CCB0061

State of North Carolina
Department of Environment, Health, and Natural Resources
Division of Solid Waste Management
South Central Regional Office • 225 Green Street, Suite 601 • Fayetteville, North Carolina 28301
Telephone: (919) 486-1191 Fax: (919) 486-1791

James G. Martin, Governor
William W. Cobey, Jr., Secretary

William L. Meyer
Director

February 10, 1992

Robert J. Waldrop
Environmental Manager
ReUse Technology, Inc.
100 Chastain Center Blvd., Suite 155
Kennesaw, Georgia 30144

Re: Coal Ash Utilization
E.B. Grain, Co., Inc.
Nash County

SCANNED
Carmen Johnson ~~10/24/14~~
10/2/15

Dear Mr. Waldrop:

The Solid Waste Section has reviewed the referenced project for the use of coal flyash as structural fill. Based upon the information received, the project appears to meet the guidelines previously agreed to for such reuse.

Even though a specific solid waste permit is not required, this approach by the Section does not exempt the activity from other local, state or federal regulations including, but not limited to, zoning restrictions, flood plain regulations, wetland restrictions or sedimentation/erosion control regulations.

If you have any questions, do not hesitate to contact our office.

Sincerely,

Terry F. Dover

Terry F. Dover
Eastern Area Supervisor
Solid Waste Section

TFD/wlf

cc: Jim Coffey
Fred Wood
Central Files-Nash County-N/F

ReUse Technology, Inc.
PERMITTING • DISPOSAL PLANNING • REUSE

100 Chastain Center Blvd.
Suite 155
Kennesaw, Georgia 30144
Phone (404) 425-7676
Fax (404) 425-7681

January 6, 1992

Mr. Terry F. Dover
North Carolina Department of Environment
Health and Natural Resources
Solid Waste Management Section
225 Green Street
Wachovia Building, Suite 601
Fayetteville, NC 28301

Re: Coal Ash Utilization
EB Grain Co., Inc. - Rocky Mount
Building Pad
Nash County

Dear Mr. Dover:

We request approval to expand our coal ash structural fill project at the EB Grain Facility on Highway 301 north of Rocky Mount. Our previous approval was for a road bed at this site. We have now been requested to construct a building pad using approximately 25,000 tons of coal ash. Enclosed are three sets of plans which give the details the building pad project. The coal ash to be used in this project will be obtained from the Cogentrix power plants located in Rocky Mount, Hopewell, Portsmouth, and Kenansville. The results of TCLP and pH tests performed on representative samples of coal ash from these plants are also enclosed. The placement will be conducted in the same manner as our projects previously approved by NCDEHNR.

As previously approved, we will agree to the following conditions:

1. To prevent dusting, all ash will be conditioned to 15% moisture and transported in tarped dump trucks.

2. To facilitate compaction, the moisture of the ash will be adjusted at the site by use of a water wagon.

3. All coal ash structural fill within the development area will be capped with a minimum of 6 inches of earth cover.

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4. Slopes will receive 12 inches minimum compacted earth and 6 inches of topsoil.

5. Site development will be in accordance with an approved soil erosion and sediment control plan.

6. Approval for coal ash fill shall become voidable unless the facility is constructed in accordance with the approved plans, specifications, and supporting data.

7. Approval is subject to the nature and volume of ash materials discussed and other supporting data.

8. The facility shall be properly maintained and operated at all times.

9. This approval is not transferrable.

10. In the event that the facility fails to perform satisfactorily, including the creation of nuisance conditions, ReUse Technology shall take such immediate corrective action as may be required by the Solid Waste Management Section including the construction of additional or replacement waste water treatment or disposal facilities.

11. Approval may be rescinded unless the reuse program is carried out in a manner which will protect the assigned water quality and groundwater quality standards.

12. All ash utilization on roadways shall be performed in accordance with the North Carolina Department of Transportation specifications.

13. The facility shall be effectively maintained and operated as a non-discharge system to prevent the discharge of any wastewater resulting from the operation of the facility.

14. The issuance of this approval shall not relieve ReUse Technology of the responsibility for damages to surface water or groundwater resulting from the operation of this facility.

15. Adequate records of the ash reuse program shall be maintained by ReUse Technology. These records shall include but are not necessarily limited to the following:

a. date of ash application,
b. type of ash used,
c. type of application,
d. volume of ash applied in tons,

e. location of use, and
f. ash receiver.

16. No ash will be placed within 100 feet of any water supply well.

17. No ash shall be placed within one foot of the mean seasonal high water table.

18. ReUse Technology shall supply an ash analysis to all users.

19. The following buffers shall be maintained:

a. 100 feet between application area and any residence, place of business, or place of public assembly, unless permission is first obtained by the property owner.

b. 50 feet between any application area and any stream, creek, lake, pond or other surface water body.

c. 100 feet between application area and property lines unless permission is first obtained from adjacent property owners.

20. Adequate provisions shall be taken to prevent wind erosion and surface runoff from conveying pollutants from the ash application area onto the adjacent property or into the surface waters.

21. The following uses of ash are hereby authorized:

a. Fly ash and bottom ash may be used for structural fills such as roadway embankments and foundations.

b. Fly ash and bottom ash may be used for backfill materials around water, sewer, and storm drain piping.

c. Bottom ash may be used for secondary road overlay.

Your continued cooperation with our ash reuse program is greatly appreciated. If there are any questions, please call Bob Waldrop at (404)425-7676.

Yours truly,

Robert J. Waldrop
Environmental Manager

RJW/mlb

Enclosures

cc: Steve Critchfield

RT Environmental Services
A Division of ReUse Technology, Inc.

100 Chastain Center Blvd.
Suite 155
Kennesaw, Georgia 30144
Phone (404) 425-7676
Fax (404) 425-7681

November 21, 1991

ReUse Technology, Inc.
100 Chastain Center Blvd.
Suite 155
Kennesaw, GA 30144

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

Sample I.D. RT01888 Project account code: RT001
Location code: FLYASH
Location Description: FLYASH FROM STRUCT FILL PRJ
Client ID #: ROCKY MT. FLY
Laboratory submittal date: 10/21/91

Parameter	Result
pH	6.07

If there are any questions regarding this data, please do not hesitate to call.

Sincerely,

Gordon LaPean
Laboratory Manager

RT Environmental Services
A Division of ReUse Technology, Inc.

100 Chastain Center Blvd.
Suite 155
Kennesaw, Georgia 30144
Phone (404) 425-7676
Fax (404) 425-7681

November 21, 1991

ReUse Technology, Inc.
100 Chastain Center Blvd.
Suite 155
Kennesaw, GA 30144

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

Sample I.D. RT01887 Project account code: RT001
Location code: FLYASH
Location Description: FLYASH FROM STRUCT FILL PRJ
Client ID #: HOPEWELL FLY
Laboratory submittal date: 10/21/91

Parameter	Result
pH	6.70

If there are any questions regarding this data, please do not hesitate to call.

Sincerely,

Gordon LaPean
Laboratory Manager

RT Environmental Services
A Division of ReUse Technology, Inc.

100 Chastain Center Blvd.
Suite 155
Kennesaw, Georgia 30144
Phone (404) 425-7676
Fax (404) 425-7681

November 21, 1991

ReUse Technology, Inc.
100 Chastain Center Blvd.
Suite 155
Kennesaw, GA 30144

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

Sample I.D. RT01886 Project account code: RT001
Location code: FLYASH
Location Description: FLYASH FROM STRUCT FILL PRJ
Client ID #: PORTSMOUTH FLY
Laboratory submittal date: 10/21/91

Parameter	Result
pH	4.10

If there are any questions regarding this data, please do not hesitate to call.

Sincerely,

Gordon LaPean
Laboratory Manager

RT Environmental Services
A Division of ReUse Technology, Inc.

100 Chastain Center Blvd.
Suite 155
Kennesaw, Georgia 30144
Phone (404) 425-7876
Fax (404) 425-7681

November 21, 1991

ReUse Technology, Inc.
100 Chastain Center Blvd.
Suite 155
Kennesaw, GA 30144

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

Sample I.D. RT01891 Project account code: RT001
Location code: FLYASH
Location Description: FLYASH FROM STRUCT FILL PRJ
Client ID #: K'VILLE FLY
Laboratory submittal date: 10/21/91

Parameter	Result
pH	4.43

If there are any questions regarding this data, please do not hesitate to call.

Sincerely,

Gordon LaPean

Gordon LaPean
Laboratory Manager

100 Chastain Center Blvd.
Suite 155
Kennesaw, Georgia 30144
Phone (404) 425-7676
Fax (404) 425-7681

November 11, 1991

The following TCLP analytical results have been obtained for the indicated sample which was submitted to this laboratory:

Sample I.D. - RT01888
Location: Cogentrix Rocky Mount Fly Ash
Laboratory Submittal Date: 10/21/91

The first table gives a brief description of the AA method used, the minimum detection level and reporting units for each metal. The second table gives the actual analytical results expressed in the appropriate reporting units given in Table 1.

Table 1

	AA Method	Minimum Detection Level	Reporting Units
Arsenic	Furnace	0.03	mg/L (ppm)
Barium	Flame	0.2	mg/L (ppm)
Cadmium	Flame	0.01	mg/L (ppm)
Chromium	Flame	0.03	mg/L (ppm)
Lead	FLame	0.1	mg/L (ppm)
Mercury	Cold Vapor	0.0002	mg/L (ppm)
Selenium	Furnace	0.05	mg/L (ppm)
Silver	Flame	0.02	mg/L (ppm)

Table 2

	RT01888	Regulatory Limit
Arsenic	<0.03	5.0
Barium	<0.2	100.0
Cadmium	0.02	1.0
Chromium	<0.03	5.0
Lead	<0.1	5.0
Mercury	<0.0005	0.2
Selenium	<0.05	1.0
Silver	<0.02	5.0

Please feel free to call if you have any questions concerning these data.

Sincerely,

Gordon LaPean
Laboratory Manager

100 Chastain Center Blvd.
Suite 155
Kennesaw, Georgia 30144
Phone (404) 425-7676
Fax (404) 425-7681

November 11, 1991

The following TCLP analytical results have been obtained for the indicated sample which was submitted to this laboratory:

Sample I.D. - RT01891
Location: Cogentrix Kenansville Fly Ash
Laboratory Submittal Date: 10/21/91

The first table gives a brief description of the AA method used, the minimum detection level and reporting units for each metal. The second table gives the actual analytical results expressed in the appropriate reporting units given in Table 1.

Table 1

	AA Method	Minimum Detection Level	Reporting Units
Arsenic	Furnace	0.03	mg/L (ppm)
Barium	Flame	0.2	mg/L (ppm)
Cadmium	Flame	0.01	mg/L (ppm)
Chromium	Flame	0.03	mg/L (ppm)
Lead	Flame	0.1	mg/L (ppm)
Mercury	Cold Vapor	0.0002	mg/L (ppm)
Selenium	Furnace	0.05	mg/L (ppm)
Silver	Flame	0.02	mg/L (ppm)

Table 2

	RT01891	Regulatory Limit
Arsenic	0.11	5.0
Barium	<0.2	100.0
Cadmium	0.03	1.0
Chromium	<0.03	5.0
Lead	<0.1	5.0
Mercury	<0.0002	0.2
Selenium	0.14	1.0
Silver	<0.02	5.0

Please feel free to call if you have any questions concerning these data.

Sincerely,

Gordon LaPean

Gordon LaPean
Laboratory Manager

100 Chastain Center Blvd.
Suite 155
Kennesaw, Georgia 30144
Phone (404) 425-7676
Fax (404) 425-7681

November 11, 1991

The following TCLP analytical results have been obtained for the indicated sample which was submitted to this laboratory:

Sample I.D. - RT01887
Location: Cogentrix Hopewell
Composite Fly Ash and Bottom Ash
Laboratory Submittal Date: 10/21/91

The first table gives a brief description of the AA method used, the minimum detection level and reporting units for each metal. The second table gives the actual analytical results expressed in the appropriate reporting units given in Table 1.

Table 1

	AA Method	Minimum Detection Level	Reporting Units
Arsenic	Furnace	0.03	mg/L (ppm)
Barium	Flame	0.2	mg/L (ppm)
Cadmium	Flame	0.01	mg/L (ppm)
Chromium	Flame	0.03	mg/L (ppm)
Lead	Flame	0.1	mg/L (ppm)
Mercury	Cold Vapor	0.0002	mg/L (ppm)
Selenium	Furnace	0.05	mg/L (ppm)
Silver	Flame	0.02	mg/L (ppm)

Table 2

	RT01887	Regulatory Limit
Arsenic	<0.03	5.0
Barium	<0.2	100.0
Cadmium	0.03	1.0
Chromium	0.08	5.0
Lead	0.7	5.0
Mercury	<0.0002	0.2
Selenium	<0.05	1.0
Silver	<0.02	5.0

Please feel free to call if you have any questions concerning these data.

Sincerely,

Gordon LaPean

Gordon LaPean
Laboratory Manager

100 Chastain Center Blvd.
Suite 155
Kennesaw, Georgia 30144
Phone (404) 425-7676
Fax (404) 425-7681

November 11, 1991

The following TCLP analytical results have been obtained for the indicated sample which was submitted to this laboratory:

Sample I.D. - RT01886
Location: Cogentrix Portsmouth
Composite Fly Ash and Bottom Ash
Laboratory Submittal Date: 10/21/91

The first table gives a brief description of the AA method used, the minimum detection level and reporting units for each metal. The second table gives the actual analytical results expressed in the appropriate reporting units given in Table 1.

Table 1

	AA Method	Minimum Detection Level	Reporting Units
Arsenic	Furnace	0.03	mg/L (ppm)
Barium	Flame	0.2	mg/L (ppm)
Cadmium	Flame	0.01	mg/L (ppm)
Chromium	Flame	0.03	mg/L (ppm)
Lead	Flame	0.1	mg/L (ppm)
Mercury	Cold Vapor	0.0002	mg/L (ppm)
Selenium	Furnace	0.05	mg/L (ppm)
Silver	Flame	0.02	mg/L (ppm)

Table 2

	RT01886	Regulatory Limit
Arsenic	<0.03	5.0
Barium	<0.2	100.0
Cadmium	0.03	1.0
Chromium	0.06	5.0
Lead	0.2	5.0
Mercury	<0.0002	0.2
Selenium	0.09	1.0
Silver	<0.02	5.0

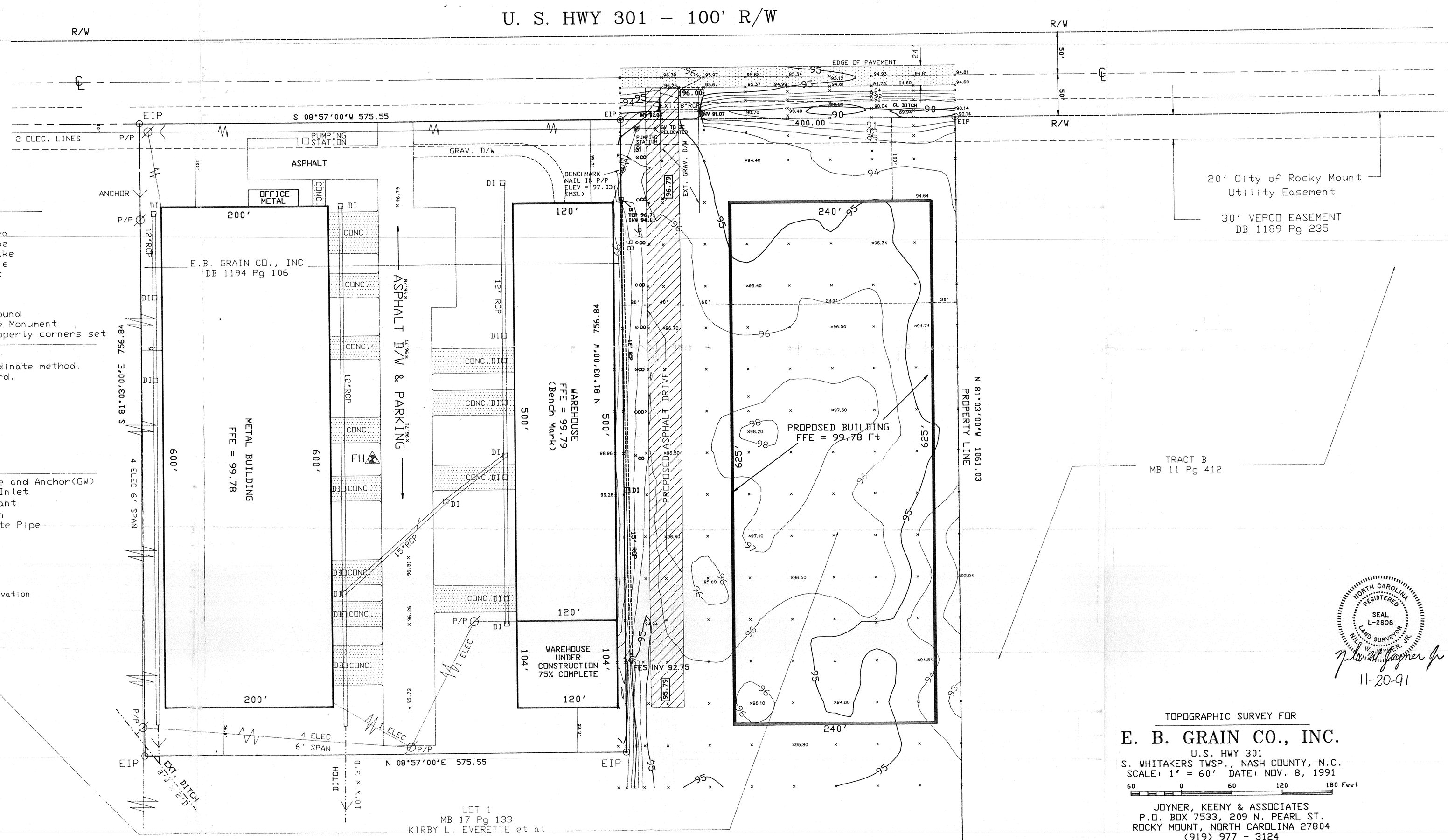
Please feel free to call if you have any questions concerning these data.

Sincerely,

Gordon LaPean
Laboratory Manager

NOT TO SCALE

VICINITY MAP



LEGEND

- Lines Surveyed
- Lines Not Surveyed
- EIP --- Existing Iron Pipe
- EIS --- Existing Iron Stake
- EIA --- Existing Iron Axle
- NIP --- New Iron Pipe Set
- PKN --- P K Nail Found
- PKS --- P K Nail Set
- RRS --- Railroad Spike
- NI --- No Iron Set or Found
- ECM --- Existing Concrete Monument
- o --- Inicates Iron Property corners set

NOTES:

--- Area computed by coordinate method.
--- All distances are chord.
--- Zone: ID
--- Minimum Setbacks:
Front: 75'
Side : 20'
Rear : 15'

SYMBOL TABLE

Ø	P/P	Power Pole and Anchor(GW)
◻	DI	Drainage Inlet
▲	FH	Fire Hydrant
FES	Flared End Section	
RCP	Reinforced Concrete Pipe	
CONC	Concrete	
ASP	Asphalt	
CO	Clean Out	
------	Existing Contours	
x 98.20	Ground Elevation	
x 96.00	Proposed Finished Elevation	

NORTH CAROLINA REGISTERED SEAL L-2806 LAND SURVEYOR

11-20-91

TOPOGRAPHIC SURVEY FOR

E. B. GRAIN CO., INC.

U.S. HWY 301
S. WHITAKERS TWSP., NASH COUNTY, N.C.
SCALE: 1" = 60' DATE: NOV. 8, 1991

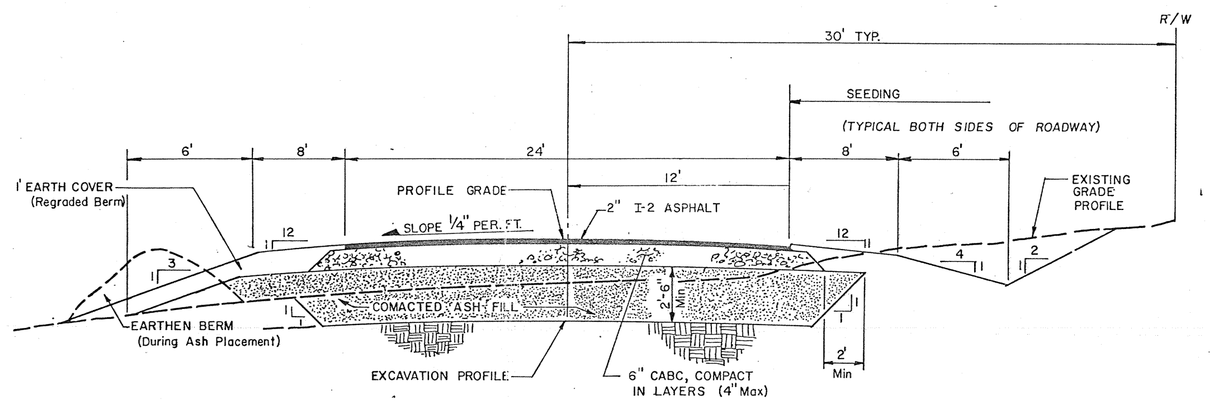
60 0 60 120 180 Feet

JOYNER, KEENY & ASSOCIATES
P.O. BOX 7533, 209 N. PEARL ST.
ROCKY MOUNT, NORTH CAROLINA 27804
(919) 977 - 3124

REVISED: 11/12/91.

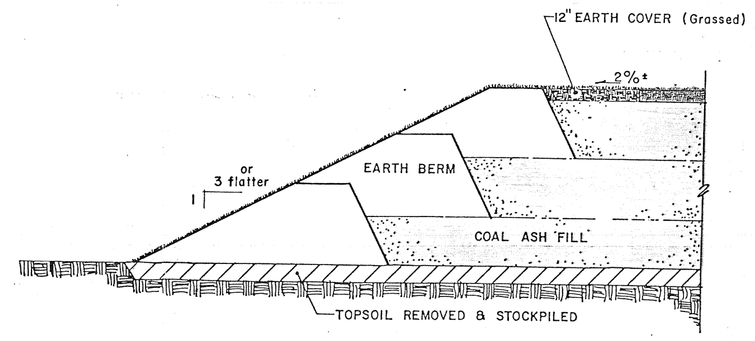
DRAWN BY: SLB (CAD)

911029A



TYPICAL ROAD SECTION

n.t.s. A4·A4



ASH FILL SECTION

n.t.s. B4·B4

ROADWAY NOTES

1. Strip all topsoil (if applicable), and stockpile as directed by the engineer or project manager.

2. Excavate for roadbed as limits indicate on drawings and stockpile as directed by ReUse Technology, Inc.

3. All organic and/or soft material shall be removed and the exposed subgrade compacted with a vibratory roller (10 ton minimum). Where heaving is observed overexcavation will be required at the direction of the engineer or project manager before the placement of ash fill.

4. Prior to placement of material on site, laboratory testing shall be performed on the fill material to determine the optimum moisture content and density using the standard proctor method.

5. Using a vibratory roller weighing a minimum of 10 tons (static load) or equal, compact new fill material in ± 9 inch layers to a minimum 95% of the maximum dry density at its optimum moisture content in accordance with the standard proctor method, ASTM standard D-698 and field controlled in accordance with ASTM standard D-2167, or equal.

6. Upon completion of the placement of all material, two INSITU CBR's are to be taken to assure that a minimum CBR of 18 has been achieved.

7. The final subgrade elevation shall be set 8" below the final elevation which allows for 6" of CABC and 2" of I-2 asphalt.

8. Sufficient drainage by ditching or other approved means shall be employed to protect the final subgrade from contamination and washout. Drainage is to be the first order of construction before filling.

GENERAL NOTES

1. Excavate and stockpile topsoil and adequate quantities of earth for cover material in progression with ash fill placement.

2. During dry and windy conditions adequate moisture will be applied to prevent dusting.

3. Ash shall be bladed in ± 9 inch layers and compacted with a smooth steel wheeled vibratory roller. (10 ton minimum) to a minimum 95% of the maximum dry density at its optimum moisture content per ASTM D-698. Field compaction test shall be taken for each 5000 cubic yards placed.

4. During construction the ash fill shall be graded (max. 5%) and a smooth surface maintained as to provide for sheet flow run-off and prevent dusting.

5. Run-off from all disturbed areas shall be controlled and contained by measures in accordance with the erosion control plan.

6. All areas shall be covered with 12" compacted earth. Seeding shall be in accordance with schedule provided in the Erosion and Sedimentation Control narrative, Section C: Vegetative Ground Cover.

RT Development Company
100 Chastain Center Boulevard - Suite 155
Kennesaw, Georgia 30144
Telephone (404) 425-7680
Fax (404) 425-7681

DATE	DESCRIPTION	DWN/APP.
11/22/91	FOR REVIEW	ddw/RW

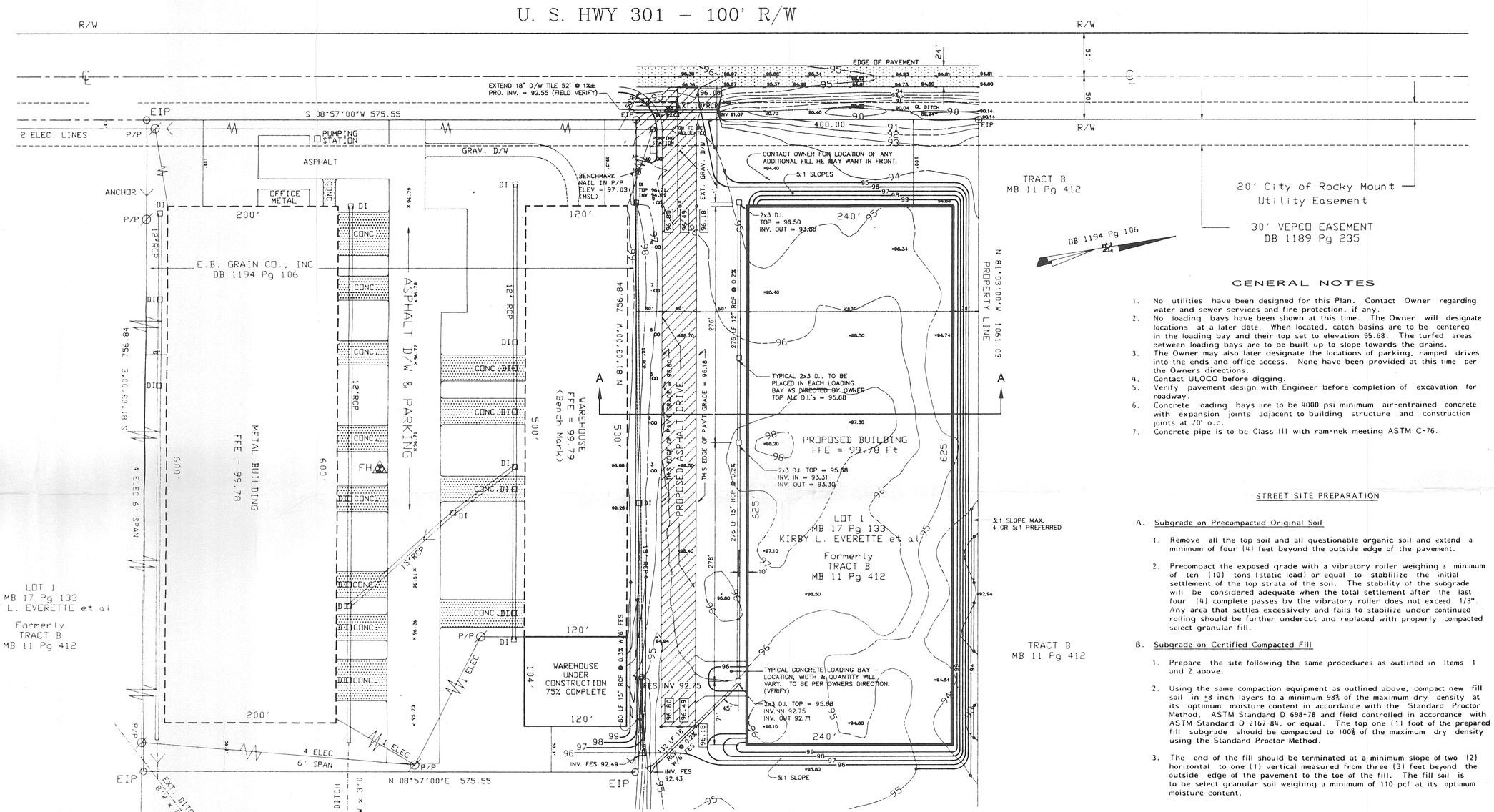
DATE

E.B. GRAIN CO., INC.

Road Bed Fill

PROJECT NO.

SHEET NO. of



GENERAL NOTES

1. No utilities have been designed for this Plan. Contact Owner regarding water and sewer services and fire protection, if any.
2. No loading bays have been shown at this time. The Owner will designate locations at a later date. When located, catch basins are to be centered in the loading bay and their top set to elevation 95.68. The turfed areas between loading bays are to be built up to slope towards the drains.
3. The Owner may also later designate the locations of parking, ramped drives into the ends and office access. None have been provided at this time per the Owners directions.
4. Contact ULOCO before digging.
5. Verify pavement design with Engineer before completion of excavation for roadway.
6. Concrete loading bays are to be 4000 psi minimum air-entrained concrete with expansion joints adjacent to building structure and construction joints at 20' o.c.
7. Concrete pipe is to be Class III with ram-nek meeting ASTM C-76.

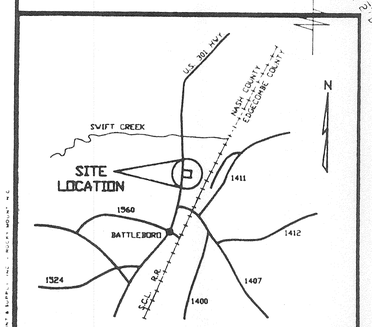
STREET SITE PREPARATION

A. Subgrade on Precompacted Original Soil

1. Remove all the top soil and all questionable organic soil and extend a minimum of four (4) feet beyond the outside edge of the pavement.
2. Precompact the exposed grade with a vibratory roller weighing a minimum of ten (10) tons (static load) or equal to stablilize the initial settlement of the top strata of the soil. The stability of the subgrade will be considered adequate when the total settlement after the last four (4) complete passes by the vibratory roller does not exceed 1/8". Any area that settles excessively and fails to stabilize under continued rolling should be further undercut and replaced with properly compacted select granular fill.

B. Subgrade on Certified Compacted Fill

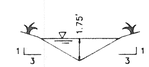
1. Prepare the site following the same procedures as outlined in Items 1 and 2 above.
2. Using the same compaction equipment as outlined above, compact new fill soil in ±8 inch layers to a minimum 98% of the maximum dry density at its optimum moisture content in accordance with the Standard Proctor Method, ASTM Standard D 698-78 and field controlled in accordance with ASTM Standard D 2167-84, or equal. The top one (1) foot of the prepared fill subgrade should be compacted to 100% of the maximum dry density using the Standard Proctor Method.
3. The end of the fill should be terminated at a minimum slope of two (2) horizontal to one (1) vertical measured from three (3) feet beyond the outside edge of the pavement to the toe of the fill. The fill soil is to be select granular soil weighing a minimum of 110 pcf at its optimum moisture content.



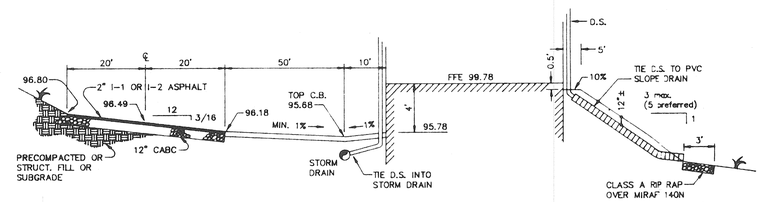
LOCATION SKETCH

TOPOGRAPHIC SURVEY BY
JOYNER, KEENY & ASSOCIATES
P.O. BOX 7533, 209 N. PEARL ST.
ROCKY MOUNT, NORTH CAROLINA 27804
(919) 977 - 3124

BEFORE YOU DIG
CALL TOLL FREE
1-800-632-4949
ULOCO



EX. TAIL DITCH
X-SECTION B-B
NOT TO SCALE



SECTION A-A
NOT TO SCALE

DRAINAGE AND GRADING PLAN FOR E.B. GRAIN CO., INC.

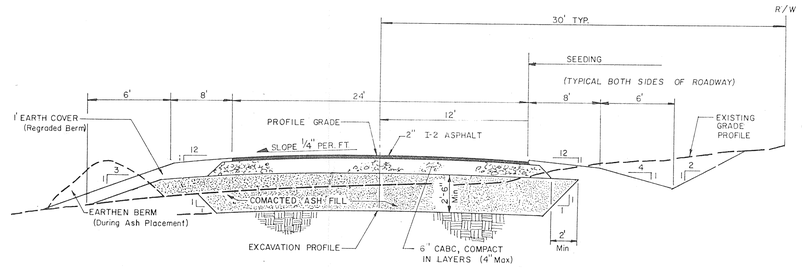
SCALE: 1" = 60'
DATE: DEC., 1991
DESIGN: BJ
DRAWN BY:
CHKD:

APPIAN
CONSULTING ENGINEERS, P.A.
CIVIL AND MUNICIPAL ENGINEERS
P.O. BOX 7966 • ROCKY MOUNT NC 27804
(919) 972 7703
GENESIS 1:1

NORTH CAROLINA PROFESSIONAL SEAL 8021 BARRY L. JOYNER

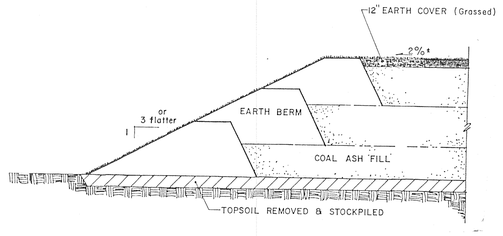
CE - 1

D-0229



TYPICAL ROAD SECTION

n.t.s. A4·A4



ASH FILL SECTION

n.t.s. B4·B4

ROADWAY NOTES

1. Strip all topsoil (if applicable), and stockpile as directed by the engineer or project manager.

2. Excavate for roadbed as limits indicate on drawings and stockpile as directed by ReUse Technology, Inc.

3. All organic and/or soft material shall be removed and the exposed subgrade compacted with a vibratory roller (10 ton minimum). Where heaving is observed overexcavation will be required at the direction of the engineer or project manager before the placement of ash fill.

4. Prior to placement of material on site, laboratory testing shall be performed on the fill material to determine the optimum moisture content and density using the standard proctor method.

5. Using a vibratory roller weighing a minimum of 10 tons (static load) or equal, compact new fill material in ± 9 inch layers to a minimum 95% of the maximum dry density at its optimum moisture content in accordance with the standard proctor method, ASTM standard D-698 and field controlled in accordance with ASTM standard D-2167, or equal.

6. Upon completion of the placement of all material, two INSITU CBR's are to be taken to assure that a minimum CBR of 18 has been achieved.

7. The final subgrade elevation shall be set 8" below the final elevation which allows for 6" of CABC and 2" of I-2 asphalt.

8. Sufficient drainage by ditching or other approved means shall be employed to protect the final subgrade from contamination and washout. Drainage is to be the first order of construction before filling.

GENERAL NOTES

1. Excavate and stockpile topsoil and adequate quantities of earth for cover material in progression with ash fill placement.

2. During dry and windy conditions adequate moisture will be applied to prevent dusting.

3. Ash shall be bladed in ± 9 inch layers and compacted with a smooth steel wheeled vibratory roller. (10 ton minimum) to a minimum 95% of the maximum dry density at its optimum moisture content per ASTM D-698. Field compaction test shall be taken for each 5000 cubic yards placed.

4. During construction the ash fill shall be graded (max. 5%) and a smooth surface maintained as to provide for sheet flow run-off and prevent dusting.

5. Run-off from all disturbed areas shall be controlled and contained by measures in accordance with the erosion control plan.

6. All areas shall be covered with 12" compacted earth. Seeding shall be in accordance with schedule provided in the Erosion and Sedimentation Control narrative, Section C: Vegetative Ground Cover.

RT Development Company
100 Chastain Center Boulevard - Suite 155
Kennesaw, Georgia 30144
Telephone (404) 425-7989
Fax (404) 425-7551

DATE	DESCRIPTION	DWN/APP.
11-22-91	FOR REVIEW	cdw / RW

DATE

E.B. GRAIN CO., INC.

Building Pad Fill

PROJECT NO.

SHEET NO. of