be turned to “manual” and “off” as quickly as possible. This will confine any spill to the collection system until a determination as to the fate of the liquid can be made. If the liquid cannot be discharged into the sewer system, the pump should remain in the “off” position and the liquid removed from the pump station by a qualified and trained hazardous waste contractor.

The following information completes this section:

Attachment 4-1 – Operations Plan

ATTACHMENT 4-1

TRANSFER FACILITY OPERATIONS PLAN

OPERATIONS PLAN

**CITY OF RALEIGH SOLID WASTE SERVICES
SOLID WASTE TRANSFER FACILITY
RALEIGH, WAKE COUNTY, NORTH CAROLINA**

August 2002

Prepared By

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Raleigh, North Carolina

TABLE OF CONTENTS

	<u>Page</u>
1.0	Introduction 1-1
1.1	Responsible Persons 1-1
1.2	Access Control 1-1
1.2.1	Physical Constraints 1-2
1-3	Signage 1-3
1-4	Safety 1-3
1.4.1	Fire 1-3
1.4.2	Hazard Control 1-5
2.0	Waste Acceptance Guidelines 2-1
2.1	Acceptable Material 2-1
2.2	Waste Screening and Separation 2-2
3.0	Transfer Operations 3-1
3.1	General Operations 3-1
3.1.1	Hours of Operation 3-1
3.1.2	Personnel 3-1
3.1.3	Scale House Operations 3-2
3.1.4	Traffic Control 3-3
3.2	Tipping Floor Operations 3-3
3.3	Refuse Trailer Loading 3-5
3.4	Tipping Floor Cleanup 3-6
4.0	Erosion Control and Surface Water Management 4-1
4.1	Erosion Control 4-1
4.2	Surface Water Management 4-1
5.0	Vector Control 5-1
5.1	Litter 5-1
5.2	Dust 5-1
5.3	Noise 5-2
5.4	Odor 5-2

1.0 Introduction

This Operations Plan has been developed for the City of Raleigh Solid Waste Transfer Facility. The facility is owned by the City of Raleigh Department of Solid Waste Services and will be operated by a combination of City staff and contract personnel. Contractors will be required to comply with the provisions outlined in this Plan.

This Plan has been prepared as part of the Application for Permit To Operate a Solid Waste Transfer Facility ("The Application"). The Application provides more detailed information on regulatory requirements, engineering calculations and other information relating to operation of this facility. The Plan and the Application may be modified or updated periodically. The Operator should refer to the Permit for updated information that may affect the operation of the transfer station.

1.1 Responsible Persons

In an emergency, the following persons are to be contacted:

Facility Manager:	To Be Determined (City of Raleigh)
Solid Waste Services Director:	Gerald Latta 919-831-6890
Solid Waste Services Assistant Director:	Jimmy Johnson 919-831-6890
Fire, Police, and Rescue:	911
Hospital:	Wake Medical Center (2 miles west of Facility on New Bern Ave.)
NCDENR Solid Waste Section	Solid Waste Specialist - 919-733-0692

1.2 Access Control

Access to the transfer station must be controlled in order to prevent unauthorized or illegal dumping, to discourage trespassing and resulting injury, and to reduce the risk of

vandalism. Since the transfer station is an open structure, access to the building is not restricted; access restriction must be at the site perimeter.

1.2.1 Physical Restraints

Vehicle access is restricted to the access road (Corporation Parkway) at the northern end of the site. There are no other roads into the site. All haulers, including City vehicles are directed to pass over the scales. All other vehicles are directed to the bypass lane, which is controlled by a remote gate. Access to the facility during work hours is controlled by scale house personnel. Only those with business at the facility, including customers, staff, maintenance staff, etc. will be allowed into the facility. The facility will not be open to the public during certain restricted hours of operation. The restricted hours will be established by the Director of the Solid Waste Services Department.

Locking gates will be used to prohibit vehicle access during hours when the facility is closed. Security cameras at the scale house will monitor the entrance for indications of trespassing. The entire perimeter of the facility is fenced to restrict access by those on foot. Since the site is bounded by railroad tracks, the closed Wilders Grove Landfill and the City's soil borrow site, no egress onto the site should be necessary and all pedestrian access is to be considered trespassing. The perimeter fence should be visually checked on a regular basis and repaired promptly when evidence of trespassing or other damage is observed.

The office building and shop/recycling buildings will be kept locked when the site is closed. Surveillance cameras will be installed at these facilities as directed by the City.

Evidence of trespassing or vandalism should be reported to Solid Waste Services and the Raleigh Police. Illegal dumping should be reported to the Solid Waste Services Department and the NCDENR Solid Waste Section.

Scavenging from the tipping floor or from trailers is prohibited.

1.3 Signage

A prominent sign containing the information required under the Permit will be located just outside the scale area along Corporation Parkway. The sign will provide information on operating hours, operating restrictions, and the types of material accepted for transfer. The facility Permit number, an emergency contact number and other warning information will also be posted. A sign directing all haulers to the scales and all visitors and staff to the bypass lane and office will be provided near the entrance. Inside the facility, signs directing the haulers, transfer trailers and recycling operations, as appropriate will be provided. Signs will direct refuse trailers to the designated staging and loading areas.

1.4 Safety

1.4.1 Fire

The potential for fire within the refuse or in equipment must be anticipated and mitigated. Fire prevention is the most effective mitigation measure. Dedicated equipment such as loaders and yard tractors will be equipped with fire suppression systems and/or portable fire extinguishers. All structures will be equipped with the number and type of fire extinguishers recommended by the Raleigh Fire Department and applicable fire codes. Operations staff or Fire Department staff will conduct periodic inspections of fire suppression equipment and promptly replace or repair equipment as needed.

A minimum of one hydrant will be located at the site for fire fighting. The City of Raleigh Fire Department is to be called in the event of a fire that cannot be quickly extinguished by operations personnel. All flammable liquids should be stored in areas that are clearly marked. Open burning is prohibited at the site.

If a "hot load" is detected prior to dumping, the load will preferably be dumped on the tipping floor once other refuse is cleared. It is imperative that other refuse be far enough

away from the hot load so that a potential fire cannot spread and enough clearance is provided to fight the fire. If it is impossible to dump the load safely on the tipping floor, the Facility Manager may designate another safe zone to dump the load in order to manage the fire. One such location is the trailer storage area, which will be surfaced with crushed stone aggregate or pavement. This area is preferred since stormwater controls will be in place and potential stormwater impacts can be managed properly.

For any burning loads that are dumped on the tipping floor or other designated area, the nature of the material in the load should be visually characterized to the extent possible. If the load contains hazardous or toxic material, or other material that cannot be properly managed by on site personnel, the Fire Department should be notified immediately. If necessary, the area where the load has been dumped can be contained by placing loads of soil on or around the refuse. Other vehicles, personnel and refuse should be kept a safe distance from the area.

Burning loads dumped on the tipping floor should be extinguished once it is established that the operations personnel are not in danger. If the use of water is deemed appropriate, the refuse should be extinguished using a fire hose located in the transfer station or using fire extinguishers. The load should be carefully spread using a loader and sprayed with water to assure the fire has been extinguished. Once the load has cooled and no evidence of fire is observed, the Facility Manager can direct the load to be placed in a trailer for hauling to the landfill.

Fire can also occur in refuse loads after they have been loaded into the trailers for transport to the landfill. Where practical, the trailer should be directed to a location well away from refuse, structures or other trailers and unhitched from the tractor. Water can be sprayed into the trailer, but the loads should not be dumped unless approved by the Facility Manager.

All fires will be reported to the Solid Waste Section verbally within 24-hours and written notification will be submitted within 15-days of the incident. Copies of all reports will be maintained in the Operating Record.

1.4.2 Hazard Control

Compliance with all applicable City, State and Federal safety requirements must be assured even if the requirements are not referenced in this Plan.

All operations staff and visitors working on the tipping floor are required to wear the proper safety equipment, including shoes, eye protection, safety vests and hard hats. Additional safety equipment such as gloves, belts or harnesses will be provided to staff as needed.

Personal communications equipment will be issued to key operations staff in order to allow prompt alert in the event of an emergency or unsafe condition. All heavy equipment will have operating backup alarms. Restricted areas for equipment or personnel will be clearly marked. All personnel will be properly trained in the proper use of safety equipment and in safety procedures.

Portable safety barriers should be placed around the perimeter of the loading pits when the pits are inactive. Barriers should be of sufficient size to prevent staff on foot from falling into the pits.

2.0 Waste Acceptance Guidelines

2.1 Acceptable Material

The wastes that the facility can accept are regulated by the North Carolina Solid Waste Management Regulations, the Permit and the Raleigh Solid Waste Services Department. Only approved waste can be placed into trailers for transport to the landfill. The Permit and applicable State regulations should be periodically reviewed to note any modifications to the list of acceptable waste.

The transfer facility is permitted to manage Municipal Solid Waste (MSW) from government, commercial haulers, industries or residents within the generation area outlined in the Permit. Waste generated from outside the permitted limits will be rejected at the scale house. The following is a list of **prohibited materials** (except where small quantities for residential loads are exempted by law):

- Hazardous Waste
- Radioactive Waste
- Infectious or Medical Waste
- Liquid Wastes
- Septage
- Animal Carcasses
- Unapproved Industrial Waste

Barrels and drums can only be accepted for disposal if they are visually inspected to assure they are empty and perforated top and bottom to prevent accumulation of liquids. Loads of yard waste will not be accepted at the facility. This material will be directed to the Raleigh Yard Waste Center on New Hope Road. Loads containing predominately recyclable items may

be prohibited by the Solid Waste Services Director. The City may reject other loads that generate excessive dust, odor or materials that negatively impact the operation of the facility.

Some materials may be accepted at the site for recycling. These materials, as approved by the Solid Waste Services Director, will be hauled to other buildings at the site and will not affect the transfer station operations. Safety provisions outlined in this Plan apply to recycling operations as well.

2.2 Waste Screening and Separation

All hauling vehicles are required to stop at the scales for identification and weighing. The City will use an automated identification/recording system for City vehicles and some customers. While the truck is weighed, it may be monitored for the presence of radioactive material. Any such material requires the operator to isolate the truck and notify the City and Solid Waste Section. The load will be isolated until examined by qualified personnel who will direct operations staff.

The scale house operator will identify questionable loads and ask each driver to describe the origin and contents of each truck. Open top trucks can easily be visually inspected by the operator using the ladder maintained for that purpose. Other trucks can be inspected as necessary at the entrance to the facility if there is a question as to the nature of waste they are hauling. A waste inspection area is provided just south of the scale house near the parking area. Conduct random inspections of incoming loads at this location. Document each inspection and include, at a minimum, the following information:

- Date, time, name of inspector
- Hauler name, driver name, type of truck
- Source of load
- Description of load

- Record any unacceptable wastes with estimated quantities
- Provide photos, videos as appropriate
- Describe final disposition of load (e.g. rejected, accepted, etc.)

The scale house operators will be in radio contact with the Facility Manager and other key operations staff. Inspections should be conducted by properly trained staff at locations suitable for proper management of the load as required.

Loads will be also be visually inspected on the tipping floor and screened for suspected hazardous wastes, liquid wastes or liquid waste containers, or other materials not permitted for management at the site. Such wastes will not be accepted. Random loads should be more thoroughly inspected to confirm that the screening process is working. Waste that is not acceptable will be reloaded onto the truck that brought it and removed from the facility. Where this is not practical or safe, a properly trained and equipped hauling contractor will be contacted to properly manage the load.

Attempts by haulers to dispose of hazardous wastes at the facility should be noted in the Operating Record and reported to the NCDENR Solid Waste Section as soon as practical. The date, time, hauler's name, truck description and ID number, the nature of the load and the disposition of the load (e.g. rejected prior to unloading, reloaded and removed after unloading, etc.) should be recorded. When the suitability of any load is in question, the operations staff should reject the load if hazardous or other unsuitable materials are observed or if the materials cannot be identified.

3.0 Transfer Operations

3.1 General Operations

3.1.1 Hours of Operations

The transfer facility will be open to accept loads between the hours of 4:00 AM and 7:00 PM Monday through Friday and between 7:00 AM and 7:00 PM on Saturday. The facility will be closed on Sundays and designated holidays except in emergency situations as designated by the Solid Waste Services Director. Operations staff may work past 7:00 PM to assure that all refuse is properly loaded and trailers are secured and staged properly. The hours of operation may be adjusted by the Director to accommodate fluctuations in the waste load, transportation problems or landfill disposal problems. The availability of the landfill for disposal may dictate extended hours of operations for the transfer facility.

3.1.2 Personnel

All Facility personnel, including City staff and contract personnel, will be properly trained in safety and fire prevention procedures, identification of unacceptable wastes, and basic facility operations. Safety equipment will be provided to all operations personnel and first aid equipment will be made available at all work places in accordance with City Standard Operations Procedures.

Operations staff, working hours and specific responsibilities will be established by the Solid Waste Services Director, and will vary through the work day. At a minimum, the following job tasks will be filled:

Facility Manager – Responsible for day-to-day operations of the Transfer Station, operations staff, and City-owned equipment. Will make final determination in the event that questionable waste is brought to the facility, and is responsible for reporting to City and State authorities.

Scale Attendant – Responsible for operating the scales, recording incoming and outgoing load data, initial waste screening and monitoring the vehicles and personnel who enter the facility.

Spotter – Directs hauling vehicles to the proper location on the tipping floor for safe and efficient operations. Responsible for identification of unacceptable waste once loads are dumped on the tipping floor.

Equipment Operator(s) – Responsible for operation of loaders, yard tractors and other heavy equipment needed for facility operation.

3.1.3 Scale House Operations

Each vehicle will be directed to stop outside the scales. All vehicles will be weighed, with the exception of single household loads driven by residents where applicable. At the discretion of the Solid Waste Services Director, these vehicles may not be weighed but will be charged (where applicable) on the basis of the vehicle type.

An area north of the scales will be provided for removal of tarps to facilitate inspection. Vehicles without proper tarps or covers may be rejected.

Vehicle information, including owner, operator, tare weight, and history will be maintained in the scale house using an automated ticket system. All City vehicles, and others fitted with automated markers will be directed to the outer scale equipped with a reader. Other

vehicles will be weighed at the inner scale in order to obtain necessary load information. Such vehicles will be weighed when exiting in order to determine load and cost information.

The attendant will also conduct initial screening of the loads. The surveillance camera images and radioactive material monitor data will be available to the attendant. The attendant will be in radio contact with the Facility Manager and spotter to arrange additional waste inspections as required.

3.1.4 Traffic Control

Proper and efficient operation of the facility requires strict adherence to traffic controls set up at the site. Stop signs at the scale entrance, at the main access road and near the tipping floor are necessary for safety. Portions of the main access road are one way and will be clearly marked. Hauling vehicles and trailers should be kept separated to the degree practical. Loaded trailers will be directed away from the office and shop areas. Empty trailers will be limited to the staging/storage area and the loading areas of the transfer station.

The City will install and maintain traffic controls. Visitors will be directed to the office, where an escort can be arranged as necessary. Access for vehicles driven by individual residents to the tipping floor may be restricted by the City to certain hours or days of the week. Signs clearly outlining any such restrictions will be posted north of the scale house along Corporation Parkway. Where required, the Facility Manager or spotter, when authorized, may set up temporary traffic controls (cones, barrels, etc.) to direct traffic away from unsafe or congested areas.

3.2 Tipping Floor Operations

Once haul vehicles are weighed at the scale house, they will be directed to the stop sign at the concrete apron outside the transfer station. From this stop sign, each vehicle will be

directed to the proper location on the tipping floor by the spotter. Vehicles will turn around on the apron and back into the building where directed by the Spotter. Once the truck is in the proper location and secured, the load will be dumped onto the tipping floor. The spotter will observe the vehicle immediately prior to and during load discharge for evidence of unacceptable material. In the event that such material is identified, the spotter will immediately notify the Facility Manager and isolate the load and vehicle using cones, barrels, warning tape, etc.

The tipping floor is approximately 180-feet wide. This means that about seven to eight vehicle “bays” can be in operation serving the two loading ports. The spotter will direct each vehicle to an open “bay” or loading area on the basis of the status of trailers at the port, the type of waste in the vehicle and the number of offloading vehicles on the tipping floor and waiting on the apron. Single household vehicles, and private or commercial pickup trucks may be limited to certain “bays” near the push walls at the far ends of the transfer station. This restriction is necessary due to the length of time needed for unloading of these vehicles as well as for the safety for the drivers. **It should be noted that the Solid Services Director may, for safety or efficiency considerations, prohibit or restrict operations for this type of vehicle.**

Once each vehicle has discharged its load onto the tipping floor, it will be directed to pull straight out of the building to the designated access way along the north edge of the apron. From here, the vehicles exit the site through the scale area and are re-weighed as necessary.

Loaders will push the refuse either directly to the pit, to the push walls for loading or to an existing stockpile. Loader operators and the spotter will be in radio communication and visual contact to properly manage the tipping floor.

All refuse must be removed from the tipping floor and loaded into trailers at the end of the day's operation. **No refuse is to remain on the tipping floor after operations are completed for the day.**

3.3 Refuse Trailer Loading

Two loading ports are provided that can accommodate open top 53-foot long and up to 13.5-foot high trailers. Truck scales will be provided at each pit to provide operations staff with a display of axle and total trailer weights during loading. The loader operators must first visually check for the presence of an empty properly staged trailer in the pit before pushing refuse to the edge of the pit. A properly staged trailer means that the trailer is located in the proper position with no gaps along the trailer edges. The tractor cab should not be visible beneath the pit and the tractor operator should be outside the vehicle a safe distance away.

If the loader operator observes a safety hazard or unsuitable waste, the operator will notify the Facility Manager in order to determine how to best manage the situation. Where possible, do not load questionable material into trailers.

The loader operators place the refuse into the trailer, distribute and compact each load and assure that each trailer is within the specified weight range. Monitoring the scale readouts while loading will aid in efficient operation. If a trailer is out of compliance, some refuse may have to be removed.

Once the trailer is filled, an audible signal will be given to the tractor operator and the loaded trailer is removed. Once the loader operator verifies that another properly staged trailer is in place, the operation is repeated. No refuse is to remain at the edge of the pit during trailer staging so that material is not inadvertently pushed on top of the tractor, trailer or operator.

Move loaded trailers to a location just outside the transfer station building to level off the top of the load as required and to place a tarp over the load. This should be done in a manner that minimizes litter. If necessary, a litter fence will be added to the retaining walls in this area.

3.4 Tipping Floor Cleanup

The tipping floor should be washed at least once per day, generally at the end of the day. Water from the building supply is used. As a first step, refuse should be collected from the floor to the extent possible using the loaders or other equipment. The exposed floor is then washed using the hoses supplied in the building. Water that contacts the tipping floor enters a dedicated drainage system through inlets on the floor. Staff should make certain that these inlets are open and free from debris. Wash the floor in a manner that assures free flow of the liquid to the inlets. Refuse should not be allowed to flow outside of the tipping floor area.

The lower pit area should also be cleaned daily. Litter should be removed frequently from the trailer staging areas and the entrance and exit to the pit. Wash the roadway area beneath the pit as needed.

Water that contacts the tipping floor is collected and drained into a pump station. From this pump station, contact water is conveyed into the City of Raleigh sanitary sewer for treatment. A solids separator is provided between the tipping floor discharge points and the pump station. This structure should be inspected on at least a weekly basis and cleaned out as needed.

In the event that liquid hazardous waste contacts the tipping floor and drains to the pump station, the pump controls at the pump station should be turned to “manual” and “off” as quickly as possible. This will confine any spill to the collection system until a determination as to the fate of the liquid can be made. If the liquid cannot be discharged into the sewer

system, the pump should remain in the “off” position and the liquid removed from the pump station by a qualified and trained hazardous waste contractor.

4.0 Erosion Control and Surface Water Management

4.1 Erosion Control

The Facility will operate under an Erosion and Sediment Control Plan approved by the NCDENR Division of Land Resources Land Quality Section. This Plan will be in place prior to land disturbance activities. Any construction activity will be conducted such that transport of sediment is restricted to properly designed and maintained erosion and sediment control facilities.

Any land disturbance required during site operations will also fall under the approved Plan. The staff will assure that any temporary or permanent devices are in place prior to disturbing the ground surface.

4.2 Surface Water Management

A surface water management system has been developed for the Facility. The system is designed to collect and treat stormwater from the operational areas of the site. Surface water runoff from non-operational areas, including vegetated areas adjacent to the railroad tracks and Crabtree Creek, is collected and treated to remove sediment. Runoff from operational areas, including roof drains, is collected and treated in stormwater control basins located along the southern edge of the site. Contact water from within the operations areas is collected separately and discharged to the sanitary sewer.

Operations staff should visually inspect yard inlets, ditches and culverts in the operational areas on a monthly basis or after a major precipitation event. These structures should be kept clear of debris. Before any additional construction or pavement installation is started, the drainage and surface water control structures should be evaluated to assure that the runoff is conveyed to the proper treatment device.

Vegetated areas should not be disturbed or paved unless the impact on the Surface Water Management Plan is evaluated by a qualified engineer.

5.0 Vector Control

Vector control at the Facility includes air borne or water borne litter, noise, odor, flies, rodents or other vermin. Control measures for these items are provided in this section. Since the Facility does not include disposal of solid waste, vectors such as flies, rodents, etc. are not expected to be of concern. Proper operations and management of odor and litter will further mitigate these vectors.

5.1 Litter

Control of litter is a key task in the effective operation of the facility. Litter may be generated by uncovered or secured loads, from the trailer loading operations or from the tipping floor itself. Litter from refuse haulers can be minimized by requiring that all loads be covered and by reducing speeds of the vehicles between the scales and the tipping floor. Assuring that loads are discharged well within the building will reduce blowing litter on the tipping floor. Maintenance of the skirts around the pits and proper trailer staging will reduce litter generated during loading.

Litter fence will be installed to collect litter where needed. Operations staff will conduct litter cleanup on at least a daily basis.

5.2 Dust

At this site, dust may be generated from roadways. Paved roadways should be kept clean and mud and debris should be cleaned up promptly. Trailer staging areas may be surfaced with crushed stone aggregate, which may become dusty when dry. Wet down areas where heavily traffic exists with a water truck to reduce dust as needed.

Where excessive dust is observed within the tipping area, wash water may be used as a suppressant. Loads that generate excessive dust during discharge and loading may be prohibited from the facility at the discretion of the Director of Solid Waste Services.

5.3 Noise

Noise is associated with normal operations of a transfer station. Generally, the noise levels are greatest within the transfer station itself during discharge of refuse and loading into trailers. Facility staff that will work within the building will be supplied with hearing protection.

Noise outside the building itself may be generated from vehicles while driving, loading or unloading containers or backing (back up alarms). This noise is a normal part of facility operations and is acceptable only during facility operating hours. Vehicles or vehicle activities that are excessively noisy (for example vehicles with non-functioning mufflers) should be repaired prior to extended use on the site. Haulers with out of compliance vehicle exhaust systems will be directed to repair the vehicles.

5.4 Odor

Proper management of the refuse and wash waste will minimize odor at the Facility. The tipping floor will be cleared of refuse at the end of each day. Trailers will be covered while awaiting pickup and transport to the landfill. Filled trailers will not left on the Facility for more than 48 hours except under emergency conditions.

SECTION 5.0 APPLICATION DRAWINGS

The following drawings are provided in this Section:

Drawing S-1 – Area Map

Drawing S-2 – Existing Conditions Plan

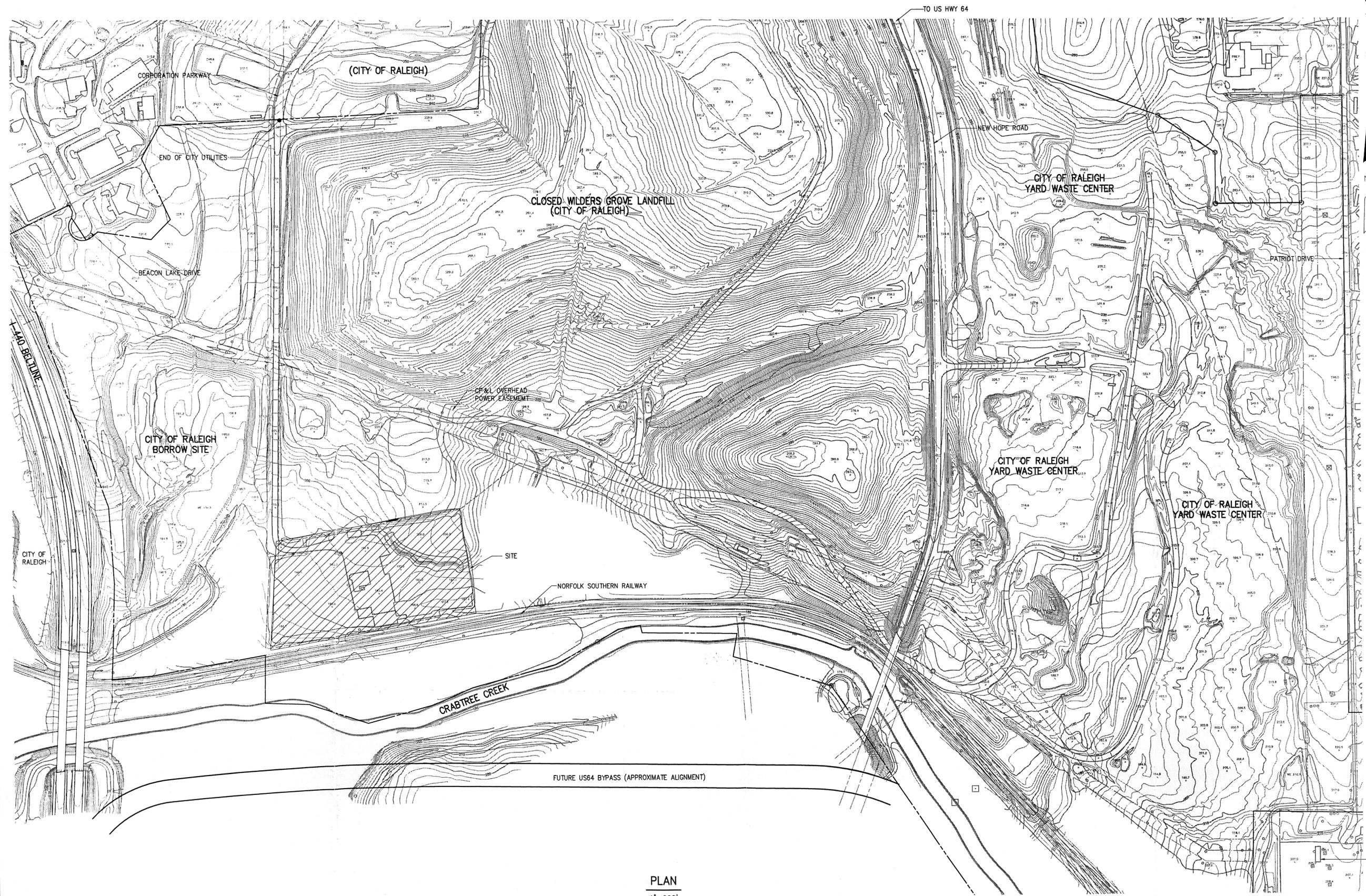
Drawing S-3 – Proposed Site Plan

Drawing S-4 Transfer Station East-West Elevation

Drawing S-5 – Transfer Station North-South Elevation

NOTES:

- 1 GROUND SURFACE ELEVATIONS BASED UPON AERIAL TOPOGRAPHIC SURVEY CONDUCTED BY SPATIAL DATA CONSULTANTS, HIGH POINT, NORTH CAROLINA DATED OCTOBER 1, 1999.
- 2 BOUNDARY SURVEY DATA PROVIDED BY TAYLOR WEISMAN TAYLOR ON DRAWINGS ENTITLED "PROPERTY OF CITY OF RALEIGH (WILDERS GROVE LANDFILL SITE)" DATED JUNE 14, 2000.



PLAN
1"=200'

DESIGNED	JAB
DRAWN	PWS
CHECKED	JAB
PROJ. ENGR.	JAB
APPROVED	<i>Mem</i>
1	REGULATORY APPROVAL
NO.	ISSUED FOR
	DATE
	BY



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Environmental Engineers & Scientists
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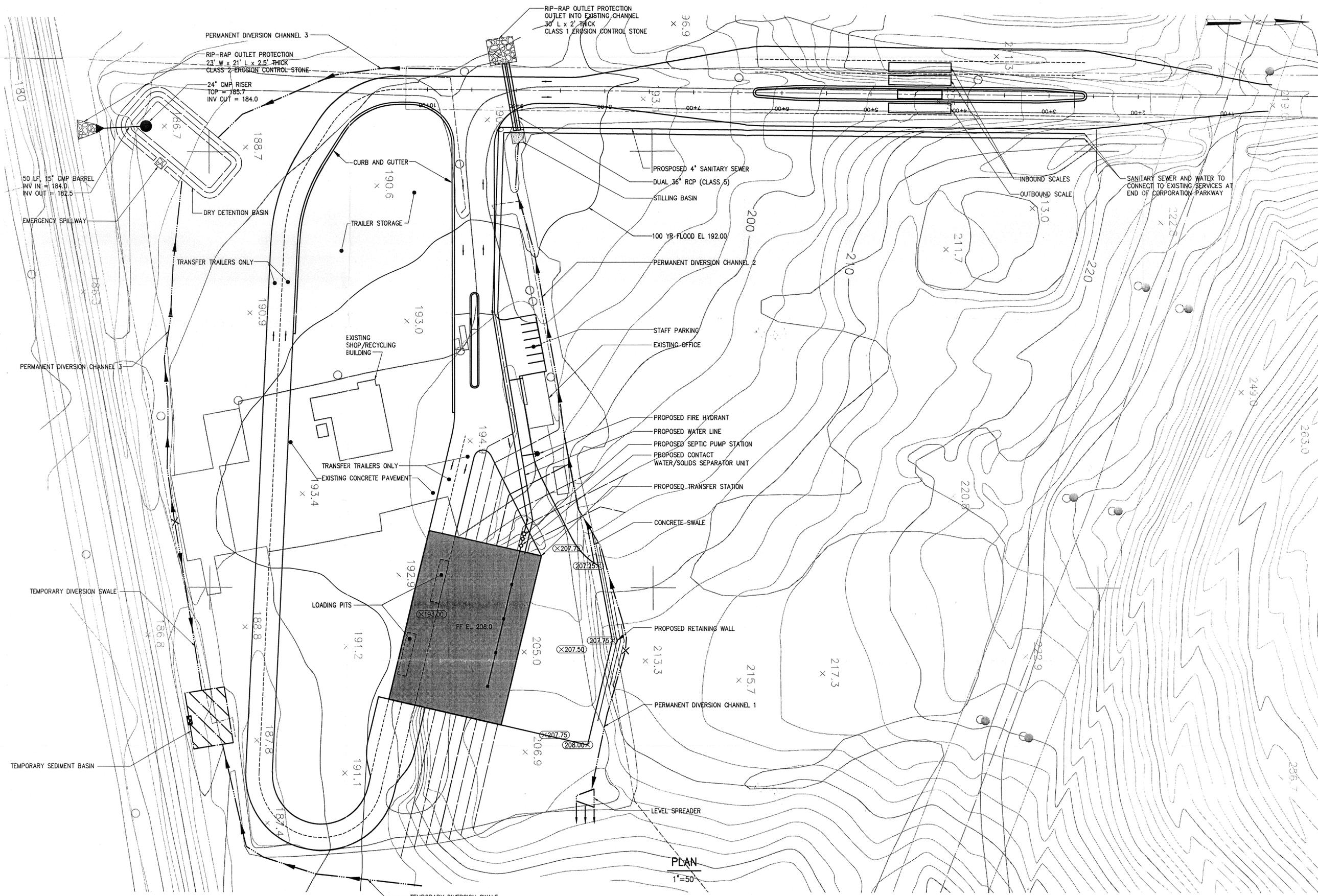
CITY OF RALEIGH
SOLID WASTE SERVICES
WILDERS GROVE SOLID WASTE
TRANSFER FACILITY

AREA PLAN

THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE SEPTEMBER 2002
	H & S JOB NUMBER 30588
	CONTRACT NUMBER
	DRAWING NUMBER S1
	H&S FLAT FILE NO.

NOTES:

- GROUND SURFACE ELEVATIONS BASED UPON AERIAL TOPOGRAPHIC SURVEY CONDUCTED BY SPATIAL DATA CONSULTANTS, HIGH POINT, NORTH CAROLINA DATED OCTOBER 1, 1999.
- BOUNDARY SURVEY DATA PROVIDED BY TAYLOR WEISMAN TAYLOR ON DRAWINGS ENTITLED "PROPERTY OF CITY OF RALEIGH (WILDERS GROVE LANDFILL SITE)" DATED JUNE 14, 2000.



DESIGNED	JAB
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1	APPROVED

ROBERT S. D'AMORE
9/2/02

JOHN A. BOYLE
9/2/02

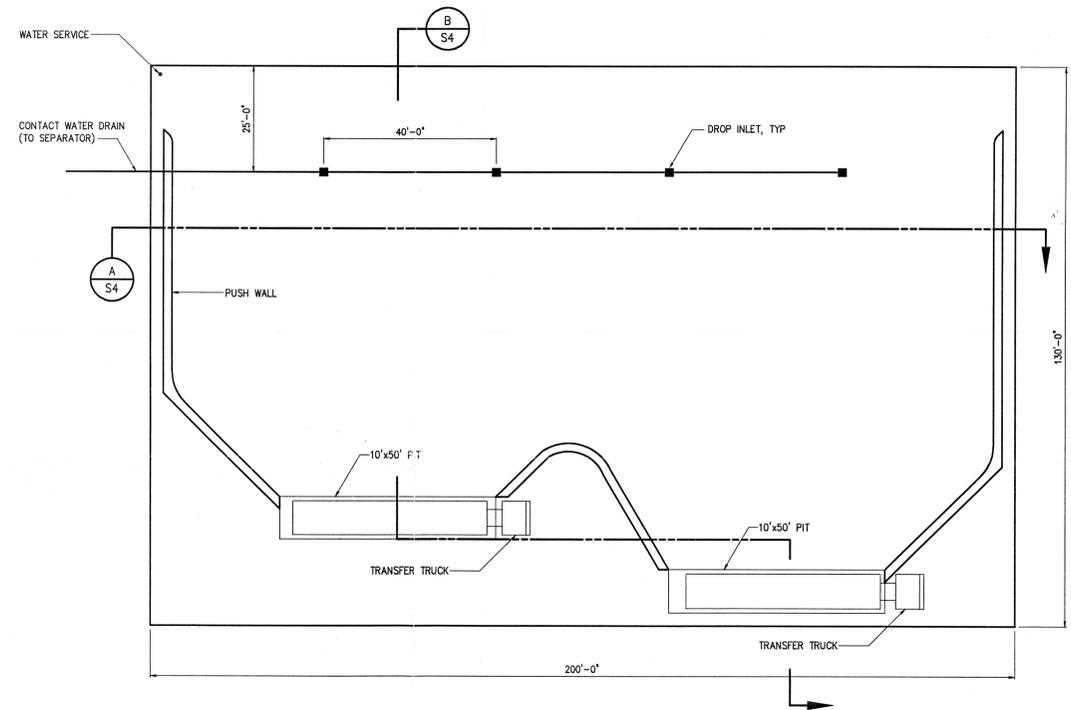
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TRANSFER FACILITY

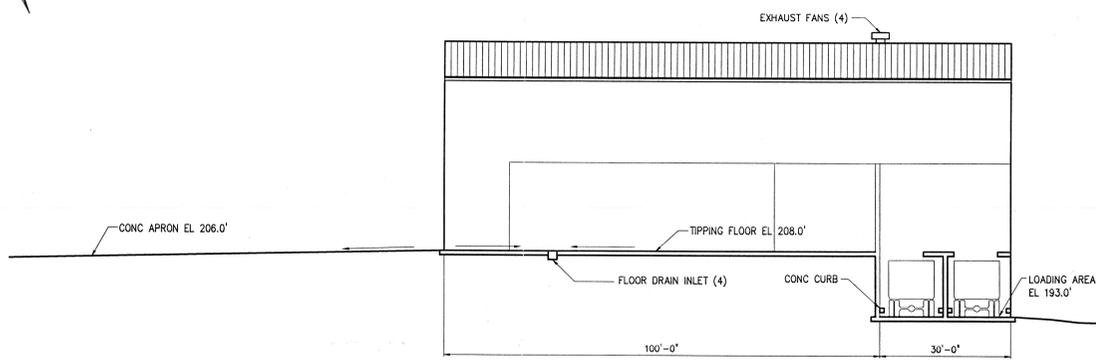
PROPOSED SITE PLAN

THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE SEPTEMBER 2002
H & S JOB NUMBER	30588
CONTRACT NUMBER	DRAWING NUMBER
	S3
H & S FLAT FILE NO.	

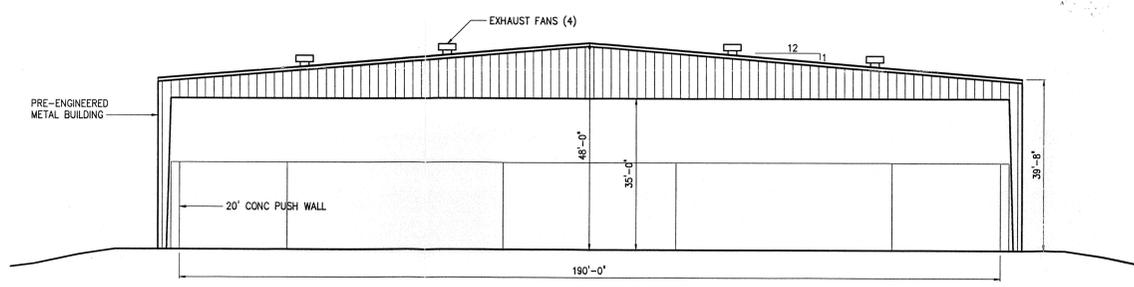
NOTES:



TRANSFER STATION FLOOR PLAN
1/16"=1'-0"



NORTH-SOUTH SECTION
SECTION B
1/16"=1'-0" S4



EAST-WEST SECTION
SECTION A
1/16"=1'-0" S4

NO.	REGULATORY APPROVAL	DATE	BY
1	ISSUED FOR	9/02	JAB

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APPROVED	JAB

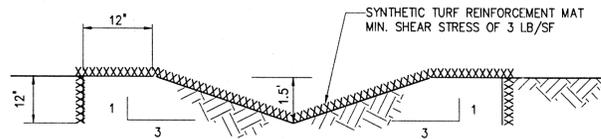


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SOLID WASTE SERVICES
WILDERS GROVE SOLID WASTE
TRANSFER FACILITY

TRANSFER STATION
ARCHITECTURAL
PLANS AND SECTIONS

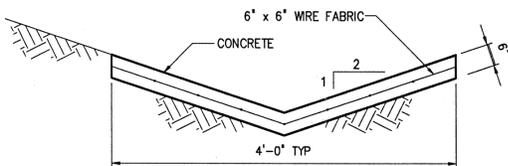
THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE: SEPTEMBER 2002
	H & S JOB NUMBER: 30588
	CONTRACT NUMBER: S4
	DRAWING NUMBER: S4
	H&S FLAT FILE NO.



NOTES:
1 SEE DETAIL 0227014 ON DRAWING D2 FOR LINER ANCHORING DETAIL.

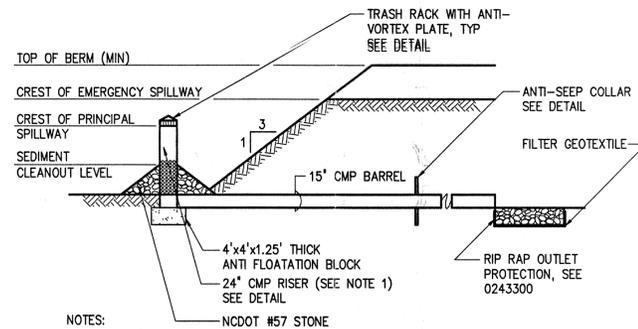
TYPE 1
PERMANENT DIVERSION CHANNEL

DETAIL	1
NTS	S3



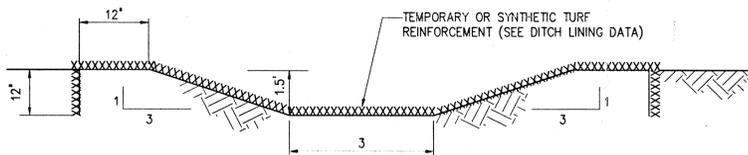
CONCRETE SWALE

DETAIL	3
NTS	S3



NOTES:
1 24" CMP RISER IS PERFORATED WITH 1/2-INCH HOLES SPACED 3" APART ON OUTSIDE CORRUGATIONS FROM CLEANOUT ELEVATION TO ANTI-FLOTATION DEVICE.

BASIN NUMBER	TOP OF BERM EL	SEDIMENT CLEANOUT EL	PRINCIPAL SPILLWAY					EMERGENCY SPILLWAY	
			INVERT EL	CREST OF SPILLWAY EL	RISER DIA. (INCHES)	BARREL DIA. (INCHES)	ANTI-FLOTATION BLOCK DIMENSIONS	WEIR LENGTH (FT)	WEIR CREST ELEVATION
1	188.0	185.0	184.0	185.7	24	15	4' x 4' x 1.25'	10	187.0



TYPE "2" DITCH LINING DATA		
CHANNEL NUMBER	LINING TYPE	MINIMUM SHEAR STRESS (lb/ft sq)
2	PERMANENT	3
3	TEMPORARY	1.5
4	TEMPORARY	1.5

NOTES:
1 SEE DETAIL 0227014 ON DRAWING D2 FOR LINER ANCHORING DETAIL.

TYPE 2
PERMANENT DIVERSION CHANNEL

DETAIL	2
NTS	S3

DRY DETENTION BASIN

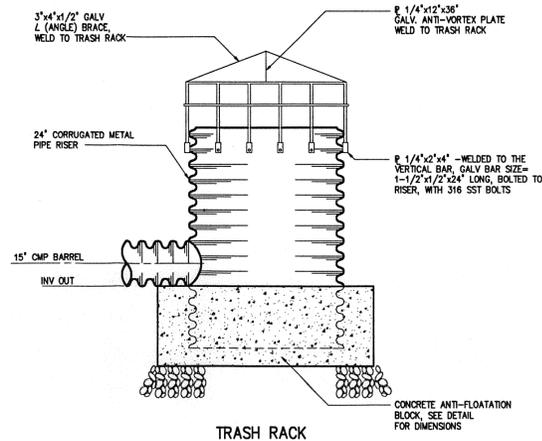
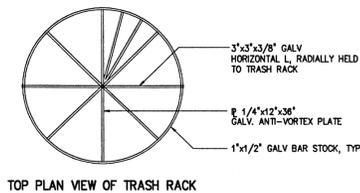
DETAIL	4
NTS	S3

SEEDING SCHEDULE
CITY OF RALEIGH TRANSFER STATION

APPLICATION RATES IN POUNDS/ACRE							
SEED*** MIXTURE	PLANTING SEASON	LIME*	SEED	FERTILIZER**	STRAW MULCH	TOPDRESSING*	COMMENTS
P	FEB 15-APRIL 30 SEPT 1-OCT 31	4000	170	1000	4000	500 OF 10-10-10 60 OF NITROGEN	PREFERRED PLANTING SEASONS ARE FEB 15-MAR 20 AND SEPT 1-SEPT 30.
TW	JAN 1-MAY 31	2000	170	750	4000	N/A	OVER SEED WITH TYPE P SEED MIXTURE DURING NEXT PLANTING SEASON
TS	MAY 1-AUG 15	2000	40	750	4000	N/A	OVER SEED WITH TYPE P SEED MIXTURE DURING NEXT PLANTING SEASON

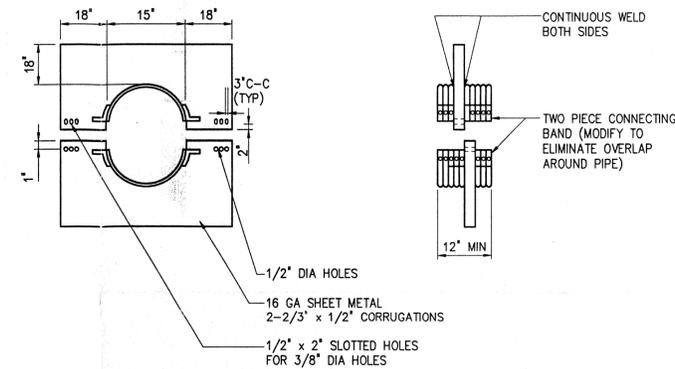
- * APPLICATION RATES AND/OR CHEMICAL ANALYSIS SHALL BE CONFIRMED OR ESTABLISHED BY SOIL TEST.
- ** FERTILIZE SHALL BE 10-10-10 ANALYSIS. UPON WRITTEN APPROVAL OF THE CITY OF RALEIGH PUBLIC WORKS DEPARTMENT, A DIFFERENT ANALYSIS OF FERTILIZER MAY BE USED PROVIDED THE 1-1-1 RATIO IS MAINTAINED AND THE RATE OF APPLICATION ADJUSTED TO PROVIDE THE SAME AMOUNT OF PLANT FOOD AS A 10-10-10 ANALYSIS.
- *** SEED MIXTURES TO BE USED ON THE PROJECT SHALL BE AS FOLLOWS:

- P - PERMANENT SEEDING
80#/ACRE KENTUCKY 31 TALL FESCUE
50#/ACRE PENSACOLA BAHIAGRASS
40#/ACRE KOBE LESPEDEZA
- TW - TEMPORARY WINTER SEEDING
120#/ACRE RYE (GRAIN)
50#/ACRE KOBE LESPEDEZA
- TS - TEMPORARY SUMMER SEEDING
40#/ACRE GERMAN MILLET



TRASH RACK

TRASH RACK	DETAIL	5
	NTS	S5



ELEVATION VIEW

END VIEW

- NOTES:
1. THE LAP BETWEEN THE TWO HALF-SECTIONS SHALL BE CAULKED WITH BITUMINOUS MASTIC AT THE TIME OF INSTALLATION. UNASSEMBLED COLLARS SHALL BE MARKED BY PAINTING OR TAGGING TO IDENTIFY MATCHING PAIRS.
 2. ANTI SEEP COLLAR MUST BE AT LEAST 3' DOWN STREAM FROM CLOSEST PIPE JOINT.

ANTI-SEEP COLLAR

ANTI-SEEP COLLAR	DETAIL	6
	NTS	S5

DESIGNED	RSD			HAZEN AND SAWYER Environmental Engineers & Scientists 4011 WestChase Blvd, Raleigh, North Carolina 27607	CITY OF RALEIGH SOLID WASTE SERVICES WILDERS GROVE SOLID WASTE TRANSFER FACILITY	EROSION AND SEDIMENTATION CONTROL DETAILS AND SECTIONS	DATE: SEPTEMBER 2002 H & S JOB NUMBER: 30588 CONTRACT NUMBER: [blank] DRAWING NUMBER: S5 H & S FLAT FILE NO.: [blank]
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CHECKED	JAB						
PROJ. ENGR.	JAB						
1	REGULATORY APPROVAL	9/02	JAB	140			
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