Scanned By	Date	DOC ID	Permit
Backus	09/16/2014	20963	33G-LCID-

CONSULTING ENGINEERS, PA
CIVIL, MUNICIPAL & STRUCTURAL ENGINEERS
COMPREHENSIVE ENVIRONMENTAL SERVICES

February 4, ~~2013~~ 2014 pmb

NCDENR Division of Waste Management
Solid Waste Section Permitting
Raleigh Regional Office
1646 Mail Service Center
Raleigh, NC 27699-1646

APPROVED
DIVISION OF WASTE MANAGEMENT
SOLID WASTE SECTION
Date 09/16/2014 **By** Patricia M. Backus
DIN 20963
Attachment 1 **Part** V **Document** 6
Permit 33G-LCID- **Permit DIN** 21782

RE: CITY OF ROCKY MOUNT LCID LANDFILL PH VI
Edgecombe County
City of Rocky Mount LCID #33-G

Dear Sir or Madam:

We are submitting plans for a **Permit Amendment** for the next phase of the City of Rocky Mount Land Clearing and Inert Debris (LCID) Landfill, (Permit #33-G), Edgecombe County. The original 2003 permit was for 80-acres of LCID, divided into multiple phases, as shown on the attached plans. The current 6.5-acre phase of the City's LCID Landfill (Phase VII) is near capacity, and the City would like to prepare for the next phase.

Please review the enclosures and let us know if you have any comments or questions.

Respectfully,
Appian Consulting Engineers, P.A.

David C. Revoir, PE

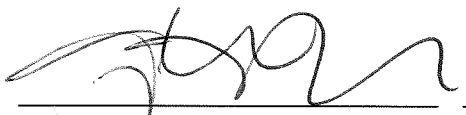
P.O. Box 7966 · Rocky Mount, NC 27804 · 252.972.7703, v · 252.972.7638, f
www.AppianEngineers.com · admin@appianengineers.com

Applicant Signature Page

Name of Facility **Rocky Mount LCID Landfill Ph. VI**

I certify that I have read and understand this application and that the information provided is true, accurate, and complete to the best of my knowledge.

I understand that North Carolina General Statute 130A-22 provides for administrative penalties of up to fifteen thousand dollars ($15,000.00) per day per each violation of the Solid Waste Management Rules. I further understand that the Solid Waste Management Rules may be revised or amended in the future and that the facility siting and operations of this solid waste management facility will be required to comply with all such revisions or amendments.



Signature

Jonathan L. Boone, PE
Print Name

1-23-14
Date

Director of Public Works & Water Resources
Title

City of Rocky Mount
Business or Organization name

LETTER OF TRANSMITTAL

CONSULTING ENGINEERS, PA
CIVIL, MUNICIPAL & STRUCTURAL ENGINEERS
COMPREHENSIVE ENVIRONMENTAL SERVICES
P.O. Box 7966 • Rocky Mount, NC 27804
Phone: (252) 972-7703
Fax: (252) 972-7638
www.appianengineers.com

DATE:	ACE JN:
2/4/2014	13.051

TO:
NCDENR Division of Waste Management
Solid Waste Section Permitting
1646 Mail Service Center
Raleigh, NC 27699-1646 919.707.8255

PROJECT:
City of Rocky Mount LCID Landfill Phase VI
Permit #33-G, Edgecombe County

GENTLEMEN: We are sending you (X) herewith ( ) under separate cover:

SUBMITTAL FOR:	CODE
FOR APPROVAL	1
FOR YOUR USE	2
AS REQUESTED	3
BID TAB DISTRIBUTION	4
APPROVED PERMITS	5
REVIEW AND COMMENT	6
PLEASE SIGN AND RETURN	7

ACTION	CODE
APPROVED	A
APPROVED AS NOTED	B
NOT APPROVED	C
REVISE AND RESUBMIT	D
PLEASE SIGN AND RETURN	E

PRINT COPIES	DRAWING NUMBER (REVISION NO. OR DATE)	DESCRIPTION	CODE
1	-	Cover Letter	1
2	-	Sets of Plans	1
2	-	Operational Plan	1
1	-	CD of Enclosures	1

Remarks:

Submitted for approval.

THANK YOU!

If enclosures received are not listed above, kindly notify at once.
Thank you,

By: _____ *Date:* 2-4-14

David C. Revoir, PE, LEED AP
drevoir@appianengineers.com

Received By: _____

OPERATIONAL PLAN

APPROVED
DIVISION OF WASTE MANAGEMENT
SOLID WASTE SECTION
Date 09/16/2014 By Patricia N. Beckwith
DIN 20963
Attachment 1 Part V Document 6
Permit 33G-LCID- Permit DIN 21782

OPERATIONAL PLAN

CITY OF ROCKY MOUNT LCID LANDFILL

Edgecombe County, NC
NCDENR Permit #33-G
January 2, 2014

ACE JN: 13.051

CONSULTING ENGINEERS, PA
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CITY OF ROCKY MOUNT

LAND CLEARING AND INERT DEBRIS LANDFILL

Last Revised 1.2.14

FACILITY INFORMATION

Facility Name:	**CITY OF ROCKY MOUNT LAND CLEARING AND INERT DEBRIS (LCID) LANDFILL**	**Last Revision Date of LCID Plan:**	November 2010
County:	Edgecombe	**Date of Initial LCID Plan:**	April 15, 2003
Type of Facility:	LCID Landfill ☒ C&D Landfill ☐	**Type of Permit:**	New ☐ Amendment ☒ Modification ☐
Total Number of Phases:	7	**Current Phase:**	Existing Phase VII is near capacity; Phase VI is currently proposed, requiring a Permit Amendment
Operating Schedule:	Monday thru Friday 7:30 am to 6:00 pm	**Date of Initial Operation:**	2005
NCDENR Solid Waste Permit Number:	33-G	**Date Permit Issued:**	April 25, 2005
Acreage of Site:	80ac± permitted as LCID on 400ac tract	**Longitude/ Latitude**:	-77.75092 / 35.99492
Address of Site:	3873 Old Battleboro Road Rocky Mount, NC 27801	**Telephone at Site:**	-

Directions to Site:

From US Hwy 64, take Exit #469 for US-301 Business/ N. Church Street in Rocky Mount. Turn left onto US-301/ N. Church Street. After approx. 2.3 miles, turn right at signs to "Fountain Correctional Center" onto Instrument Drive/ Fountain School Road. At end of Fountain School Road, cross Old Battleboro Road into City of Rocky Mount property. Continue approx. 0.25 mile along gravel drive. LCID landfill site will be on right in clearing.

1.1 CONTACT INFORMATION/ RESPONSIBLE PARTIES

Contact:	**Jonathan L. Boone, PE**	Phone:	252.972.1299
Title:	Director of Public Works	Fax:	252.972.1173
Company:	City of Rocky Mount	Email:	jonathan.boone@rockymountnc.gov
Address:	331 South Franklin Street Rocky Mount, NC 27804		

Contact:	**Ed White**	Phone:	252.467.4907
Title:	Street/Stormwater Superintendent	Fax:	252.467.4905
Company:	City of Rocky Mount	Email:	ed.white@rockymountnc.gov
Address:	208 East Grand Avenue Rocky Mount, NC 27804		

1.2 CONSULTING ENGINEER

Contact:	**David C. Revoir, PE**	Phone:	252.972.7703
Company:	Appian Consulting Engineers, PA	Fax:	252.972.7638
Address:	PO Box 7966 Rocky Mount, NC 27804	Email:	drevoir@appianengineers.com

1.3 FACILITY HISTORY

The Rocky Mount LCID Landfill was developed in order to provide for a single location to dispose of inert debris generated by City forces during the course of their duties. In addition to consolidating this material in one location, the LCID Landfill was envisioned as a way to provide more oversight and control over the disposal of such waste and a mechanism by which to insure that disposal of such material was handled in a manner consistent with regulations promulgated by the State of North Carolina and administered by NCDENR.

While the landfill was designed in such a way as to provide a long term solution for the disposal of such waste by the City, it is the intent of the City to be judicious in its use in order to extend the service life of the facility and to divert waste that could be disposed of in a more cost effective manner from reaching the LCID (e.g. vegetative debris that could be processed at the Arrow Road compost site).

Appian Consulting Engineers prepared the original plans to permit the construction, which was issued on April 15, 2003. NCDENR issued Permit #33-G to operate the facility was issued on April 25, 2005. The facility was designed to be built out across seven (7) individual phases, providing a total disposal capacity of over 940,000 cubic yards.

The current 6.5-acre phase of the LCID Landfill (Phase VII) is near capacity, and the City desires to expand into the next phase (Phase VI), which is approximately 8-acres. At present the City is operating in Phase VII which provides an estimated disposal capacity of 153,342 cubic yards. At current disposal rates, it is estimated that Phase VI will provide adequate disposal capacity for the City between now and the year 2023.

1.4 MATERIAL ACCEPTED

Material accepted at the LCID will be as defined in the North Carolina Solid Waste Management Statutes (NCGS 130A, Article 9) and Solid Waste Management Rules (15A NCAC 13B .0560-.0565).

ACCEPTABLE MATERIALS	PROHIBITED MATERIALS
Gravel	Asbestos products
Natural, untreated, unpainted wood	Asphalt shingles
Rock	Batteries
Tree material, leaves, limbs, stumps, brush	Cardboard and paper products
Uncontaminated soil	Furniture/ Appliances/ White goods
Unpainted solid asphalt	Garbage/ Household waste
Unpainted brick	Glass
Unpainted concrete (no rebar)	Hazardous Waste
Unpainted concrete block	Insulation
	Liquids
	Metal
	Oil
	Paint
	Plastics or plastic buckets
	Pressboard
	Sheetrock
	Tires
	Treated and/or painted wood
	Wooden pallets

1.5 OPERATIONAL GUIDELINES

Operational parameters for Phase VI of the LCID will be as follows:

- This site operated in strict accordance with the NCDENR approved Operation Plan for this site. Should the City choose to construct the proposed phase in sections, each "section" must be certified as ready to receive LCID material prior to its placement. The certification shall include a location sketch and depth to SHWT, and is to be kept on site in the Operation Plan notebook.
- In general, the facility will be open Monday through Friday from 7:30 a.m until 6:00 p.m.
- The LCID will not be made available or accept waste from the public. Access to the facility is limited to City of Rocky Mount personnel or their agents disposing of waste generated in the course of carrying out their duties on behalf of the City.
- Access will be from Old Battleboro Road and controlled by means of a steel gate. Signs will be maintained at the entrance providing the contact name and number in case of an emergency and the permit number for the facility (33G).
- A secondary gate will be maintained at the point of access to Phase VII and signs posted to advise users of acceptable and unacceptable waste for disposal at the LCID. The gate shall be unlocked and then locked after each use.

- Routine inspections will be conducted by Public Works personnel. Any violation of the disposal guidelines noted during these routine inspections will be relayed to the Department of Public Works for follow up.
- The City Streets/Stormwater Division will insure that adequate soil cover is applied **monthly** or when the active area reaches **one acre** in size, whichever occurs first.
- 120 calendar days after completion of any phase of disposal operations, or upon revocation of a permit, the disposal area shall be covered with a minimum of one foot of suitable soil cover sloped to allow surface water runoff in a controlled manner.
- Solid waste shall be restricted to the smallest area feasible and compacted as densely as practical into cells, and is not to be placed in water.
- The bottom elevation of the waste shall be at least four (4) feet above the seasonal high water table (SHWT).
- The City will maintain adequate erosion control measures to prevent silt from leaving the site and to prevent excessive on site erosion.
- Provisions for a ground cover sufficient to restrain erosion must be accomplished *within 30 working days* or 120 calendar days upon completion of any phase of landfill development.
- The City will maintain the existing gravel access roads to ensure all-weather construction and proper maintenance.
- Open burning of solid waste is prohibited. If a fire does occur at the site, the City is legally required by NCDENR to notify NCDENR Solid Waste Section within 24 hours of the occurrence followed by a written report of the details of the fire. The written report must include the cause, location on the premises, the dimensions and volume of material involved, a description of emergency response activities, and a description of mitigation measures implemented to reduce or eliminate conditions leading to the fire.
- Addition of beneficial fill necessary to expand the disposal area within the Phase VI limits will be introduced as the footprint of the disposal area necessitates expansion.
- Within 3 to 5 years of the build out of Phase VI, the City of Rocky Mount will pursue the permit(s) necessary to open the next phase of the LCID.
- The City will maintain permanent markers that will accurately identify the edge of the approved waste disposal boundary.

1.6 LEACHATE AND STORMWATER QUALITY

- To the maximum degree possible, surface water will be diverted from the LCID via the use of perimeter diversion swales.
- The City WWTP adjacent to the site will maintain a rain gauge for the LCID.
- Adequate erosion control measures will be maintained on site to prevent silt from leaving the site and to prevent excessive erosion.
- Stormwater control features will be inspected on a weekly basis and within 24 hours of a ½" rainfall event. Said inspection will include recording a qualitative judgment of the clarity, floating solids, suspended solids, oil sheen, and other obvious factors indicative of stormwater quality.

1.7 SECURITY

Access to the LCID is controlled through the use of two gates. The first is located at the entrance to the City's property adjacent to the intersection of Old Battleboro Road and Fountain School Road and is opened in the morning and closed in the evening Monday through Friday. The second gate is located at the entrance to the only active cell in the LCID (Phase VII). This gate remains locked and is opened and then resecured by the employees using the LCID after each use. In addition to the gates, site security is provided through periodic visits by City staff and through weekly inspections of the site. The location of the LCID, located approximately 0.4 mile from Old Battleboro Road, also tends to discourage unauthorized use due to the lack of visibility and the distance required to access the site.

In order to discourage unauthorized access after hours, the gates are closed by personnel at the adjacent City Wastewater Treatment Plant after 6:00 p.m. Monday through Friday and the gates remain closed on Saturday and Sunday.

1.8 PERSONNEL REQUIREMENTS

Only city staff and city authorized contractors are permitted to use the LCID. This site is not open to the public or outside contractors. For those departments with staff permitted to use the LCID, a briefing of the Operations Plan will be provided once approved by NCDENR. In addition, a copy of the plan will be posted at the site. In addition to training the appropriate personnel, an activity log will be maintained at the site to document activity at the LCID and to characterize the origin, type, and quantity of material received.

1.9 RECORD KEEPING

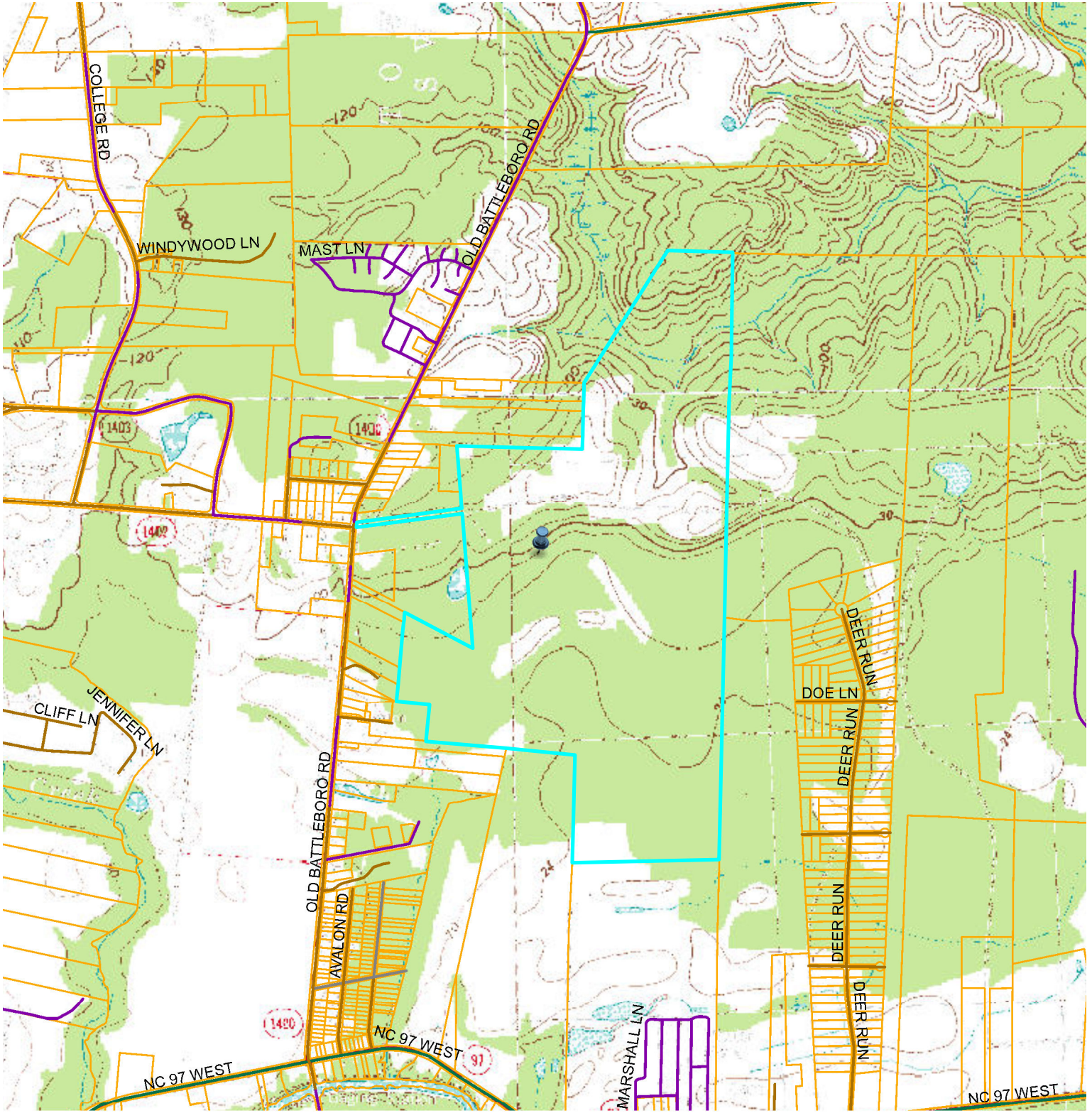
At a minimum, Public Works personnel conduct routine inspections of the LCID (at least on a weekly basis) to check for inappropriate material, placement of adequate soil cover, adequate sedimentation and erosion control measures, to review activity recorded in the daily log, and to verify that an up to date copy of the Operations Plan is available on site. These inspections will be documented and retained in the on-site activity log. In addition to routine inspections, personnel will also inspect the site after a ½ inch rainfall event or greater to inspect the stormwater control features and to characterize the quality of stormwater runoff. A copy of the inspection reports will be retained on site.

1.10 EMERGENCY CONTINGENCY PLAN

Edgecombe County and the City of Rocky Mount Fire Departments will respond to any emergencies associated with operation of the LCID. Circumstances requiring emergency response will be reported by staff or the general public through the use of 911 or based on contact information maintained at the entrance to the LCID. In the event access to the site is disrupted due to an emergency, each of the operating Divisions that utilize the City of Rocky Mount LCID will be advised of the temporary closure and the need to make arrangements with the Nash County or Edgecombe County Landfill to dispose of material destined to the LCID until the site is reopened.

END OF PLAN

MAPS



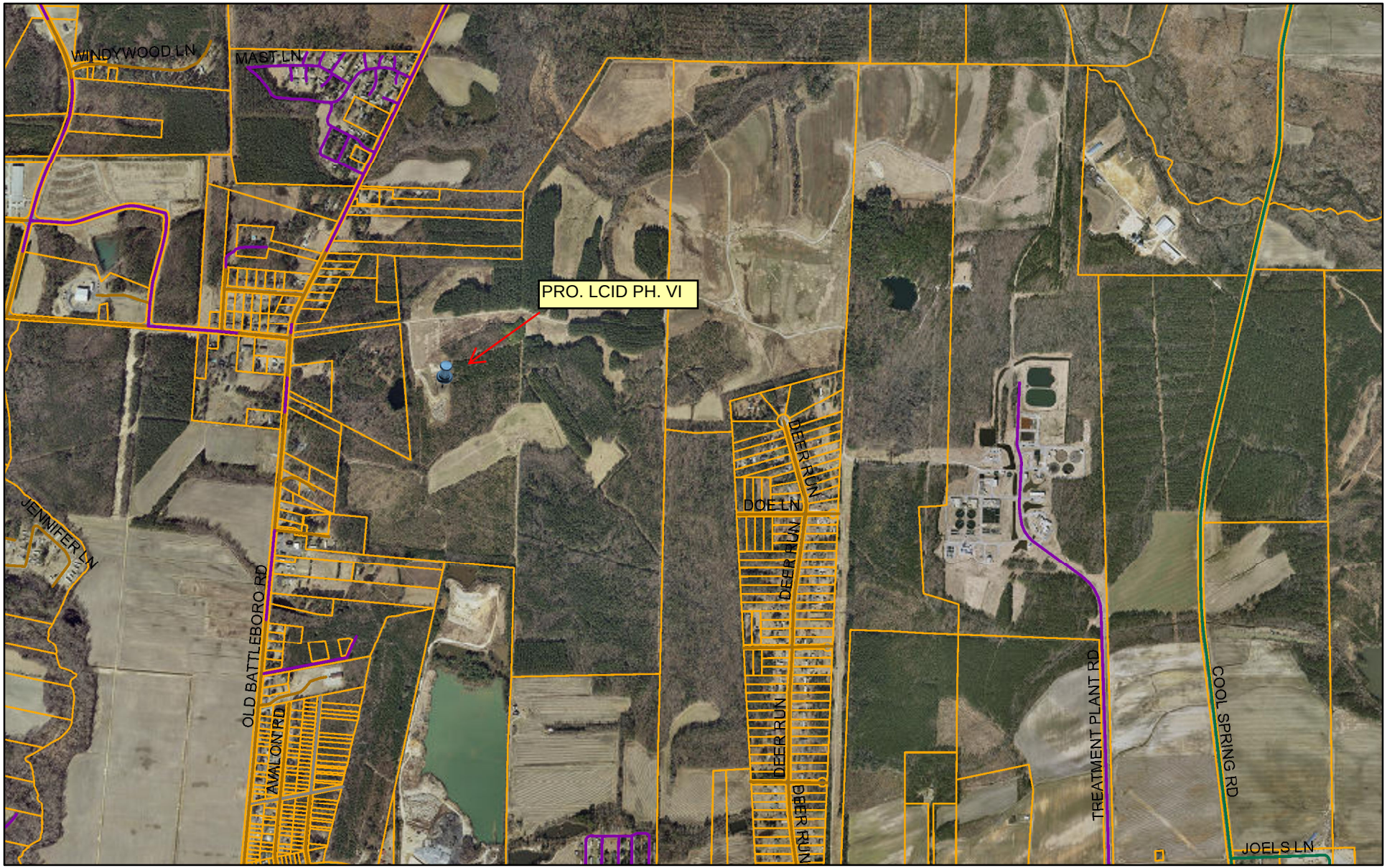
Edgecombe County

PARCEL ID: 3871-09-9540
PIN: 3871099540
OWNER: CITY OF ROCKY MOUNT
PO BOX 1180
ROCKY MOUNT NC 27802
LOCATION: OLD BATTLEBORO RD
PROP DESC: CITY OF RMT INERT DEBRIS SITE
ACCOUNT: 24868
DEED REF: 1071/0247
DEED DATE: 1991-10-31 00:00:00
SALE PRICE: 0.0
ACREAGE: 395.91
LAND VALUE: $463,879.00
BLDG VALUE: $0.00
NET VALUE: $463,879.00
DEFERED: $0.00

1 inch = 1,600 feet

N

July 24, 2013



September 24, 2013

1:19,200

0 0.15 0.3 0.6 mi

0 0.25 0.5 1 km

N

OVERALL PROPERTY MAP for City of Rocky Mount LCID Landfill Rocky Mount, N.C.

GENESIS 1:1

S1

09-000

D-0000

Appian
CONSULTING ENGINEERS, P.A.
CIVIL, MUNICIPAL &
STRUCTURAL ENGINEERS
COMPREHENSIVE
ENVIRONMENTAL SERVICES
BLN = C0562

154 Roundabout Ct.
Rocky Mount, N.C. 27804
Phone: (252) 972-7703
Fax: (252) 972-7638

www.appianengineers.com
admin@appianengineers.com

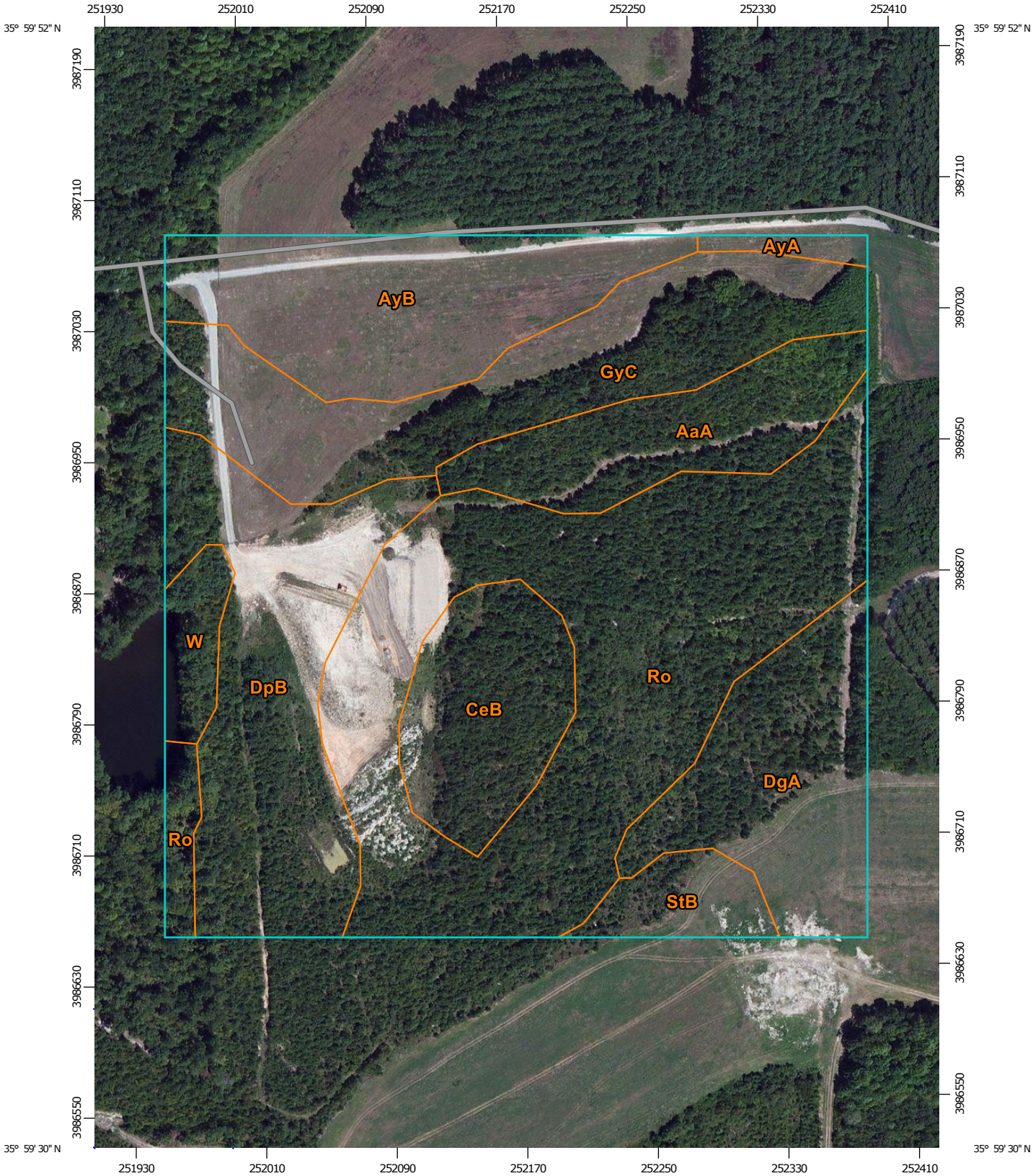
HOR. SCALE: 1"=100'	DATE: AUGUST 2013	DESIGN: DAVID REVOIR
VER. SCALE: N/A	DRAWN BY: Mike Gallina	CHKD: –

REVISIONS

NO. △	DATE:	DESCRIPTION:	BY:	CAD:
△	.	.	.	.

F:\Appian Projects – Shared Folders\13051-CRM LCID cell6\autocad dcr\13051-S1.dwg <O-ALL-100> 09/24/2013 – 4:05:12 PM

Soil Map—Edgecombe County, North Carolina
(CRM LCID SOILS MAP)



Map Scale: 1:3,340 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 45 90 180 270

Feet
0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Edgecombe County, North Carolina
Survey Area Data: Version 8, Jul 3, 2012

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 9, 2010—Sep 10, 2010

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Edgecombe County, North Carolina (NC065)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
AaA	Altavista fine sandy loam, 0 to 3 percent slopes	3.4	7.4%
AyA	Aycock very fine sandy loam, 0 to 2 percent slopes	0.3	0.7%
AyB	Aycock very fine sandy loam, 2 to 6 percent slopes	5.4	11.9%
CeB	Conetoe loamy sand, 0 to 4 percent slopes	3.2	7.0%
DgA	Dogue fine sandy loam, 0 to 3 percent slopes	4.5	9.8%
DpB	Duplin sandy loam, 2 to 5 percent slopes	6.7	14.6%
GyC	Gritney fine sandy loam, 6 to 10 percent slopes	6.6	14.4%
Ro	Roanoke loam	13.5	29.5%
StB	State loamy sand, 0 to 4 percent slopes	1.2	2.6%
W	Water	0.9	2.0%
Totals for Area of Interest		**45.7**	**100.0%**

LOCAL ZONING APPROVAL

CITY OF ROCKY MOUNT NORTH CAROLINA

DEPARTMENT OF
PLANNING AND DEVELOPMENT

February 5, 2014

Ms. Karyn Pageau, EIT, CPESC
NCDENR Land Quality Section
Raleigh Regional Office
1628 Mail Service Center
Raleigh, NC 27699

Dear Ms. Pageau,

The proposed expansion of the City of Rocky Mount LCID landfill will be situated on land owned by the City of Rocky Mount. The landfill is located in Edgecombe County and the site is currently zoned as agricultural. As such, please accept this letter as verification that the City of Rocky Mount LCID landfill is consistent with the City of Rocky Mount's existing land use and zoning ordinances.

Should you require any additional information regarding this matter, please advise.

Sincerely,

Ken A. Graves
Director of Planning and Community Development
City of Rocky Mount

Cc: Jonathan Boone, Director of Public Works and Water Resources

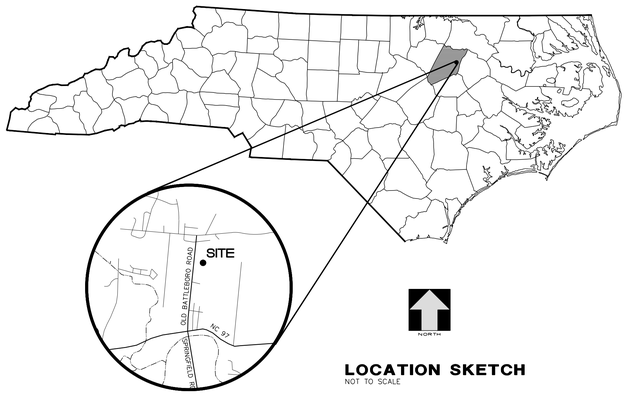
PERMIT DRAWINGS

CITY OF ROCKY MOUNT
LCID LANDFILL
(PHASE VI)

GENERAL NOTES

Last Revised 1.2.14

1. The purpose of this project is to expand into the next phase (Phase VI) of a 80-acre Land Clearing Inert Debris (LCID) Landfill, owned and operated by the City of Rocky Mount. The current 6.5-acre phase of the LCID Landfill (Phase VII) is near capacity, and was permitted in August 15, 2003, under NCDENR Soild Waste LCID Permit #33-G. NCDENR issued a Letter of Approval for the Erosion and Sedimentation Control Plan for the existing phase on July 30, 2003 (Rocky Mount LCID Landfill Ph. VII). The 400-acre property is located in Edgecombe County within the city limits of the City of Rocky Mount.
2. *A Land Clearing Inert Debris (LCID) Landfill is a facility that is permitted to receive only land clearing waste, concrete, brick, concrete block, uncontaminated soil, gravel and rock, untreated and unpainted wood, and yard trash .*
3. An amended NCDENR Land Clearing Inert Debris (LCID) Landfill permit must be issued prior to commencement of any landfill operations. A permit amendment is a required application for the next 5 years of disposal operations within the previously approved landfill waste boundaries.
4. This site is to be constructed per NCDENR requirements and operated in strict accordance with the NCDENR approved Operation Plan for this site. Should the City choose to construct the proposed phase in sections, each "section" must be certified as ready to receive LCID material prior to its placement. The certification shall include a location sketch and depth to SHWT, and is to be kept on site in the Operation Plan notebook.
5. The bottom elevation of the LCID solid waste shall be a minimum of four (4) feet above the seasonal high water table (SHWT). No solid waste is to be placed in the 100-year floodplain.
6. Topographical information was taken from an engineering field survey performed by the City of Rocky Mount, July 2013, and from actual field survey performed by Joyner-Keeny in 2003. Boundary information obtained from survey performed by Chamblee & Strickland Surveyors, 4.16.07. Additional property information obtained from Edgecombe County GIS.
7. No location of property boundaries, easement, wetland delineation, flood zones or buffers was performed, and must be done by a Professional Land Surveyor. This document is NOT to be used as a Deed of Easement, nor is it to be construed to permit the location, description, establishment or reestablishment of property lines or descriptions of land boundaries for conveyance. Vertical datum is NAVD 88.
8. All materials, construction, workmanship shall meet the City of Rocky Mount Manual of Standards and Design and NCDENR requirements. City standards shall be met.
9. Contractor shall comply with all pertinent provisions of the "Manual of Accident Prevention in Construction" issued by AGC of America, Inc., and the Safety and Health Regulations for Construction issued by the U.S. Department of Labor.
10. **EXISTING UTILITIES**
    a. The Contractor shall be responsible for reviewing and verifying all existing site conditions. Any adverse existing conditions affecting work shown shall be brought to the attention of the engineer for possible clarification or reconciliation.
    b. The contractor shall be responsible for the repair of any pavement or existing utilities that may be damaged due to construction activity. Exercise caution.
    c. Existing utility locations shown, if any, are approximate and shall be verified in the field prior to beginning work. Contractor shall contact the 811 One Call Center for locations of existing utilities prior to beginning construction.
    d. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFICATION OF THE LOCATION AND DEPTH OF ALL UTILITIES AND STRUCTURES WHICH CROSS THE WORK SITE OR WHICH MAY BE AFFECTED BY HIS OPERATIONS.
    e. Contractor is responsible for determination or discovery of existing underground storage tanks (UST), septic tanks, abandoned utility lines, graves or cemeteries that may exist on the site.
    f. Contractor shall exercise extreme caution when working under, around, and/or adjacent to existing power lines. Electrical lines and power poles are owned and maintained by City of Rocky Mount Public Utilties.
    g. Contractor shall video the existing conditions prior to beginning work to protect against unwarranted claims. Construction areas are to be left in a condition equal to or better than previous condition upon completion of work.
11. **ENVIRONMENTAL**
    a. Floodplain: Although the portions of the 400-acre property are within the 100-year floodplain, the permitted site is not located in a FEMA mapped flood area or Flood Hazard zone per FEMA Map 3720.3861.00K, 6.18.13, and 3720.3871.00E, 1.10.04. The site is not prone to flooding.
    b. There are no wetlands in this phase of the project. The 400-acre site has been delineated for wetlands with COE confirmation. No wetlands are proposed to be disturbed until Phase IV. No fill is to be placed in any wetland.
    c. This site is not located within a Watershed Protected Zone.
12. **EROSION CONTROL:**
    a. Disturbed area is in excess of 1.0 acre and formal NCDENR Sedimentation & Erosion Control plan approval was required as a condition of construction plan approval. A copy of the approved erosion control plan must be kept on site at all times. The approved Sedimentation & Erosion Control Plan should be regarded as minimum requirements; additional measures shall be put in place as needed to insure that no sediment is released from the site.
    b. Contractor will be responsible for containing sediment on-site, and contacting NCDENR Land Quality at least 48 hours prior to any land disturbing activity (919.791.4200). *Erosion control is under the jurisdiction of NCDENR.*
    c. The contractor shall maintain erosion control measures on a daily basis. These items will only be paid for once. Maintenance shall be an incidental to installation. The contractor is responsible for any sediment that leaves the site and any associated clean up and fines issued by NCDENR.
    d. Conditions of revised NPDES Permit NCG01000 are part of the approved NCDENR Erosion Control permit. Contractor is responsible to inspect all erosion control measures and complete out NPDES general stormwater permit inspection log weekly and/or after every half inch of rainfall. A rain gage must be kept onsite. Contractor must keep records of these inspections, and submit w/ Request for Payments.
    e. Contractor will be responsible for containing sediment on-site. Maintain construction site in a condition to prevent mud or sediment from leaving the construction site.
    f. Clearing and grubbing operations to include the removal of all topsoil, rootmat and questionable organic material. Construction debris may be disposed of in the existing City LCID landfill on site. Contractor to coordinate with City.
    g. Topsoil to be stockpiled separately as directed by the City. Stockpile to be protected from siltation by the use of silt fence.



LOCATION SKETCH
NOT TO SCALE

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CE-2	GRADING PLAN
CE-3	CROSS SECTIONS for PHASE VI and VII
CE-4	EROSION and SEDIMENTATION CONTROL PLAN
CE-5	EROSION CONTROL NOTES
CE-6	EROSION CONTROL DETAILS

PROJECT CONTACTS

Name/ Title	Entity	Phone	Fax	Email
Jonathan L. Boone, PE Director of Public Works & Water Resources	City of Rocky Mount	252.972.1299 252.343.3221, c	252.972.1295	Jonathan.boone@rockymountnc.gov
Ed White Street/ Stormwater Superintendent	City of Rocky Mount	252.467.4907	252.467.4905	Ed.white@rockymountnc.gov
Joe Dupree Environmental Senior Specialist	NCDENR Land Quality	919.791.4200	-	Joe.dupree@ncdenr.gov
Ben Barnes Environmental Senior Specialist	NCDENR Solid Waste	252.236.4453 919.621.3680, c	-	Ben.barnes@ncdenr.gov
Bobby L. Joyner, PE President	Appian Consulting Engineers	252.972.7703	252.972.7638	bjoyner@appianengineers.com
David C. Revoir, PE Project Engineer	Appian Consulting Engineers	252.972.7703	252.972.7638	drevoir@appianengineers.com

SITE INFO:

Property Acreage:	395.91 Ac.
Zone:	A1
Pro. Impervious Area:	-
Area Disturbed:	12.0

Location:

City:	Rocky Mount
Street Address:	Old Battleboro Rd
County:	Edgecombe
State:	NC
Parcel ID#:	3871.0995.4000
Deed Bk/ Pg	1071/ 247
Latitude:	35.99479793
Longitude:	-77.74865106

SITE PLAN LEGEND

950 — EXISTING CONTOUR
950 — PROPOSED CONTOUR
950.00 — EXISTING GRADE
950.00 — PROPOSED FINISHED GRADE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 26959 DAVID C. REVOIR
01/13/2014

REVISIONS				
NO. △	DATE:	DESCRIPTION:	BY:	CAD:
△	-	-	-	-

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Email: admin@appianengineers.com
World Wide Web: www.appianengineers.com

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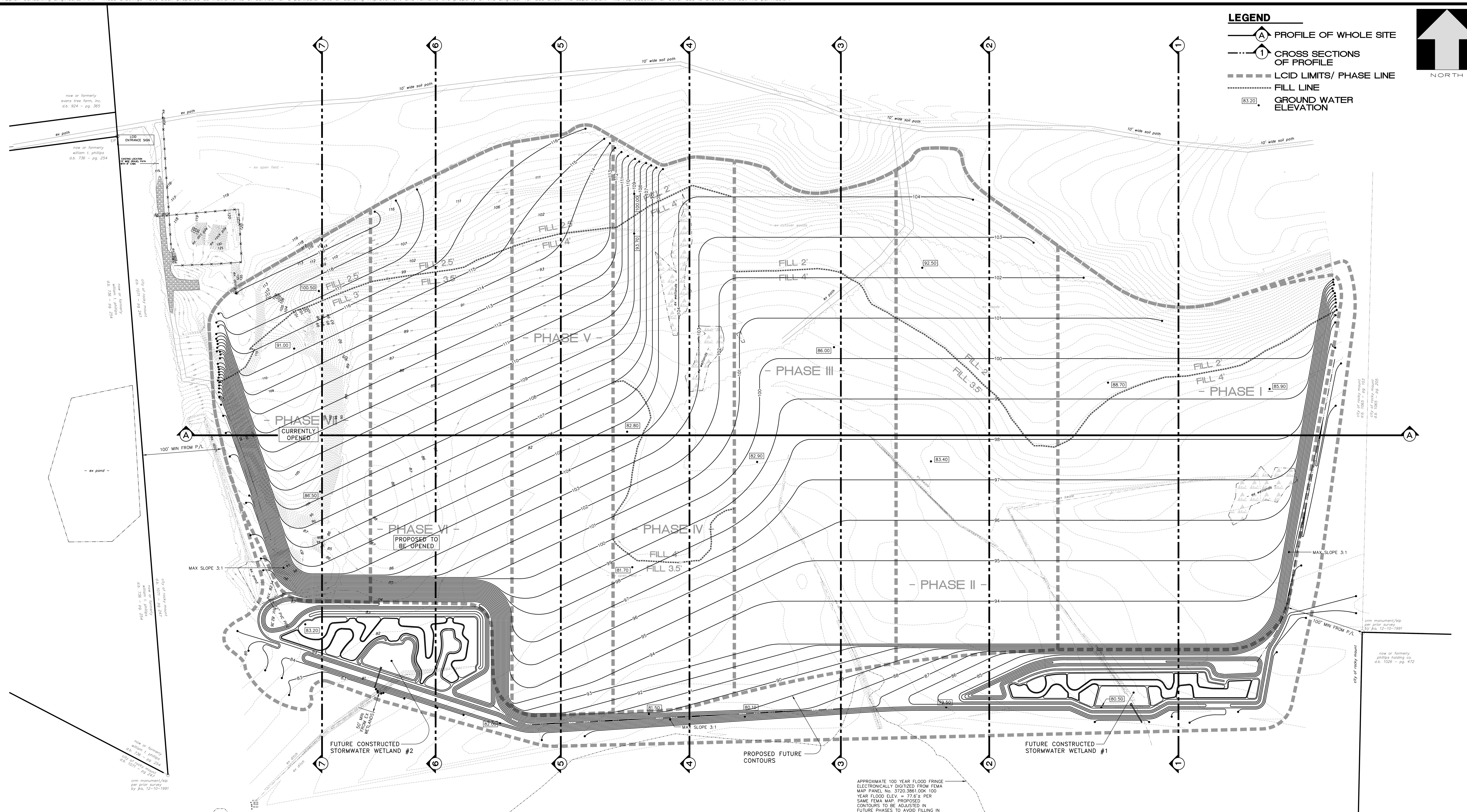
CITY OF ROCKY MOUNT LCID LANDFILL (PHASE VI) / J.N. 13051



PHASES	FILL AMOUNT
I	99,000 CY
II	109,630 CY
III	108,766 CY
IV	137,564 CY
V	160,200 CY
VI	172,226 CY
VII	153,342 CY

TOTAL ISOLATED WETLANDS TO BE FILLED (FUTURE) = 0.77 Ac.

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Approved for Construction:

______________________ Date: ________

BOUNDARY DESCRIPTION SHOWN IS NOT FOR RECORDATION.

RECORD DRAWINGS:

These drawings are believed to be a correct representation of actual field conditions but are not warranted as such.

By: ______________________ Date: ________

CONSTRUCTION SAFETY

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EXISTING CONDITIONS:

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OVERALL PLAN NOTES

Last Revised 1.2.14

1. The purpose of this project is to expand into the next phase (Phase VI) of a Land Clearing Inert Debris (LCID) Landfill, owned and operated by the City of Rocky Mount. The current phase of the LCID Landfill (Phase VII) is near capacity, and was permitted in August 15, 2003, under NCDENR Soild Waste LCID Permit #33-G.
2. *A Land Clearing Inert Debris (LCID) Landfill is a facility that is permitted to receive only land clearing waste, concrete, brick, concrete block, uncontaminated soil, gravel and rock, untreated and unpainted wood, and yard trash .*
3. An amended NCDENR Land Clearing Inert Debris (LCID) Landfill permit must be issued prior to commencement of any landfill operations. A permit amendment is a required application for the next 5 years of disposal operations within the previously approved landfill waste boundaries.
4. Topographical information was taken from an engineering field survey performed by the City of Rocky Mount, July 2013, and from actual field survey performed by Joyner-Keeny in 2003. Boundary information obtained from survey performed by Chamblee & Strickland Surveyors, 4.16.07. Additional property information obtained from Edgecombe County GIS.
5. No location of property boundaries, easement, wetland delineation, flood zones or buffers was performed, and must be done by a Professional Land Surveyor. This document is NOT to be used as a Deed of Easement, nor is it to be construed to permit the location, description, establishment or reestablishment of property lines or descriptions of land boundaries for conveyance. Vertical datum is NAVD 88.
6. All materials, construction, workmanship shall meet the City of Rocky Mount Manual of Standards and Design and NCDENR requirements.
7. Proposed grades shown on overall map are preliminary and subject to change based on actual fill contouring. Proposed grades shown are included in the approved 2003 NCDENR Solid Waste LCID Permit #33-G.
8. **ENVIRONMENTAL**
   a. Floodplain: Project is not located in a FEMA mapped flood area or Flood Hazard zone per FEMA Map 3720.3861.00K, 6.18.13, and 3720.3871.00E, 1.10.04.
   b. There are no wetlands in this phase of the project. The 400-acre site has been delineated for wetlands with COE confirmation. No wetlands are proposed to be disturbed until Phase IV.
   c. This site is not located within a Watershed Protected Zone.

SCALE: 1" = 100'

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www.appianengineers.com
admin@appianengineers.com

HOR. SCALE: - | VER. SCALE: N/A | DATE: AUGUST 2013 | DESIGN: DAVID REVOIR | DRAWN BY: Mike Collins

REVISIONS

SEAL 26959 ENGINEER DAVID C. REVOIR 01/13/2014

LOCATION MAP / OVERALL PLAN for City of Rocky Mount LCID Landfill (PHASE VI) Rocky Mount, N.C. (Nash County)

13-051
D-0000
CE-1

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Approved for Construction:

________________________ Date: ________

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RECORD DRAWINGS:
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By: ________________________ Date:

CONSTRUCTION SAFETY
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SCALE: 1" = 50'
0 50 100 125 150 175 200

HOR. SCALE: - | VER. SCALE: N/A | DATE: AUGUST 2013 | DRAWN BY: Mike Collins | DESIGN: DAVID REVOIR | CHKD: -

REVISIONS
NO. | DATE: | DESCRIPTION: | BY: | CKD:

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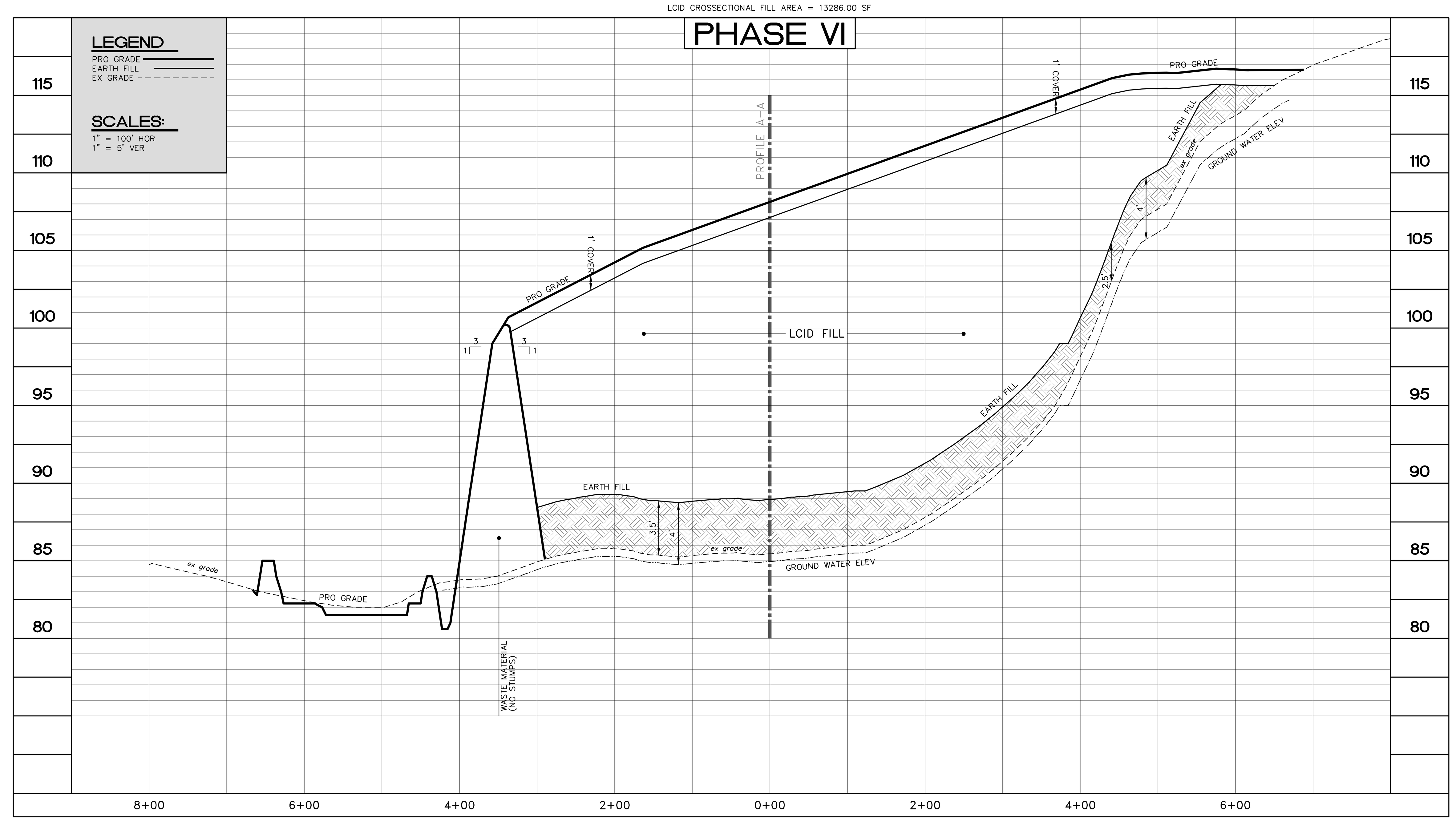
SEAL 26959 ENGINEER DAVID C. REVOIR 01/13/2014

PROPOSED ULTIMATE GRADING PLAN for City of Rocky Mount LCID Landfill (PHASE VI) Rocky Mount, N.C. (Nash County)

13-051
D-0000
CE-2

CROSS SECTION 6-6 STA 22+00



CROSS SECTION 7-7 STA 25+50

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By: Date:

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HOR. SCALE: - DATE: AUGUST 2013 DESIGN: DAVID REVOIR
VER. SCALE: N/A DRAWN BY: Mike Collins CHKD: -

REVISIONS

NO.	DATE:	DESCRIPTION:	BY:	CAD:
△				

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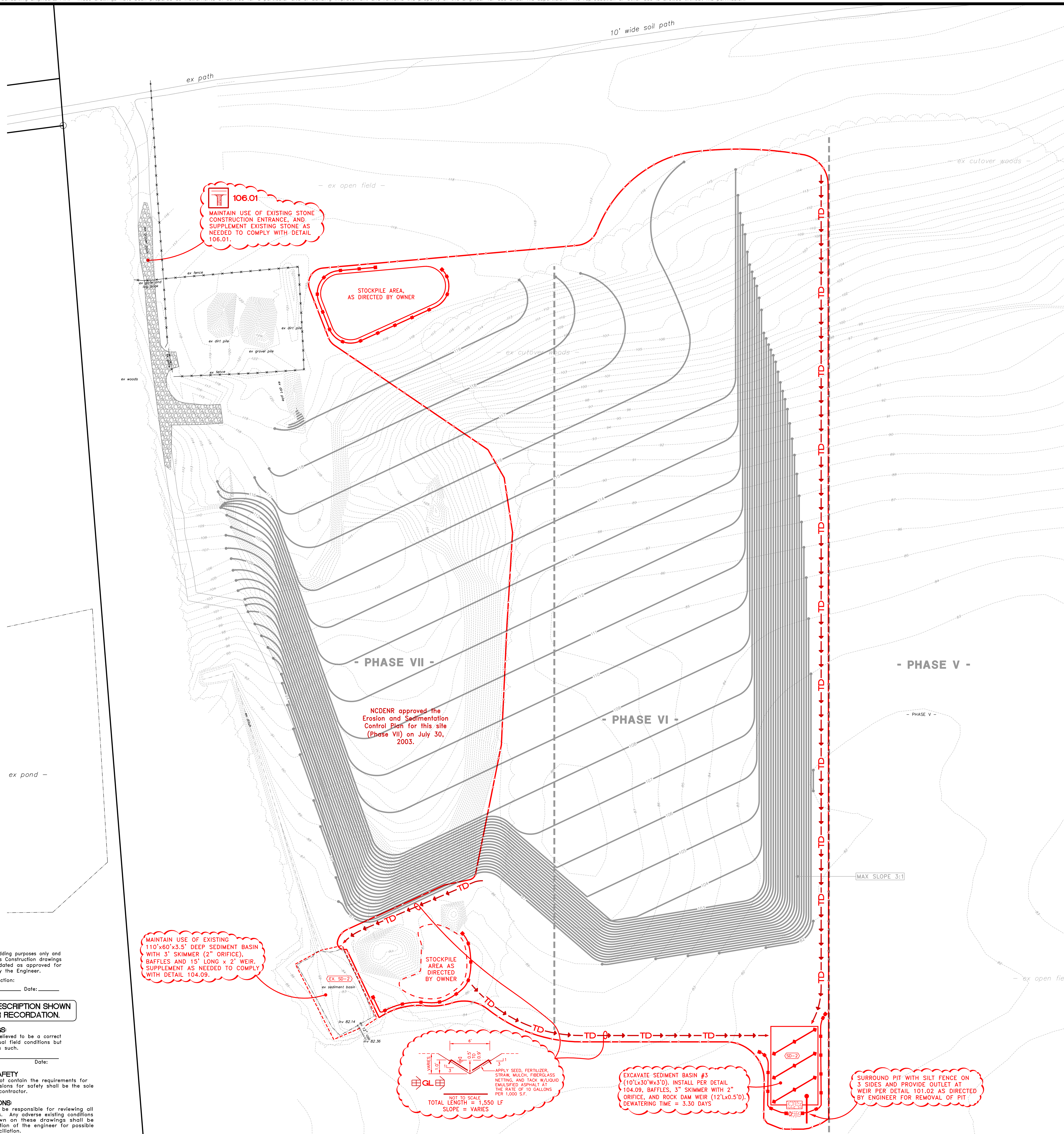
SEAL 26959 ENGINEER DAVID C. REVOIR 01/13/2014

CROSS SECTIONS for PHASE VI and VII City of Rocky Mount LCID Landfill (PHASE VI) Rocky Mount, N.C. (Nash County)

13-051
D-0000
CE-3



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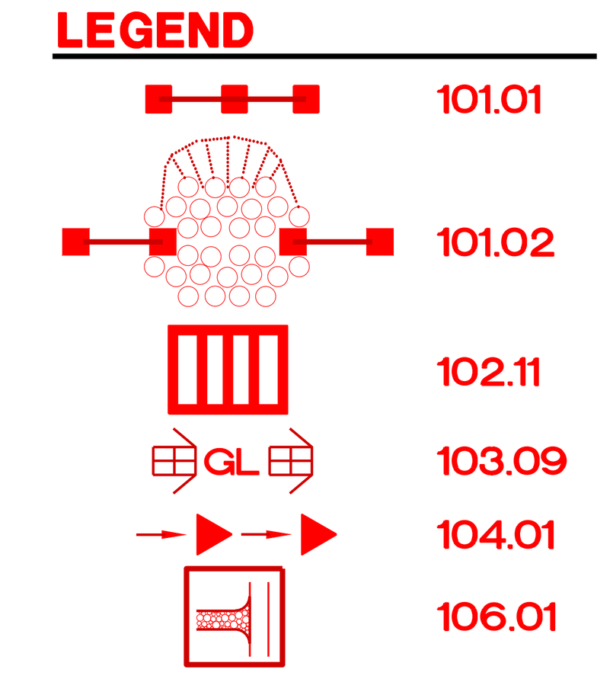
CONSTRUCTION SEQUENCE

1. Obtain copy of approved permits prior to disturbing site. Retain copy of all the following approved permits on site: Contractor to install a permit box on site in a conspicuous place, which should contain:
   a) Set of complete construction plans
   b) NCDENR Erosion and Sedimentation Control Permit
   c) NCDENR Solid Waste LCID Permit
   d) NPDES NCG01000 Inspection Log
   e) Self-Inspection Reports
   f) Rain gauge
2. **Contractor is to notify the Engineer, City of Rocky Mount and NCDENR Land Quality Section at 919.791.4200 at least 48 hours prior to starting work.** Erosion control is under the jurisdiction of NCDENR- Land Quality.
3. To notify of project startup, Contractor to call NCDENR LQS 919.791.4200. Pre-Con may be requested at NCDENR option. All applicable E&S control must be maintained until a vigorous stand of permanent ground cover is established. Any additional land disturbing activities outside limits of disturbance must be addressed in a revised E&S control plan.
4. Contractor shall contact the 811 One Call Center for locations of existing utilities 48 hours prior to beginning construction (1-800-632-4949).
5. Maintain construction site in a condition to prevent mud or sediment from leaving the construction site.
6. Maintain use of existing stone construction entrance, and supplement existing stone as needed to comply with Detail 106.01.
7. Install silt fence along downhill sides of stockpile area. Install silt fence relief point per Det. 101.02 in the shape of a "J-hook" to facilitate relief of runoff.
8. Maintain use of existing 110'x 60'x 3.5' deep sediment basin (SD-1) with skimmer, baffles and 15' long x 2' weir. Supplement as needed to comply with Detail 104.09.
9. Install temporary skimmer sediment basin (SD-2) with 3" skimmer (2" orifice), baffles and 12' long x 1' weir, per Detail 104.09. INSTALL SILT FENCE OVER, AROUND TOP OF PIPE OUTLET AND TURN ENDS UPHILL TO FORM SEDIMENT POCKET.
10. To collect sediment during grading operations, excavate temporary skimmer sediment basin with baffles as shown. Minimum dimensions shown must be provided. Surround sediment basin with silt fence on three sides and install relief point at weir per Detail 101.02. Tie silt fence into check dam and turn ends uphill to form sediment pocket.
11. Install temporary diversion ditches to direct sediment-laden runoff to temporary sediment basins. Ensure all runoff from disturbed areas flows to basin. Install fiberglass netting.
12. Begin clearing and grubbing operations, including the removal of all topsoil, rootmat and questionable organic material. Construction debris may be disposed of in the existing City LCID landfill on site. Contractor to coordinate with City.
13. Topsoil to be stockpiled separately as directed by the City.
14. **STOCKPILE AREA**: Site contractor is to stockpile topsoil and unclassified material in this area as directed by Owner/Engineer. Maximum height of stockpile is 20 feet with a 2:1 side slope. Prior to any land disturbance in this area, Contractor is to install silt fence around perimeter to maintain sediment and turn ends uphill to form sediment pocket. Contractor to follow seeding schedule on erosion control plan.
15. If concrete is to be used onsite, install concrete washout with sign per detail to contain concrete and liquids when concrete vehicles are rinsed after delivery. No concrete is proposed for this project.
16. CONTRACTOR IS TO CONTACT ENGINEER AFTER EROSION CONTROL MEASURES ARE INSTALLED TO VERIFY COMPLIANCE WITH APPROVED PLANS.
17. If Contractor exceeds limits of disturbance shown, a revised Erosion Control Permit will be required from NCDENR. Revised E&S plan and permit fees will be at Contractor's expense.
18. **SEEDING**:
   a) Refer to Stabilization Timeframe Table.
   b) Permanently seed areas that will not be re-disturbed. Do not allow any disturbed areas to remain disturbed any longer than necessary and do not remove protection devices until adequate ground cover has been achieved. .
   c) Ensure vigorous stand of grass before removing temporary control measures.
19. Conditions of NPDES Permit NCG01000 are part of the approved NCDENR Erosion Control permit. The contractor shall maintain erosion control measures on a daily basis. These items will only be paid for once. Maintenance shall be an incidental to installation. The contractor is responsible for any sediment that leaves the site and any associated clean up and fines issued by NCDENR.
20. Contractor is responsible to inspect all erosion control measures and fill out NPDES general stormwater permit **inspection log weekly and/or after every half inch of rainfall.** A rain gage must be kept onsite. Contractor must keep records of these inspections, and submit with Requests for Payments.
21. **NCDENR SELF-INSPECTION PROGRAM**: In accordance with the amended Sedimentation Pollution Control Act requiring Self-Inspection documentation, unless otherwise approved by Owner, the CONTRACTOR is required to document the installation and maintenance of erosion and sedimentation control measures according to the approved plan. The inspections should be conducted after each phase of construction and continued until permanent ground cover is established. Self-Inspection Report forms are available at: http://portal.ncdenr.org/web/lr/erosion. Site Contractor is to keep forms onsite in the permit box and updated regularly. In lieu of completing the form, NCDENR will accept the Contractor marking on the plans kept onsite the date and by whom each measure is installed. For example, beside each sediment basin, the Contractor would write "Built by _________ on _______, 2013."
22. Once the site is completely stabilized and the project complete, notify the Engineer prior to removing temporary measures.
23. **SEDIMENT BASIN REMOVAL PROCEDURE**
   a) Sediment basins should remain in place until a vigorous stand of permanent ground cover is established across the site, as approved by Engineer.
   b) Upon direction of Engineer prior to removal of sediment basin, install check dam per Detail 104.01 below sediment basin at lowest limits of disturbance. Add additional silt fence at lowest limits of disturbance as needed and directed. Turn ends of silt fence uphill to form sediment pocket.
   c) Remove sediment and water from basin prior to dam removal. Sediment should be placed in designated disposal areas onsite and not allowed to flow into streams or drainage ways during dam removal. Install permanent seeding and additional silt fence if needed. If necessary, use dewatering bag per Detail 104.07 as directed by Engineer.
   d) Smooth the basin site to blend with surrounding area, grade to match existing ditch section and install permanent seeding.
   e) Check dam should remain until channel is permanently stabilized with vegetation.
24. Along Temporary Diversion to the temporary skimmer sediment basins, blade diversion soil back into diversion swale, filling in the ditch. Place silt fence if necessary on the lowest limits of disturbance to retain sediment on site. Place permanent vegetation.
25. After approval from the Engineer, install permanent vegetation on any remaining disturbed areas and remove all remaining temporary measures only when a vigorous stand of permanent ground cover is established.
26. Contractor is to notify NCDENR LQS that project is complete.

PROPOSED DISTURBANCE = 12.0 Ac.

LEGEND



SCALE: 1" = 50'

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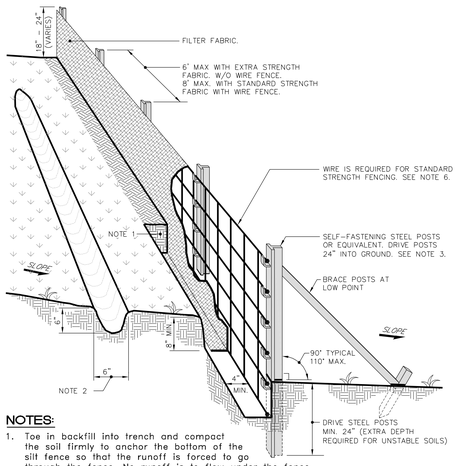
EROSION and SEDIMENTATION CONTROL PLAN for City of Rocky Mount LCID Landfill (PHASE VI) Rocky Mount, N.C. (Nash County)

13-051
D-0000
CE-4

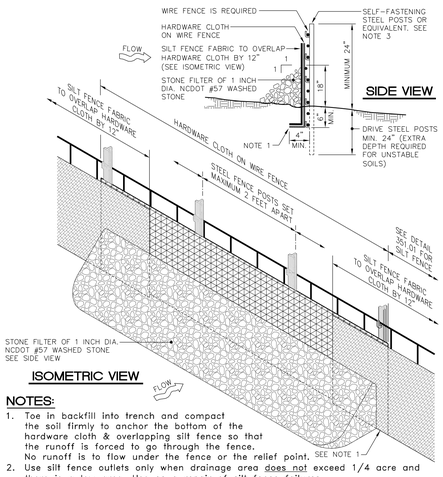


NOTES:

1. Toe in backfill into trench and compact the soil firmly to anchor the bottom of the silt fence so that the runoff is forced to go through the fence. No runoff is to flow under the fence.
2. To increase storage capacity and prolong the life of the silt fence, excavate a 6"x6" sediment trench uphill along the line of posts whenever possible.
3. Posts for sediment fences are to be 1.33 lb/LF steel with a minimum length of 5 ft. Make sure that steel posts have projections to facilitate fastening the fabric. Filter fabric may be attached using wire or plastic zip ties that have a minimum 50 lb tensile strength.
4. Total drainage area flowing to silt fence may not exceed 1/4 acre per 100 Ft. of fence.
5. Silt fences should not be used at pipe outlets or in areas of concentrated flow (creeks, ditchlines, swales etc.)
6. Construct the silt fence sediment barrier with either Standard Strength or Extra Strength synthetic filter fabrics. If Standard Strength fabric (TerraTex SF 90 or equiv.) is used, wire mesh support IS required. If Extra Strength fabric (Mirafi 100X or TerraTex SFD or equiv.) is used, NO support is required.
7. Standard Strength fabric (TerraTex SF 90 or equiv.) with 8 ft max post spacing DOES require support by wire mesh fastened securely to the upslope side of the posts. Use wire fence with a minimum 14 gauge and a maximum mesh spacing of 6 inches. Extend the wire mesh support to the bottom of the trench. Fasten wire reinforcement, then fabric on the upslope side of the fence post using wire or plastic zip ties that have a minimum 50 lb tensile strength.
8. Extra Strength Filter Fabric (Mirafi 100X or TerraTex SFD or equiv.) with 6 ft max post spacing DOES NOT require wire mesh support. Securely fasten filter fabric directly to posts. Wire or plastic zip ties that have a minimum 50 lb tensile strength.

101.01 - TYPICAL SILT FENCE

NOT TO SCALE 2-21-08



NOTES:

1. Toe in backfill into trench and compact the soil firmly to anchor the bottom of the hardware cloth & overlapping silt fence so that the runoff is forced to go through the fence. No runoff is to flow under the fence or the relief point.
2. Use silt fence outlets only when drainage area does not exceed 1/4 acre and there is a low area. Use as a repair of silt fence failures.
3. Posts for sediment fences are to be 1.33 lb/LF steel with a minimum length of 5 ft. Make sure that steel posts have projections to facilitate fastening the fabric. Filter fabric may be attached using wire or plastic zip ties that have a minimum 50 lb tensile strength.
4. See Silt Fence Detail for silt fence construction standards.

101.02 - SILT FENCE OUTLET RELIEF POINT

NOT TO SCALE REV. 4-20-10

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_____ Date: _____

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By: Date:

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CONSTRUCTION SPECIFICATION

1. Grade the basin so that the bottom is level front to back and side to side.
2. Install posts or saw horses across the width of the sediment trap (Practice 6.62, Sediment Fence).
3. Steel posts should be driven to a depth of 24 inches, spaced a maximum of 4 feet apart, and installed up the side of the basin as well. The top of the fabric should be 6 inches higher than the invert of the spillway. Tops of baffles should be 2 inches lower than the top of the berms.
4. Install at least three rows of baffles between the inlet and outlet discharge point. Basins less than 20 feet in length may use 2 baffles.
5. When using posts, add a support wire or rope across the top of the measure to prevent sagging.
6. Wrap porous material (wire mesh, 700 p/m2 corrosion control blanket or tree protection fence doubled). Over a sawhorse or the top wire. Hammer rebar into the sawhorse legs for anchoring. The fabric should have five to ten percent openings in the weave. Attach fabric to a rope and a support structure with zip ties, wire, or staples.
7. The bottom and sides of the fabric should be anchored in a trench or pinned with 8-inch erosion control matting staples.
8. Do not splice the fabric, but use a continuous piece across the basin.

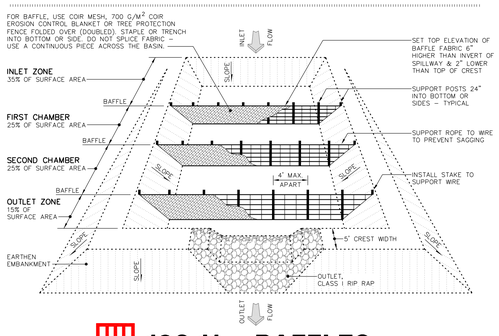
MAINTENANCE:

Inspect baffles at least once a week and after each rainfall. Make any required repairs immediately.

Be sure to maintain access to the baffles. Should the fabric of a baffle collapse, tear, decompose, or become ineffective, replace it promptly.

Remove sediment deposits when it reaches half full to provide adequate storage volume for the next rain and to reduce pressure on the baffles. Take care to avoid damaging the baffles during cleanout. Sediment depth should never exceed half the designed depth.

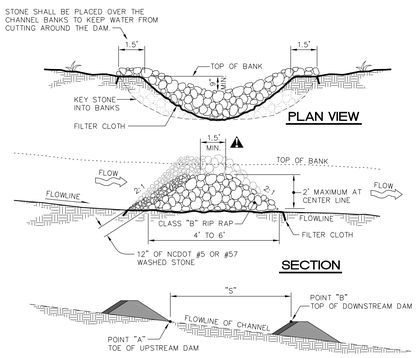
After the contributing drainage area has been properly stabilized, remove all baffle materials and unstable sediment deposits, bring the area to grade, an stabilize it.



102.11 - BAFFLES

NOT TO SCALE 03-22-2007

TO BE USED IN TEMPORARY SEDIMENT TRAP, ROCK DAM, SKIMMER BASIN, OR SEDIMENT BASIN



104.01 - CHECK DAM DETAIL

NOT TO SCALE REV. 4-15-2010

PURPOSE

To reduce erosion in a drainage channel by reducing the velocity of flow.

DESIGN CRITERIA

1. Drainage area is limited to one half acre.
2. Keep a maximum height of 2 feet at the center of the check dam.
3. Keep the center of the check dam at least 9 inches lower than the outer edges at natural ground elevation.
4. Keep the side slopes of the check dam at 2:1 or flatter.
5. Ensure that the maximum spacing between check dams places the toe of the upstream check dam at the same elevation as the top of the downstream check dam.
6. Stabilize outflow areas along channel to resist erosion.
7. Use NCDOT Class B stone and line upstream side of the check dam with NCDOT #5 or #57 washed stone
8. Key the stone into the ditch banks and extend it beyond the abutments a minimum of 1.5 feet to avoid washouts from overflow around the dam.

CONSTRUCTION SPECIFICATIONS

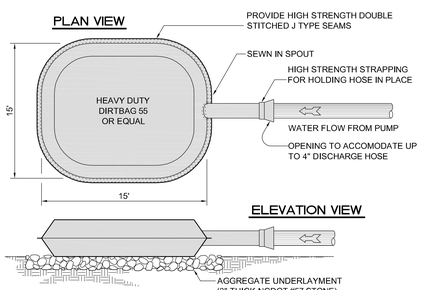
9. Place stone to the lines and dimensions shown in the plans on a filter fabric foundation.
10. Keep the center stone section at least 9 inches below the natural ground level where the dam abuts the channel banks.
11. Extend stone at least 1.5 feet beyond the ditch banks to keep water from cutting around the ends of the check dam.
12. Set spacing between check dams to assure that the elevation at the top of the lower dam is the same as the toe elevation of the upper check dam.
13. Protect the channel after the lowest check dam from heavy flow that could cause erosion.
14. Make sure that the channel reach above the most upstream check dam is stable.
15. Ensure that other areas of the channel, such as culvert entrances below the check dams, are not subject to damage or blockage from displaced stones.

MAINTENANCE

16. Inspect check dams and channels at least weekly and after each significant (1/2 inch or greater) rainfall event and repair immediately. Clean out sediment, straw, limbs, or other debris that could clog the channel when needed.
17. Anticipate submergence and deposition above the check dam and erosion from high flows around the edges of the check dam. Correct all damage immediately. If significant erosion occurs between check dams, additional measures can be taken such as, installing a protective rip rap liner in that portion of the channel.
18. Remove sediment accumulated behind the check dams as needed to prevent damage to channel vegetation, allow the channel to drain through the stone check dam and prevent large flows from carrying sediment over the check dam. Add stones to check dams as needed to maintain design height and cross section.

NOTES

19. Do not use check dams in intermittent or perennial streams.
20. Contractor to verify / comply with NCDENR Erosion and Sediment Control Planning and Design Manual (Latest revision), detail 6.83.



NOTES:

1. THE DEWATERING BAG SHALL BE MADE OF NON-WOVEN GEOTEXTILE WITH A MIN. SURFACE AREA OF 225 SQUARE FEET PER SIDE.
2. ALL STRUCTURAL SEAMS SHALL BE SEWN WITH A DOUBLE STITCH USING A DOUBLE NEEDLE MACHINE WITH HIGH STRENGTH THREAD.
3. THE SEAM STRENGTH SHALL WITHSTAND 100 LB/IN USING ASTM D-4884 TEST METHOD.
4. THE GEOTEXTILE FABRIC SHALL BE A 10 OZ. NON-WOVEN FABRIC.
5. DISCHARGE FROM THE DEWATERING BAG SHALL BE DIRECTED SUCH THAT PRE-DISTURBANCE HYDROLOGY IS NOT CHANGED.

104.07 DEWATERING BAG

NOT TO SCALE 11-10-10

EROSION AND SEDIMENTATION CONTROL NARRATIVE

I. **PROJECT DESCRIPTION**

The purpose of this project is to prepare for expansion into the next phase (Phase VI) of a Land Clearing Inert Debris (LCID) Landfill, owned and operated by the City of Rocky Mount. The 400-acre property is located in Edgecombe County within the city limits of the City of Rocky Mount. All work is in within the property owned and maintained by the City of Rocky Mount. The current 6.5-acre phase of the LCID Landfill (Phase VII) is near capacity, and was permitted in August 15, 2003, under NCDENR Solid Waste LCID Permit #33-G. NCDENR issued a Letter of Approval for the Erosion and Sedimentation Control Plan for the existing site on July 30, 2003 (Rocky Mount LCID Landfill Ph. VII).

Phase VI is scheduled to begin construction in February 2014 with all erosion control devices completely installed and the site stabilized by April 2014 (60 days). Each phase is scheduled to last 5 years with a total of seven phases to complete the entire 80-acre LCID landfill. The final projected date of completelon for the entire project (all seven phases) is April 2037. No cut is required, and maximum fill heights will be 23 feet.

Approximately 12.0 acres will be disturbed for this phase of construction.

The erosion and sediment control program for this project will include the installation of a suitable construction entrance, silt fencing, silt fence relief points, temporary diversions, temporary skimmer sediment basin with baffles, check dams, fiberglass netting and temporary seeding and permanent seeding of the site. A concrete wash pit is not needed for this project.

II. **EXISTING SITE CONDITIONS**

The existing 400-acre site is currently wooded and used for agricultural. It is zoned agricultural. Stormwater drains generally to the south via overland flow and eventually drains into the Tar RIver. There are no wetlands or floodplains in the project area.

III. **ADJACENT PROPERTY**

All adjacent property lines and property Owners are shown on the site plan.

IV. **SOILS**

Soils at the site consist of sandy loam and loamy sand.

V. **EROSION AND SEDIMENT CONTROL MEASURES**

All vegetative and structural erosion and sediment control practices shall be constructed and maintained by the Contractor according to these plans and specifications and the minimum standards of the Dept. of Environmental Management, Land Quality Section. The Contractor shall also follow any additional requirements as outlined by the Project Engineer.

A. Structural Practices

1. The contractor is responsible for securing a material lay down and stockpile storage area for this contract. As such, the contractor is responsible for the necessary erosion control measures, including but not necessarily limited to, a construction entrance, silt fence, protection of streams/buffers, clean up and restoration of site to the satisfaction of both the owner and the DWQ, Land Quality Section.
2. Vehicle wheels shall be clean when leaving the site to prevent the tracking of mud on paved roads.
3. **Construction Entrance Stabilization:** Construction traffic shall be limited to stabilized areas. Maintain road in a condition to prevent mud or sediment from leaving the construction site.
4. **Rock Check Dam:** Install as shown on plans and maintain per detail 104.02.
5. **Silt Fence:** Silt fences shall be provided where shown and as needed on the site plan. These barriers shall be used to contain sediment.
6. **Temporary Sediment Trap:** Construct basin to the shape and dimensions shown in the details.
7. **Temporary Ditch Liner, Fiberglass Netting:** Fiberglass Netting shall be comparable to "CONWED" economy erosion control degradable netting. The netting shall be either black or white polypropylene extruded oriented plastic net with rectangular mesh openings of approximately 1.5x1 strands per square inch and a nominal weight of 2.6 lbs per 1000 SF, with permissible shear stress of 0.40 psf. Netting shall be placed uniformly over a mulched seedbed and stapled as shown on detail. Staples may be 6" long, 11 gauge U-shaped. Netting is an alternative to asphalt tack when a stronger method is desired to hold the mulch in place.
8. Seeding to be installed per details.

B. Vegetative Practices

1. Per NPDES Stormwater Discharge Permit for Construction Activities, NCGO1, effective Aug. 3, 2011, seeding shall be placed in the timeframes shown in the table below. The timeframes shown below govern over any other less stringent note on the plans or specifications for this contract.

SITE AREA DESCRIPTION	STABILIZATION	TIMFFRAME EXCEPTIONS
Perimeter Dikes, Swales, Ditches and Slopes	7 days	None
High Quality Water (HWQ) Zones	7 days	None
Slopes Steeper than 3:1	7 days	If slopes are 10' or less in length and are not steeper than 2:1, then 14 days are allowed
Slopes 3:1 or flatter	14 days	7 days for slopes greater than 50' in length
All other areas with slopes flatter than 4:1	14 days	None, except for perimeters and HQW Zones

2. Permanently seed areas that will not be re-disturbed. Do not allow any disturbed areas to remain disturbed any longer than necessary and do not remove protection devices until adequate ground cover has been achieved. Note that the time for establishment of permanent ground cover is 14 calendar days.

C. Management Strategies

1. Contractor is to notify the Engineer and NCDENR Land Quality Section at 919.791.4200 at least 48 hours prior to starting work.
2. Perimeter measures are to be installed prior to grubbing or grading.
3. Tail Ditches shall be stabilized immediately following their construction. As an alternate, rock check dams may be provided at their outlets and/or the terminal downstream end of disturbance until ground cover is implemented.
4. Stockpile and/or waste areas must be maintained within the limits of the areas protected by the proposed measures and otherwise temporarily seeded if to be left stockpiled over 14 days.
5. Construction shall be planned so that grading operations can begin and end as quickly as possible.
6. Silt Fences shall also be installed prior to or as a first step in construction.
7. The Contractor shall be responsible for the installation and maintenance of all erosion and sediment control practices.

D. Vegetative Ground Cover

Immediately following grading, all areas shall receive either permanent or temporary seeding, as applicable, as follows:

	FEB-MAY	JUNE-OCT	NOV-JAN
Permanent Seed	Tall Fescue @ 240#/Ac (Kentucky 31)	Bermudagrass (hulled) @ 35#/Ac, plus Centipede @ 10#/Ac, plus German/Browntop Millet Grain @ 10#/Ac	Tall Fescue @ 240#/Ac (Kentucky 31), plus Winter Rye @ 50#/Ac
Temporary Seed	German/Browntop Millet Grain @ 40#/Ac	German/Browntop Millet Grain @ 40#/Ac	Rye grain @ 120#/Ac

Fertilizer: 10-10-10 @ 20#/1000 SF, plus
Lime: 100#/1000 SF, plus
Mulch: Straw @ 95#/1000 SF, plus
Tack: 200 gallons/Ac on all mulching

E. Seed Bed Preparation

1. The soil shall be scarified or otherwise loosened to a depth of not less than 5 inches except as otherwise directed by the Engineer. Clods shall be broken and the top three inches of soil shall be worked into an acceptable seedbed by the use of soil pulverizers, drags, or harrows.
2. On 2:1 slopes a seedbed preparation will be required that is the same depth as that required on flatter areas, although the degree of smoothness may be reduced from that required on the flatter areas.
3. Seedbed preparation within two feet of the edge of any pavement shall be limited to a depth of two to three inches.
4. The preparation of seedbeds shall not be done when the soil is frozen, extremely wet, or when the Engineer determines that it is in an otherwise unfavorable working condition.
5. Before mulch is applied, the Contractor shall remove and dispose of all exposed stones in excess of one inch in diameter and all roots or other debris which prevent proper contact of the mulch with the soil. Segregation of exposed stone under one inch shall be avoided and, if found, dispersed or disposed of at the direction of the Engineer.

F. Maintenance

1. Reseed and mulch bare spots larger than 9 square feet (limited to 5% maximum of site area.)
2. Maintain all seeded areas until uniform stand is acceptable.
3. If growth is not established by final project inspection, continue specified attention until the stand is acceptable.
4. Correct and repair all undue settling and erosion within 1 year after final inspection.
5. Remove from the site, all erosion control structures after complete stabilization at end of construction period.
6. Remove silt from sediment pits and from behind check dams when silt is within half depth of the pit or spillway. Dispose of in an area where silt cannot re-enter pit/trap.
7. Place rock from rock check dams and temporary sediment traps in roadside ditch as armor protection. Do not dispose of rock. All stone armor protection is to fit contour of channel. Do not dump but handspread.

G. Calculations

The practices utilized for the proposed site did require formal calculations. Calculations have been provided.

VI. OWNER

City of Rocky Mount
Attn: Jonathan L. Boone, PE
Director of Public Works & Water Resources
PO Box 1180
Rocky Mount, NC 27804
252.972.1299 252.343.3221, c 252.972.1295, f
jonathan.boone@rockymountnc.gov

REVISIONS			
NO.	DESCRIPTION:	DATE:	BY:
1	DESIGN: DAVID REVOIR	AUGUST 2013	CAD: -
	DRAWN BY: Mike Collins	-	CHKD: -
	HOR. SCALE: N/A	DATE: -	
	VER. SCALE: -		

Appian
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admin@oppianengineers.com

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 26959 DAVID C. REVOIR 07/13/2014

EROSION CONTROL DETAILS and NOTES for City of Rocky Mount LCID Landfill (PHASE VI) Rocky Mount, N.C. (Nash County)

13-051
D-0000
CE-5

SKIMMER SEDIMENT BASIN NOTES

Revised NPDES requirements and NC General Construction Permit state that outlet structures must withdraw from the sediment basin surface unless drainage area is less than 1.0 acre. These notes are intended to comply with NCDENR LQS Erosion Control Manual practice 6.64, Skimmer Sediment Basin.

INSTALLATION

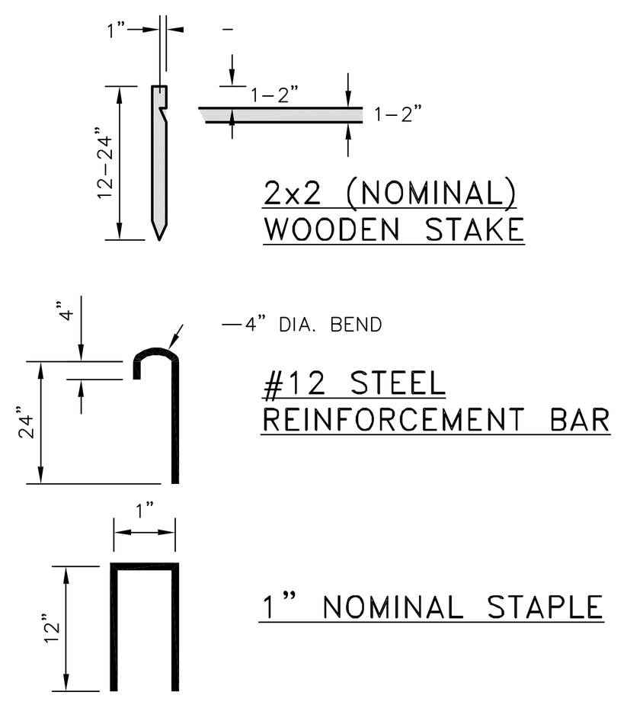
1. Strip area under embankment of all vegetation and root mat. Place temporary sediment control measures (silt fence) below basin as needed.
2. Ensure that fill material for the embankment is free of roots, woody vegetation, oversize stones, organic material, or other objectionable material. Place fill in lifts of 9" or less and compact by traversing. Overfill embankment 6" to allow for settlement.
3. Install emergency spillway rock dam including: filter fabric, washed stone and Class I rip rap rock dam.
4. Shape the basin as shown on the plans. Prevent the skimming device from settling into the mud by providing a foot pad of 12" Class A rip rap under the skimmer, or approved equivalent method.
5. Place barrel (4" Sch 40 PVC pipe, unless otherwise noted) on a firm, smooth foundation of impervious soil. Do not use pervious material such as sand, gravel or crushed stone as backfill around pipe. Place the fill material around the pipe spillway in 4" layers and compact it under and around the pipe to at least the same density as the adjacent embankment.
6. Place a minimum of 2' of compacted backfill over the pipe spillway before crossing it with construction equipment. In no case should the pipe conduit be installed by cutting through the dam after the embankment is complete.
7. Assemble the skimmer following the manufacturer's instructions or as designed.
8. Lay the assembled skimmer on the bottom of the basin with the flexible joint at the inlet of the barrel pipe. Attach the flexible joint to the barrel pipe and position the skimmer over the rock foot pad. Be sure to attach a rope to the skimmer and anchor it to the side of the basin. This will be used to pull the skimmer to the side for maintenance.
9. Rock dam becomes emergency spillway.

MAINTENANCE OF SKIMMER BASIN

10. Inspect skimmer basin at least weekly and after each significant (½" or greater) rainfall event and repair immediately. Remove sediment and restore the basin to its original dimensions when sediment accumulates to ½ the height of the first baffle. Pull the skimmer to one side so that the sediment underneath it can be excavated. Excavate sediment from the entire basin, not just around the skimmer or the first cell. Make sure vegetation growing in the bottom of basin does not hold down the skimmer. Ensure rock foot pad is clear of silt.
11. Repair baffles if damaged. Re-anchor baffles if water is flowing underneath or around them.
12. If skimmer is clogged with trash and there is water in the basin, usually jerking on the rope will make the skimmer bob up and down and dislodge debris and restore flow. If this does not work, pull the skimmer over to the side of the basin and remove the debris. Also check the orifice inside the skimmer to see if it is clogged; if so, remove the debris.
13. If skimmer arm or barrel pipe is clogged, the orifice can be removed and the obstruction cleared with a plumber's snake of by flushing with water. Be sure and replace the orifice before repositioning the skimmer.
14. Check the embankment, rock spillway and outlet for erosion damage, and inspect the embankment for piping and settlement. Make all necessary repairs immediately. Remove all trash and other debris from the skimmer and pool areas.
15. Maintenance of the sediment basin/ rock dam is only to be performed by authorized personnel.
16. Contractor is to maintain record of inspections, maintenance and dewatering records on Self-Inspection Forms and NCG permit forms in the permit box kept onsite.

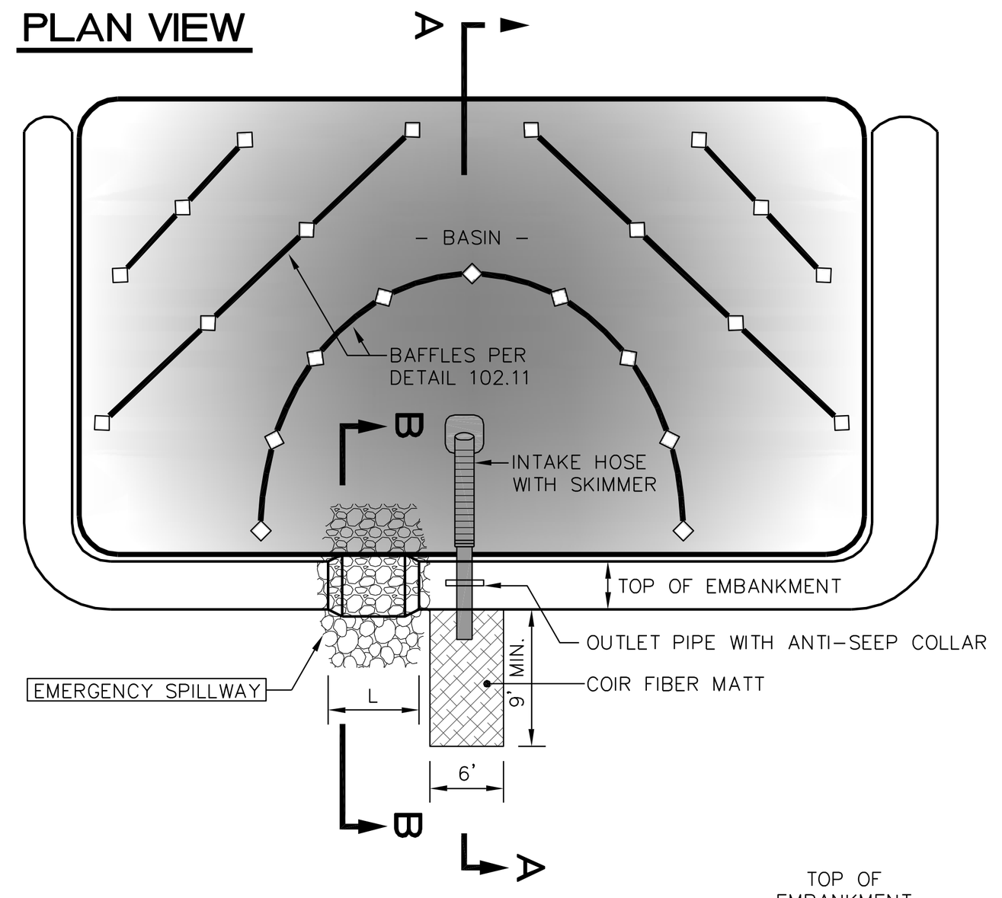
REMOVAL OF SKIMMER FOR THIS PROJECT

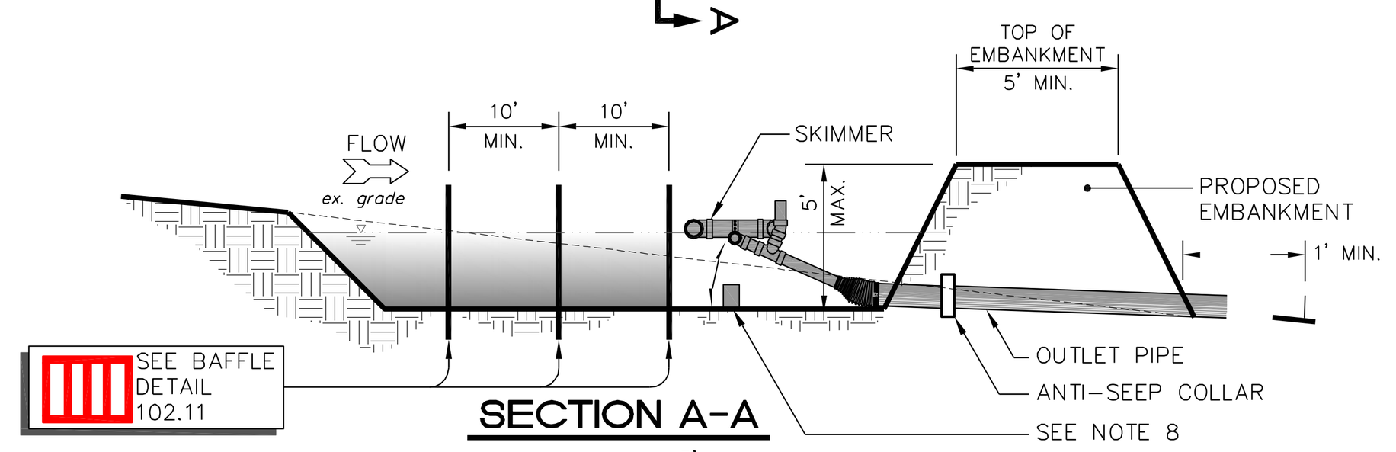
17. After all sediment-producing areas have been permanently stabilized and approval has been received by Engineer or NCDENR: remove skimmer and flexible joint from barrel, and plug with 4" PVC plug. Remove baffles and basin according to procedures outlined in the Construction Sequence.
18. Basin, embankment and rock dam are to remain in place and maintained according to Contractor's maintenance plan.



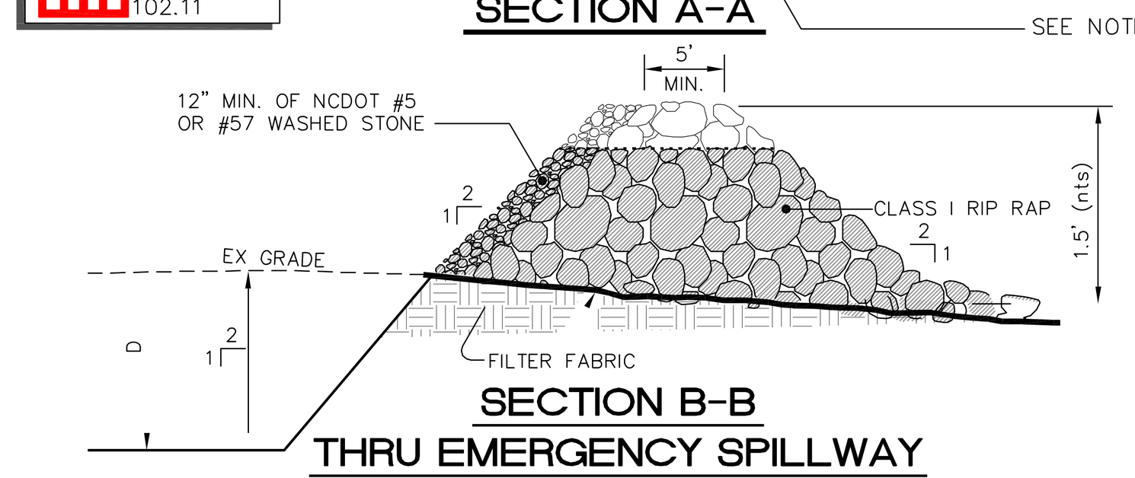
COIR FIBER MAT ANCHOR OPTIONS
NOT TO SCALE

PLAN VIEW





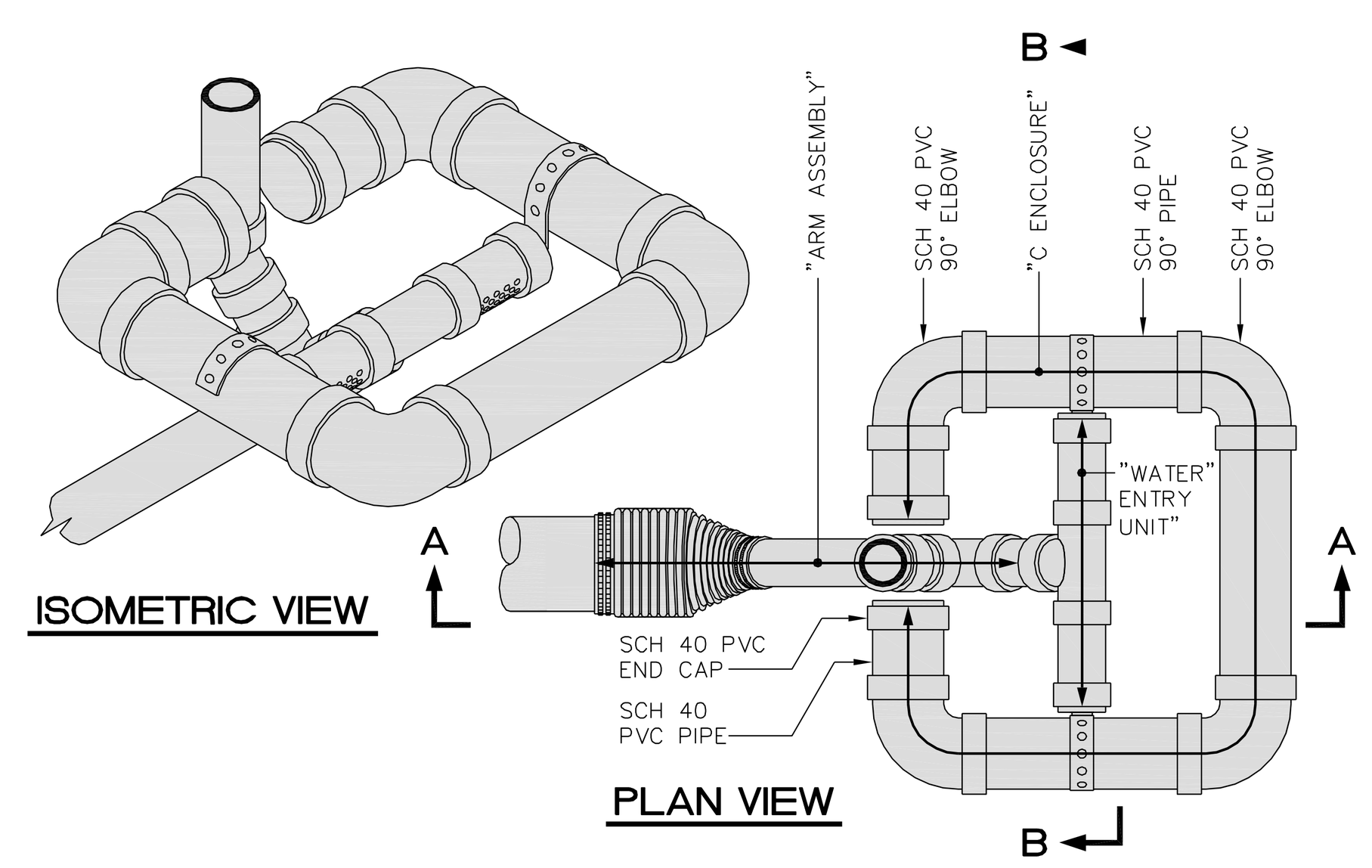
SECTION A-A

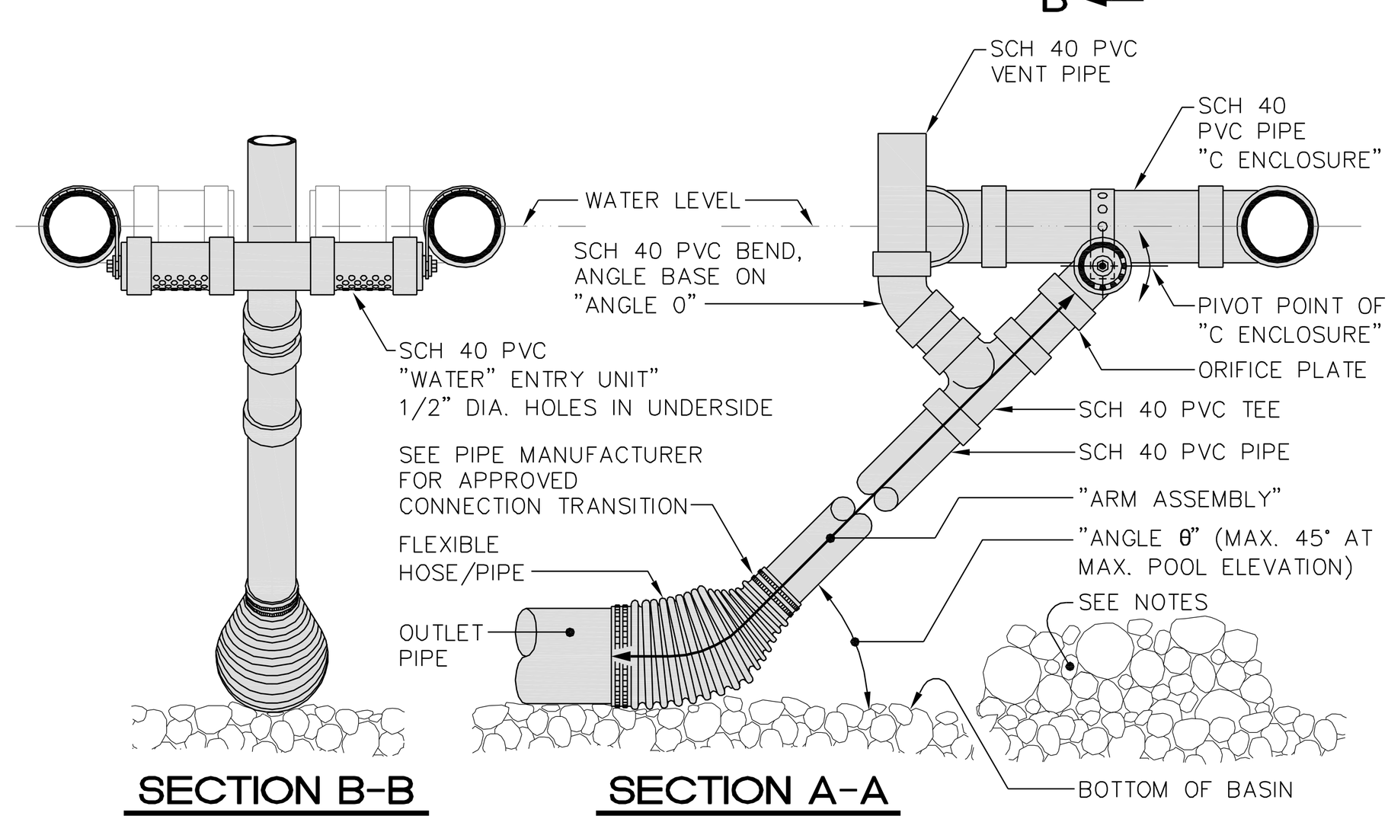


SECTION B-B
THRU EMERGENCY SPILLWAY
NOT TO SCALE

104.09 - SKIMMER SEDIMENT BASIN

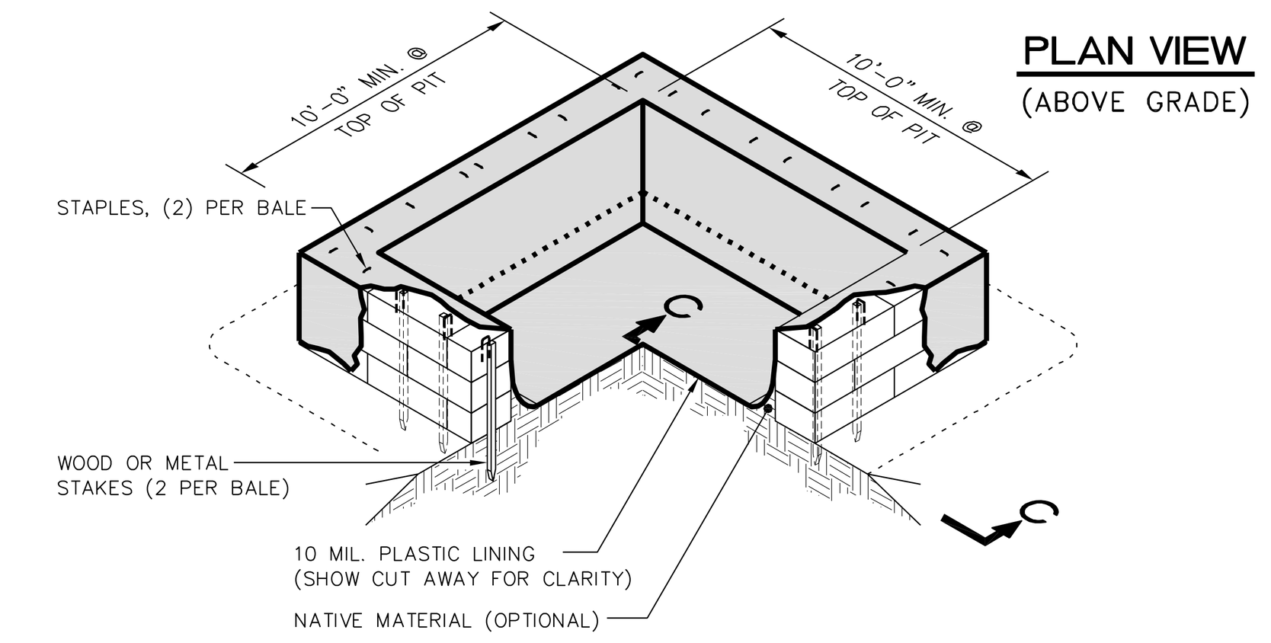
NOT TO SCALE
REV. 5-7-2012

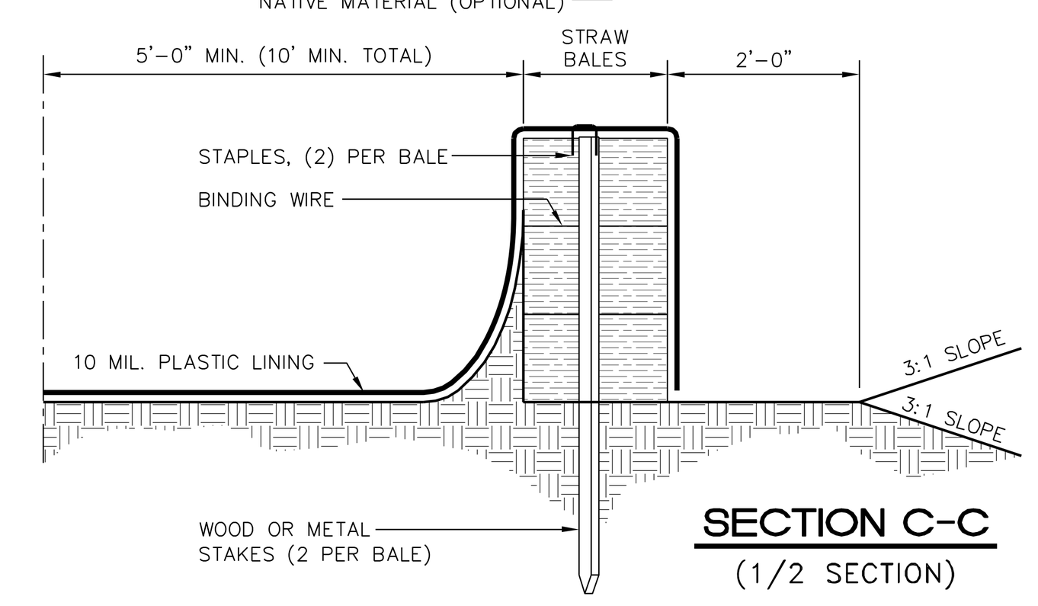




SKIMMER DETAIL

NOT TO SCALE

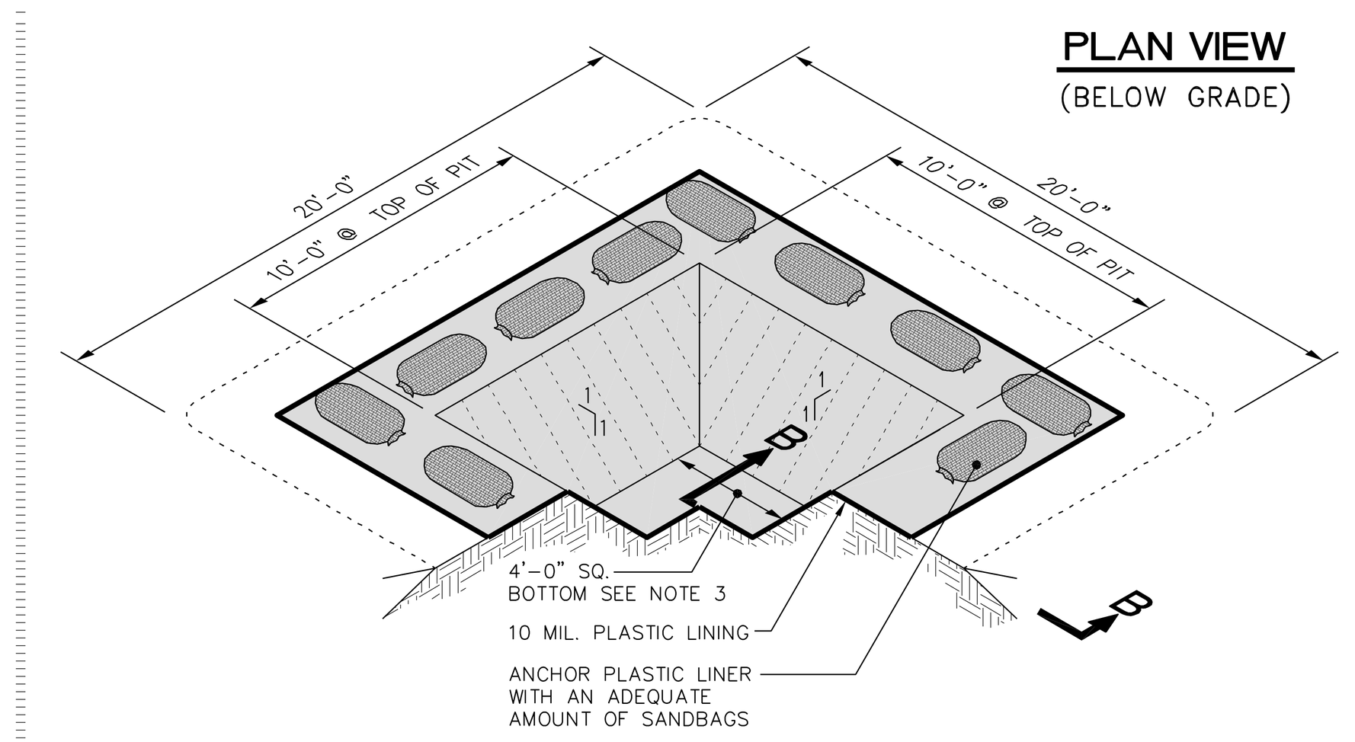


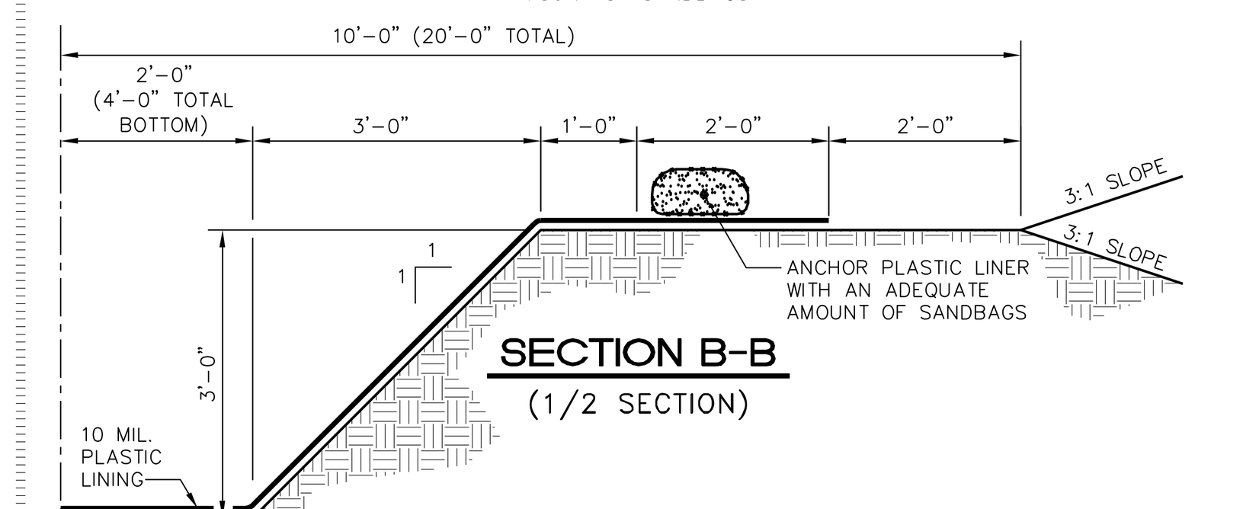


SECTION C-C
(1/2 SECTION)

ELEVATED PIT WITH STRAW BALE DETENTION WALLS
NOT TO SCALE

NOTES:
1. ACTUAL LAYOUT TO BE DETERMINED IN FIELD.
2. THE "CONCRETE WASHOUT" SIGN SHALL BE INSTALLED WITHIN 30 FT OF THE TEMPORARY CONCRETE WASHOUT FACILITY.
3. PIT CAPACITY IS MINIMUM OF 6 CU FT PER 10 CU YD OF CONCRETE.
4. CONTRACTOR TO COORDINATE WITH USAGE CONTRACTING OFFICER FOR PROPER DISPOSAL OF CONCRETE.





SECTION B-B
(1/2 SECTION)

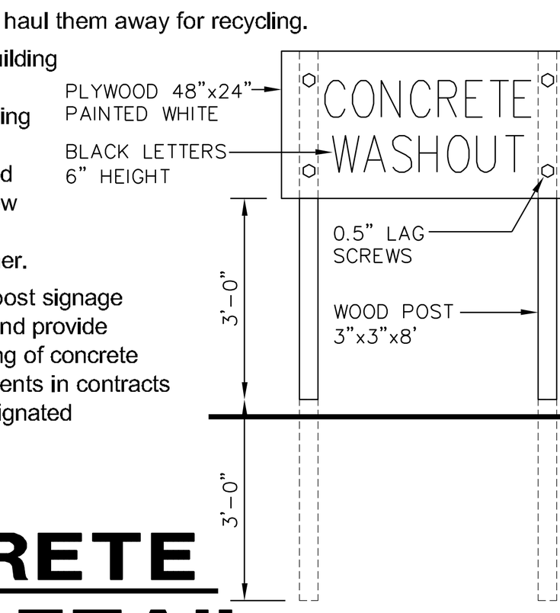
EXCAVATED PIT WITH SAND BAG SUPPORT
NOT TO SCALE

NOTES:
1. ACTUAL LAYOUT TO BE DETERMINED IN FIELD.
2. THE "CONCRETE WASHOUT" SIGN SHALL BE INSTALLED WITHIN 30 FT OF THE TEMPORARY CONCRETE WASHOUT FACILITY.
3. PIT CAPACITY IS MINIMUM OF 6 CU FT PER 10 CU YD OF CONCRETE.
4. CONTRACTOR TO COORDINATE WITH USAGE CONTRACTING OFFICER FOR PROPER DISPOSAL OF CONCRETE.

CONCRETE WASHOUT DETAIL NOTES

Concrete washouts are used to contain concrete and liquids when the chutes of concrete mixers and hoppers of concrete pumps are rinsed out after delivery. The washout facilities consolidate solids for easier disposal and prevent runoff of liquids. The wash water is alkaline and contains high levels of chromium, which can leach into the ground and contaminate groundwater. It can also migrate to a storm drain, which can increase the pH of area waters and harm aquatic life. Revised NPDES and NC General Construction Permits require the use of concrete washout areas on all sites using concrete:

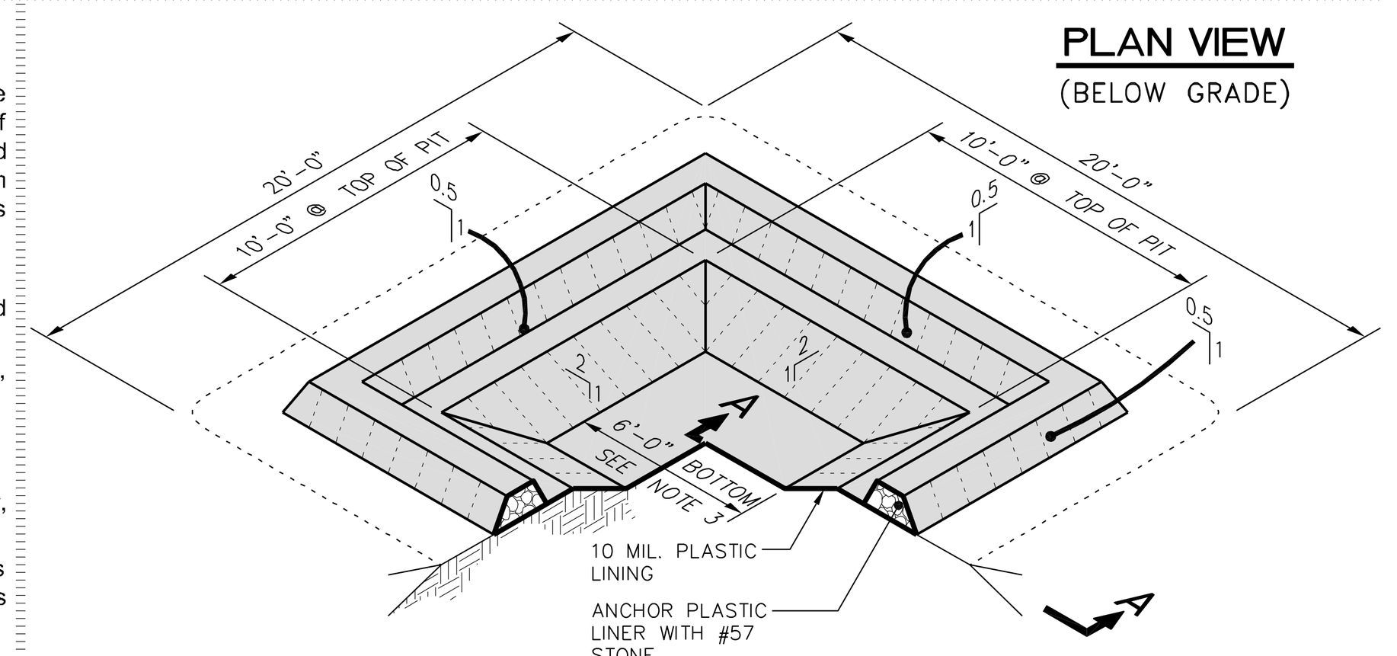
1. No concrete or cement slurry shall be discharged from the site.
2. Any hardened concrete residue shall be disposed of, or recycled on site, in accordance with local and state solid waste regulations.
3. Concrete washout area to be minimum 50' from storm drain inlets and surface waters (ie, detention pond, ditches, etc).
4. Prefabricated washout container or pit equal detail provided may be used if approved by Engineer.
5. Inspection:
   a. Contractor to check all concrete washout facilities daily to determine if they have been filled to 75% capacity, which is when materials need to be removed.
   b. Both above- and below- ground self-installed washouts should be inspected daily to ensure that plastic linings are intact and sidewalls have not been damaged by construction activities. Contractor to repair plastic lining as needed.
   c. Prefabricated washout containers should be inspected daily as well to ensure the container is not leaking or nearing 75 percent capacity.
   d. Inspectors should also note whether the facilities are being used regularly.
6. Material Removal:
   a. Concrete washouts are designed to promote evaporation where feasible. However, if stored liquids have not evaporated and the washout is nearing capacity, vacuum and dispose of them in an approved manner - check with the local sanitary sewer authority to determine if there are special disposal requirements for concrete wash water.
   b. Remove liquids or cover the structures before predicted rainstorms to prevent overflows. Companies that offer prefabricated and watertight washout containers generally offer a vacuum service to remove the liquid material.
   c. Contractor to remove hardened solids or reuse onsite or haul them away for recycling.
   d. When removing materials from the concrete washout, building a new structure or, if the previous structure is still intact, Contractor is to inspect the structure for signs of weakening or damage and make any necessary repairs. Line the structure with new plastic that is free of holes or tears and replace signage if necessary. It is very important that new plastic is used after every cleaning because pumps and concrete removal equipment can damage the existing liner.
7. General Contractor is to educate concrete subcontractors, post signage indicating the location and designated use of these areas, and provide careful oversight to inspect for evidence of improper dumping of concrete waste and wash water. Contractor should include requirements in contracts with concrete delivery companies that drivers must use designated concrete washout facilities.

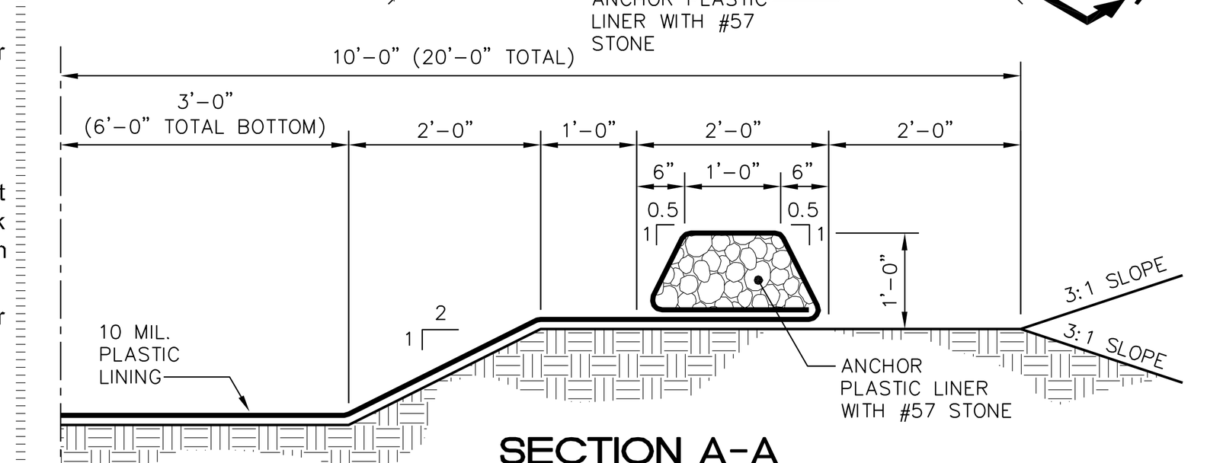


110.01 - CONCRETE WASHOUT PIT DETAIL

NOT TO SCALE
REV. 4-2-2012

SIGN DETAIL
(OR EQUIVILANT)

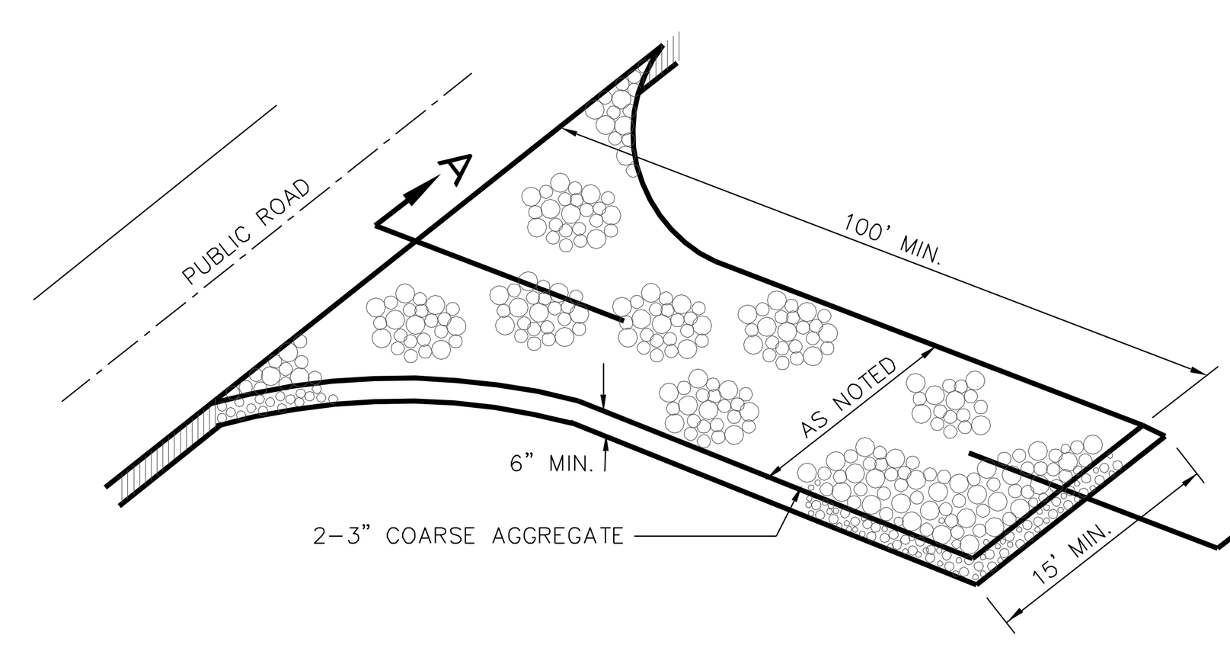


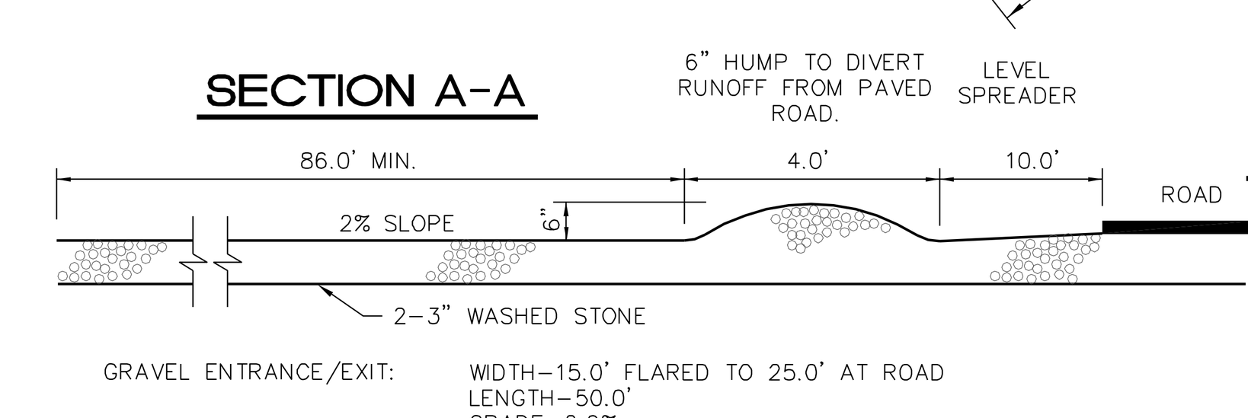


SECTION A-A
(1/2 SECTION)

EXCAVATED PIT WITH STONE SUPPORT
NOT TO SCALE

NOTES:
1. ACTUAL LAYOUT TO BE DETERMINED IN FIELD.
2. THE "CONCRETE WASHOUT" SIGN SHALL BE INSTALLED WITHIN 30 FT OF THE TEMPORARY CONCRETE WASHOUT FACILITY.
3. PIT CAPACITY IS MINIMUM OF 6 CU FT PER 10 CU YD OF CONCRETE.
4. CONTRACTOR TO COORDINATE WITH USAGE CONTRACTING OFFICER FOR PROPER DISPOSAL OF CONCRETE.





CONSTRUCTION SPECIFICATIONS:

1. CLEAR THE ENTRANCE/EXIT AREA OF ALL VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL.
2. GRADE THE ROAD FOUNDATION SO THAT THE ENTRANCE/ EXIT WILL HAVE A CROSS SLOPE TO THE SOUTH AND ALL RUNOFF WILL DRAIN TO THE BLOCK AND GRAVEL DROP INLET PROTECTION STRUCTURE.
3. PLACE STONE TO THE DIMENSIONS, GRADE AND ELEVATION SHOWN.
4. USE WASHED STONE 2" TO 3" IN SIZE.

NOTE: MAINTAIN THE GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE SITE. SHOULD MUD BE TRACKED OR WASHED ONTO ROAD, IT MUST BE REMOVED IMMEDIATELY.

106.01 - TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT

NOT TO SCALE
REV. 1-30-13

These plans are for bidding purposes only and are not to be used as Construction drawings unless initialed and dated as approved for Construction below by the Engineer.

Approved for Construction:

______________________ Date: ________

BOUNDARY DESCRIPTION SHOWN IS NOT FOR RECORDATION.

RECORD DRAWINGS:
These drawings are believed to be a correct representation of actual field conditions but are not warranted as such.

By: Date:

CONSTRUCTION SAFETY
These drawings do not contain the requirements for job safety. All provisions for safety shall

EXISTING CONDITIONS:
The contractor shall be responsible for reviewing all existing job conditions. Any adverse existing conditions ork shown on these drawings shall be

clarification or reconciliation.

BEFORE YOU DIG, CALL 811
NORTH CAROLINA ONE-CALL CENTER
www.ncocc.org

HOR. SCALE:	-	DATE: AUGUST 2013	DESIGN: DAVID REVOIR
VER. SCALE:	N/A	DRAWN BY: Mike Gallina	CHKD: -

REVISIONS

NO.	DATE:	DESCRIPTION:	BY:	CAD:

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EROSION CONTROL DETAILS for City of Rocky Mount LCID Landfill (PHASE VI) Rocky Mount, N.C. (Nash County)

13-051
D-0000
CE-6