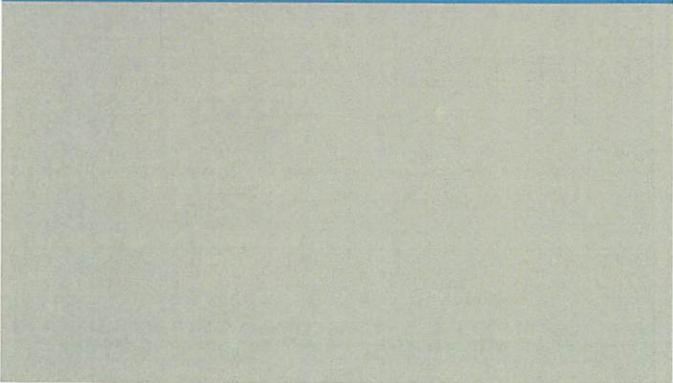


# D

## Drawings

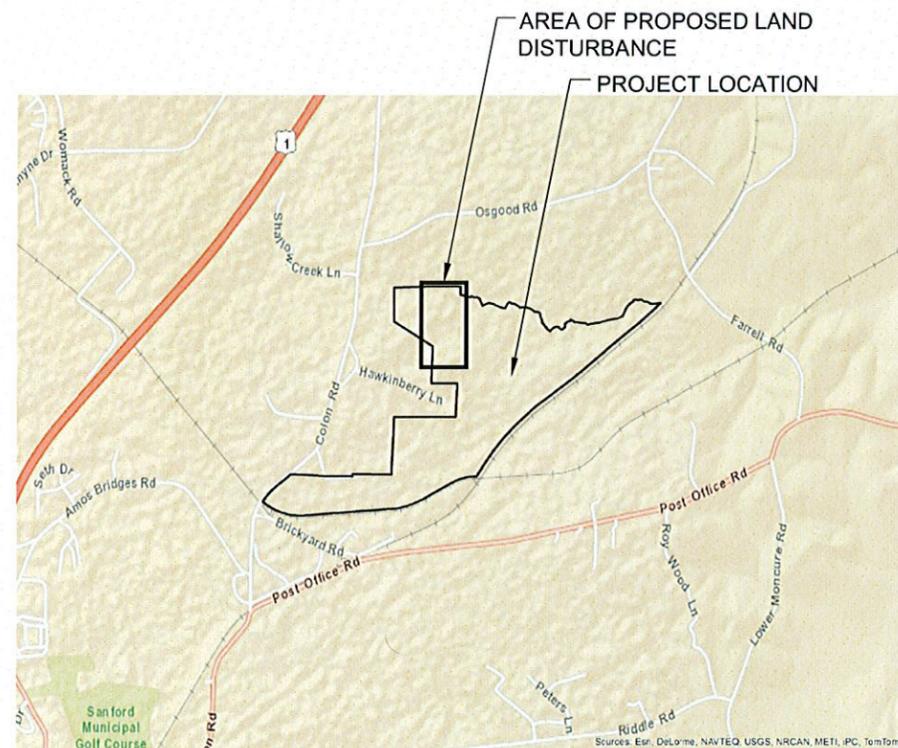


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Owner: Green Meadow, LLC  
 Permittee / Operator: Charah, Inc.  
 Engineer of Record: HDR Engineering, Inc. of the Carolinas



HDR Engineering, Inc. of the Carolinas  
 440 S. Church St.  
 Suite 1000  
 Charlotte, NC 28202-2075  
 704.338.6700  
 N.C.B.E.L.S. F-0116



Permit Drawings For

# Colon Mine Site Structural Fill

## Erosion and Sedimentation Control Submittal for Northwest Area

HDR Project No.  
00000000235691

Sanford, North Carolina  
November 2014

Revised March 2015

### INDEX OF DRAWINGS

#### GENERAL

- 00G-01 COVER
- 00G-02 FACILITY PLAN AND BUFFERS

#### SITE WORK

- 00C-01 EXISTING CONDITIONS
- 00C-02 BASGRADE PLAN (BOTTOM OF SOIL LINER)
- 00C-03 TOP OF LINER
- 00C-04 RECLAMATION PLAN
- 00C-05 SITE CROSS SECTIONS
- ~~00C-06 LINER SYSTEM AND SUMP~~
- 00C-07 PERIMETER CONTAINMENT
- 00C-08 MISCELLANEOUS DETAILS
- ~~00C-09 LEACHATE FORESHOULDER~~
- ~~00C-10 LEACHATE PUMP SYSTEM~~

DRAWINGS WITH STRIKETHROUGH ARE NOT PERTINENT TO THIS EROSION CONTROL SUBMITTAL AND SO ARE NOT INCLUDED.

#### EROSION AND SEDIMENT CONTROL

- 01C-01 EROSION AND SEDIMENTATION CONTROL PLAN - PHASE 1 OVERALL
- 01C-02 EROSION AND SEDIMENTATION CONTROL PHASE 1 PLAN 1
- ~~01C-03 EROSION AND SEDIMENTATION CONTROL PHASE 1 PLAN 2~~
- ~~01C-04 EROSION AND SEDIMENTATION CONTROL PHASE 1 PLAN 3~~
- ~~01C-05 EROSION AND SEDIMENTATION CONTROL PHASE 1 PLAN 4~~
- 01C-06 EROSION AND SEDIMENTATION CONTROL PLAN - PHASE 2 OVERALL
- 01C-07 EROSION AND SEDIMENTATION CONTROL PHASE 2 PLAN 1
- ~~01C-08 EROSION AND SEDIMENTATION CONTROL PHASE 2 PLAN 2~~
- ~~01C-09 EROSION AND SEDIMENTATION CONTROL PHASE 2 PLAN 3~~
- ~~01C-10 EROSION AND SEDIMENTATION CONTROL PHASE 2 PLAN 4~~
- 01C-11 EROSION AND SEDIMENTATION CONTROL DETAILS (1 OF 3)
- 01C-12 EROSION AND SEDIMENTATION CONTROL DETAILS (2 OF 3)
- 01C-13 EROSION AND SEDIMENTATION CONTROL DETAILS (3 OF 3)

#### NOTE:

THESE DRAWINGS WERE ORIGINALLY PREPARED FOR THE COLON MINE STRUCTURAL FILL PERMITTING. DEMLR MINE PERMIT S3-05. AS IS TYPICAL, THE EROSION CONTROL MEASURES ARE INCLUDED AS PART OF THE MINE PERMIT APPLICATION AND COVERED WITHIN THE MINE PERMIT. HOWEVER, THE STRUCTURAL FILL PROJECT INCLUDES 11 ACRES OF PLANNED DISTURBANCE IN THE NORTH WEST PORTION OF THE PROPERTY THAT IS NOT CURRENTLY WITHIN THE PERMITTED MINE BOUNDARY. THEREFORE, THIS SEDIMENTATION AND EROSION CONTROL PLAN APPLICATION HAS BEEN COMPILED TO ADDRESS THE 11 ACRE AREA. ALSO REFER TO THE OVERALL APPLICATION FOR ADDITIONAL DETAILS.

**SCOPE:**

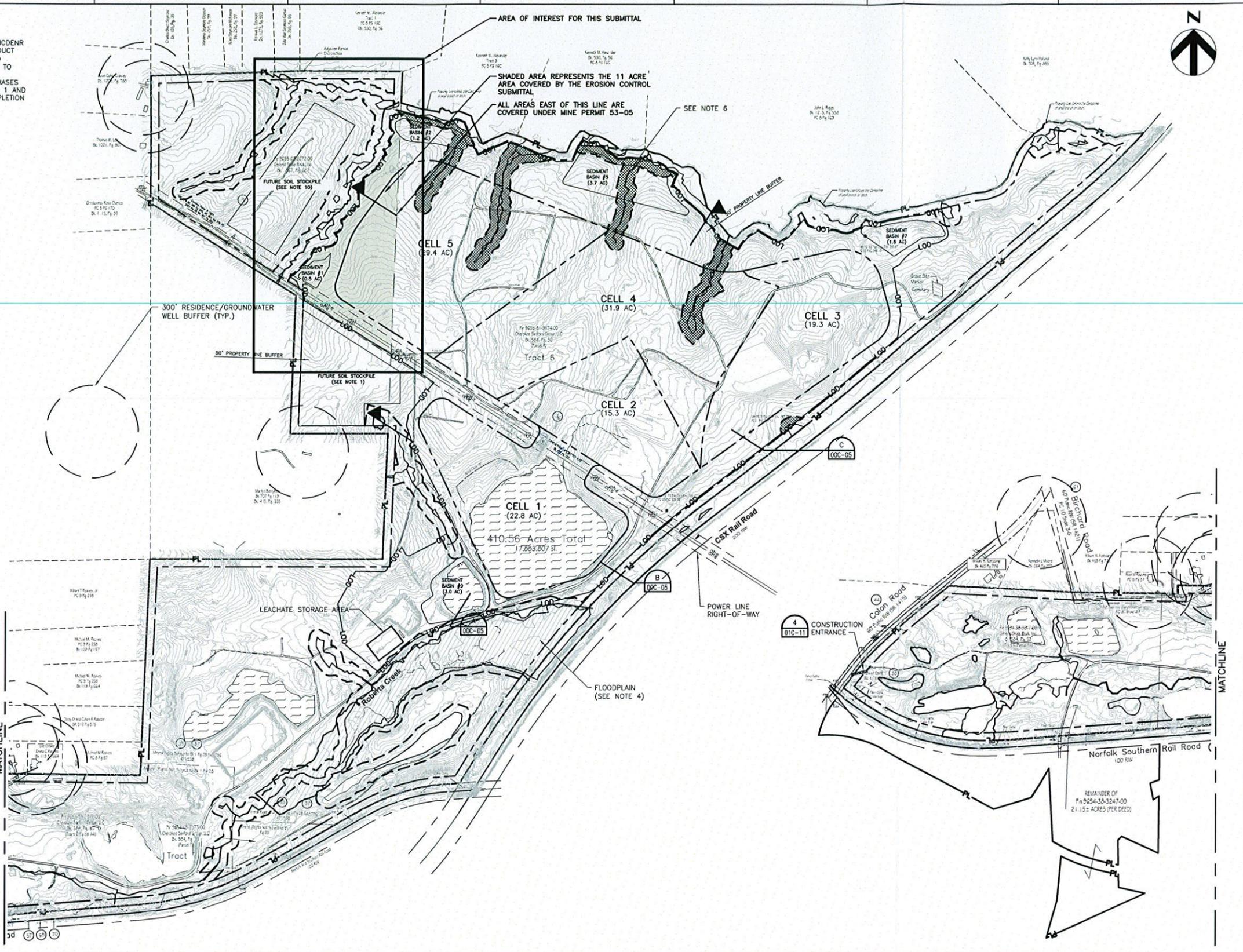
THE PURPOSE OF THIS PERMIT APPLICATION IS TO OBTAIN A PERMIT FROM NCDENR TO CONSTRUCT A 118.4 ACRE STRUCTURAL FILL OF COAL COMBUSTION PRODUCT (CCP). THIS PROJECT CONSISTS OF EXCAVATING SOIL WITHIN CELLS 1-5 AND INSTALLATION OF A LINER SYSTEM AND LEACHATE COLLECTION SYSTEM PRIOR TO CCP PLACEMENT. AFTER CCP PLACEMENT, A CAP SYSTEM AND STORMWATER DRAINAGE SYSTEM WILL BE INSTALLED. DEVELOPMENT WILL OCCUR IN TWO PHASES TO ALLOW FOR STREAM AND WETLAND MITIGATION. PHASE 1 INCLUDES CELLS 1 AND 2. THE REMAINING CELLS 3-5 WILL BE DEVELOPED IN PHASE 2 AFTER COMPLETION OF STREAM AND WETLAND MITIGATION.

**NOTES:**

- TOPOGRAPHIC SURVEY PROVIDED BY AVID IMAGE MAPPING SERVICES, INC. ALTA SURVEY COMPLETED BY LAWRENCE ASSOCIATES DATED AUGUST 14, 2014. CLEARWATER ENVIRONMENTAL PROVIDED WETLAND LOCATIONS TO LAWRENCE ASSOCIATES FOR INCLUSION INTO THEIR SURVEY.
- PROPERTY BOUNDARY PROVIDED BY LAWRENCE ASSOCIATES DATED SEPTEMBER 5, 2014.
- GROUNDWATER WELL LOCATIONS PROVIDED BY LAWRENCE ASSOCIATES DATED SEPTEMBER 5, 2014.
- FLOODPLAIN LOCATION IS FROM LAWRENCE ASSOCIATES AS IDENTIFIED ON FLOOD INSURANCE RATE MAP FOR LEE COUNTY NORTH CAROLINA, COMMUNITY PANEL NUMBER 3710965400J, DATED SEPTEMBER 6, 2006. LAWRENCE ASSOCIATES CERTIFIES THAT A PORTION OF THIS PROPERTY IS LOCATED IN A SPECIAL FLOOD HAZARD AREA AS DETERMINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.
- WETLANDS DELINEATED BY CLEARWATER ENVIRONMENTAL ON JULY 21, 22, 23, 24, 30, 31, 2014 AND JANUARY 6, 2015.
- THE WETLANDS AND STREAMS THAT ARE IMPACTED BY THIS PROJECT WILL BE PERMITTED THROUGH NC DIVISION OF WATER QUALITY AND MITIGATED AS REQUIRED PRIOR TO LAND DISTURBANCE. ESTIMATED IMPACTS INCLUDE:
  - +2,158 LINEAR FEET OF STREAMS
  - +108,510 SQ. FT. (2.49 ACRES) OF WETLANDS
- ACCORDING TO LAWRENCE ASSOCIATES SURVEY, LEE COUNTY PUBLIC WORKS PROVIDED THE ADDRESSES FOR DRINKING WATER WELL LOCATIONS AND WATER SERVICES TO ADJOINING PARCELS WITHIN 500 FEET OF THE PROPERTY LINE. LEE COUNTY PUBLIC WORKS PROVIDED PARCELS SERVED BY COUNTY WATER. PUBLIC WATER SUPPLY (WATERLINE) IS LOCATED ALONG COLON ROAD.
- THE LEACHATE STORAGE WILL BE ABOVE GROUND STORAGE TANKS.
- THE PRIMARY SITE ENTRANCE IS FROM COLON ROAD.
- SOIL STOCKPILE AREAS TO BE DESIGNED AND PERMITTED AS NEEDED FOR OPERATIONS. THIS AREA IS NOT A PART OF THIS EROSION CONTROL SUBMITTAL.

**LEGEND**

- PROPERTY LINE
- 50' PROPERTY LINE BUFFER
- 50' WETLANDS/STREAM BUFFER
- LIMITS OF DISTURBANCE
- 300' RESIDENCE/GROUNDWATER WELL BUFFER
- EXISTING TOPOGRAPHY
- EXISTING ROAD
- IMPACTED WETLANDS/STREAMS
- OVERHEAD ELECTRIC
- PARCEL BOUNDARIES
- RAILROAD
- CELL BOUNDARIES
- PLANIMETRICS
- OPEN WATER
- STORMWATER BASIN FROM PRIOR MINING ACTIVITIES
- FLOODPLAIN



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N.C.B.E.L.S. License Number F-0116

ISSUE	DATE	DESCRIPTION	PROJECT NUMBER
D	03/19/15	EROSION CONTROL SUBMITTAL FOR NORTHWEST AREA	453925-235691-018
C	01/15/15	REVISED PER NCDENR COMMENTS	
B	12/31/14	REVISED PER NCDENR COMMENTS	
A	11/2014	ISSUED FOR APPROVAL	

PROJECT MANAGER	M.D. PLUMMER, P.E.
DESIGNED BY	P. WESTMORELAND, P.E.
DRAWN BY	J. GAUL
CHECKED BY	J. READLING, P.E.
PROJECT NUMBER	453925-235691-018



COLON MINE SITE STRUCTURAL FILL  
SANFORD, NC

**FACILITY PLAN AND BUFFERS**

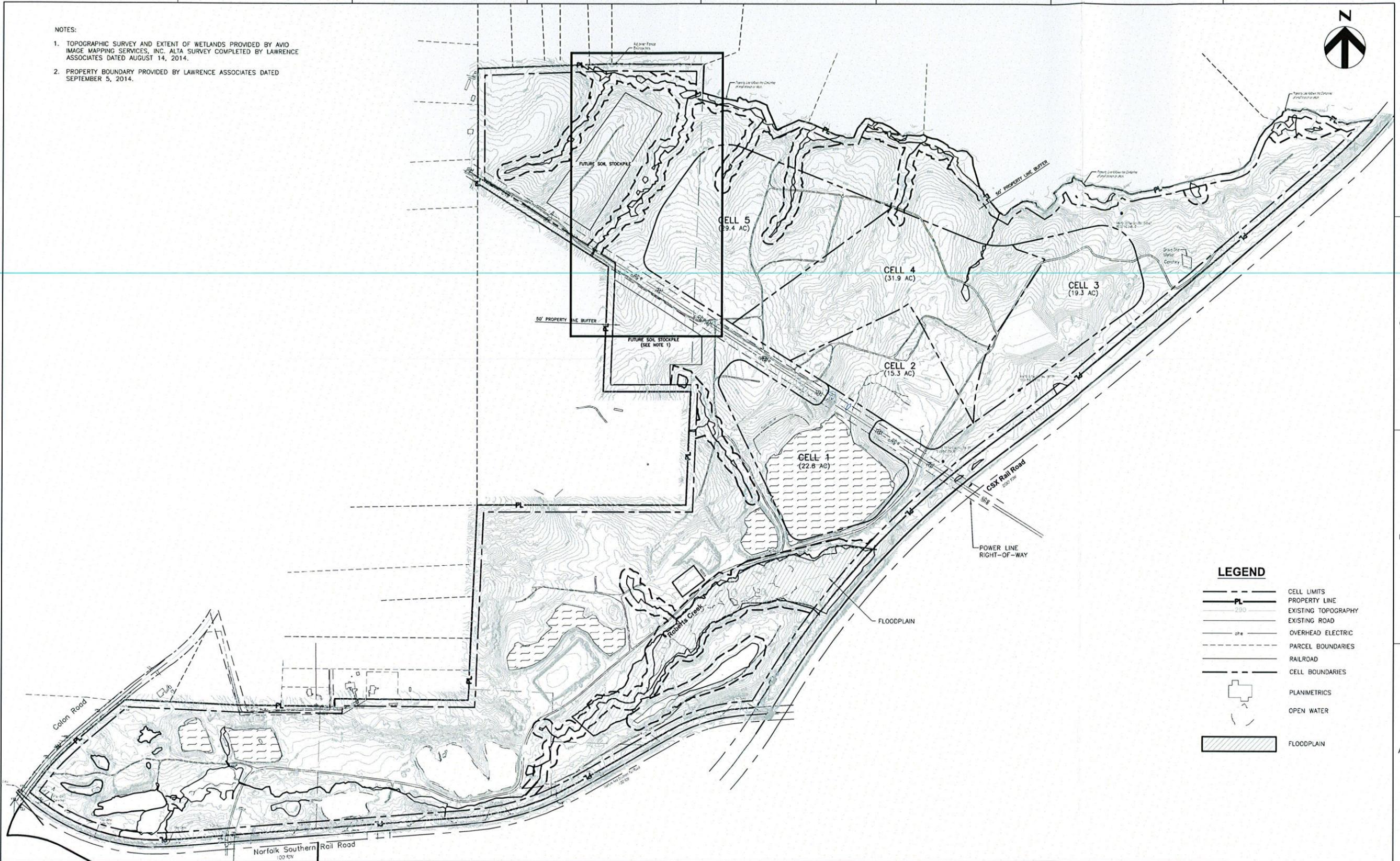


FILENAME | 00G-02.dwg  
SCALE | 1"=300'

SHEET  
**00G-02**

NOTES:

1. TOPOGRAPHIC SURVEY AND EXTENT OF WETLANDS PROVIDED BY AVID IMAGE MAPPING SERVICES, INC. ALTA SURVEY COMPLETED BY LAWRENCE ASSOCIATES DATED AUGUST 14, 2014.
2. PROPERTY BOUNDARY PROVIDED BY LAWRENCE ASSOCIATES DATED SEPTEMBER 5, 2014.



**LEGEND**

- CELL LIMITS
- PROPERTY LINE
- EXISTING TOPOGRAPHY
- EXISTING ROAD
- OVERHEAD ELECTRIC
- PARCEL BOUNDARIES
- RAILROAD
- CELL BOUNDARIES
- PLANIMETRICS
- OPEN WATER
- FLOODPLAIN



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ISSUE	DATE	DESCRIPTION	PROJECT NUMBER
D	03/19/15	EROSION CONTROL SUBMITTAL FOR NORTHWEST AREA	453925-235691-018
C	01/15/15	REVISED PER NCDENR COMMENTS	
B	12/31/14	REVISED PER NCDENR COMMENTS	
A	11/2014	ISSUED FOR APPROVAL	

PROJECT MANAGER	M.D. PLUMMER, P.E.
DESIGNED BY	P. WESTMORELAND, P.E.
DRAWN BY	J. GAUL
CHECKED BY	J. READLING, P.E.



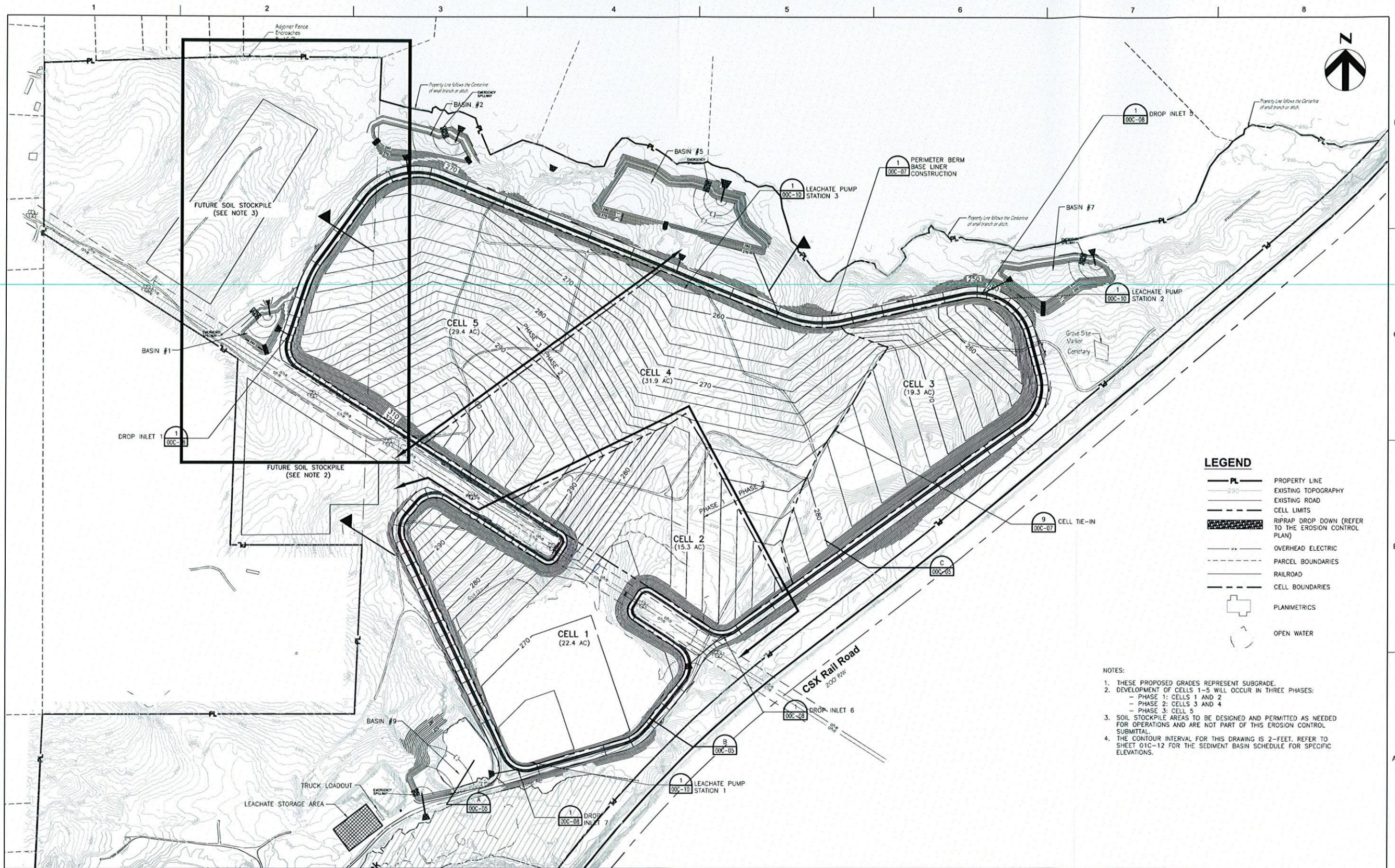
COLON MINE SITE STRUCTURAL FILL  
SANFORD, NC

EXISTING CONDITIONS



FILENAME | 00C-01.dwg  
SCALE | 1" = 300'

SHEET  
00C-01



**LEGEND**

- PROPERTY LINE
- EXISTING TOPOGRAPHY
- EXISTING ROAD
- CELL LIMITS
- RIPRAP DROP DOWN (REFER TO THE EROSION CONTROL PLAN)
- OVERHEAD ELECTRIC
- PARCEL BOUNDARIES
- RAILROAD
- CELL BOUNDARIES
- PLANIMETRICS
- OPEN WATER

**NOTES:**

1. THESE PROPOSED GRADES REPRESENT SUBGRADE.
2. DEVELOPMENT OF CELLS 1-5 WILL OCCUR IN THREE PHASES:
  - PHASE 1: CELLS 1 AND 2
  - PHASE 2: CELLS 3 AND 4
  - PHASE 3: CELL 5
3. SOIL STOCKPILE AREAS TO BE DESIGNED AND PERMITTED AS NEEDED FOR OPERATIONS AND ARE NOT PART OF THIS EROSION CONTROL SUBMITTAL.
4. THE CONTOUR INTERVAL FOR THIS DRAWING IS 2-FOOT. REFER TO SHEET 01C-12 FOR THE SEDIMENT BASIN SCHEDULE FOR SPECIFIC ELEVATIONS.



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ISSUE	DATE	DESCRIPTION
D	03/19/15	EROSION CONTROL SUBMITTAL FOR NORTHWEST AREA
C	03/2015	RAISED FLOOR GRADES 6"
B	12/31/14	REVISED PER NCDENR COMMENTS
A	11/2014	ISSUED FOR APPROVAL

PROJECT MANAGER	M.D. PLUMMER, P.E.
DESIGNED BY	P. WESTMORELAND, P.E.
DRAWN BY	J. GAUL
CHECKED BY	J. READLING, P.E.
PROJECT NUMBER	453925-235691-018



COLON MINE SITE STRUCTURAL FILL  
SANFORD, NC

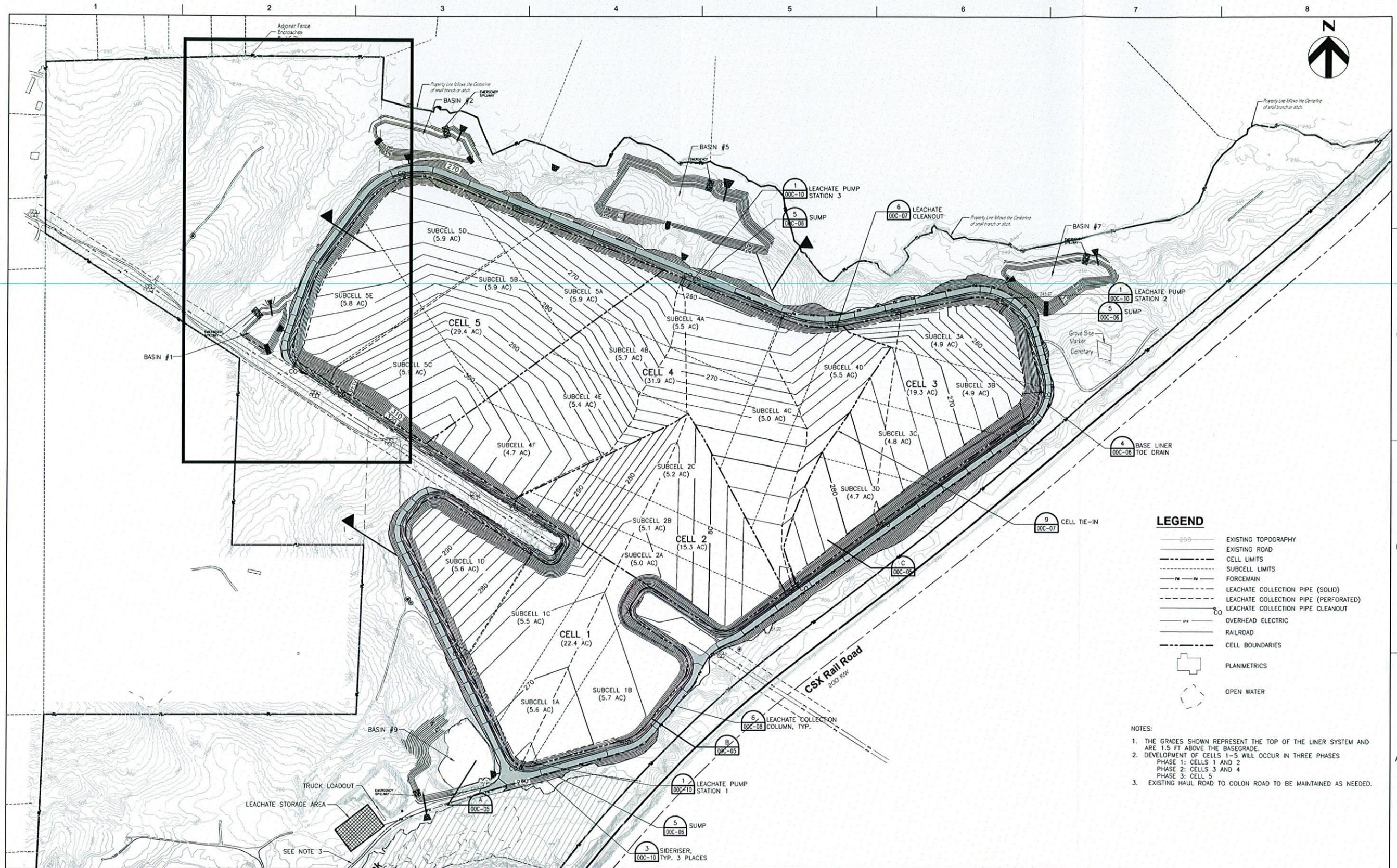
**BASEGRADE PLAN  
(BOTTOM OF SOIL LINER)**



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SCALE | 1"=200'

SHEET  
**00C-02**

C:\working\453925\00C-02.dwg, Plot, 3/19/2015 11:05:13 AM, lpld



**LEGEND**

- EXISTING TOPOGRAPHY
- EXISTING ROAD
- CELL LIMITS
- SUBCELL LIMITS
- FORCEMAIN
- LEACHATE COLLECTION PIPE (SOLID)
- LEACHATE COLLECTION PIPE (PERFORATED)
- LEACHATE COLLECTION PIPE CLEANOUT
- OVERHEAD ELECTRIC
- RAILROAD
- CELL BOUNDARIES
- PLANIMETRICS
- OPEN WATER

**NOTES:**

1. THE GRADES SHOWN REPRESENT THE TOP OF THE LINER SYSTEM AND ARE 1.5 FT ABOVE THE BASEGRADE.
2. DEVELOPMENT OF CELLS 1-5 WILL OCCUR IN THREE PHASES  
 PHASE 1: CELLS 1 AND 2  
 PHASE 2: CELLS 3 AND 4  
 PHASE 3: CELL 5
3. EXISTING HAUL ROAD TO COLON ROAD TO BE MAINTAINED AS NEEDED.



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ISSUE	DATE	DESCRIPTION
D	03/19/15	EROSION CONTROL SUBMITTAL FOR NORTH-WEST AREA
C	03/2015	RAISED FLOOR GRADES 6", RESIZED SUBCELLS
B	12/31/14	REVISED PER NCDENR COMMENTS
A	11/2014	ISSUED FOR APPROVAL

PROJECT MANAGER	M.D. PLUMMER, P.E.
DESIGNED BY	P. WESTMORELAND, P.E.
DRAWN BY	J. GAUL
CHECKED BY	J. READLING, P.E.
PROJECT NUMBER	453925-235691-018



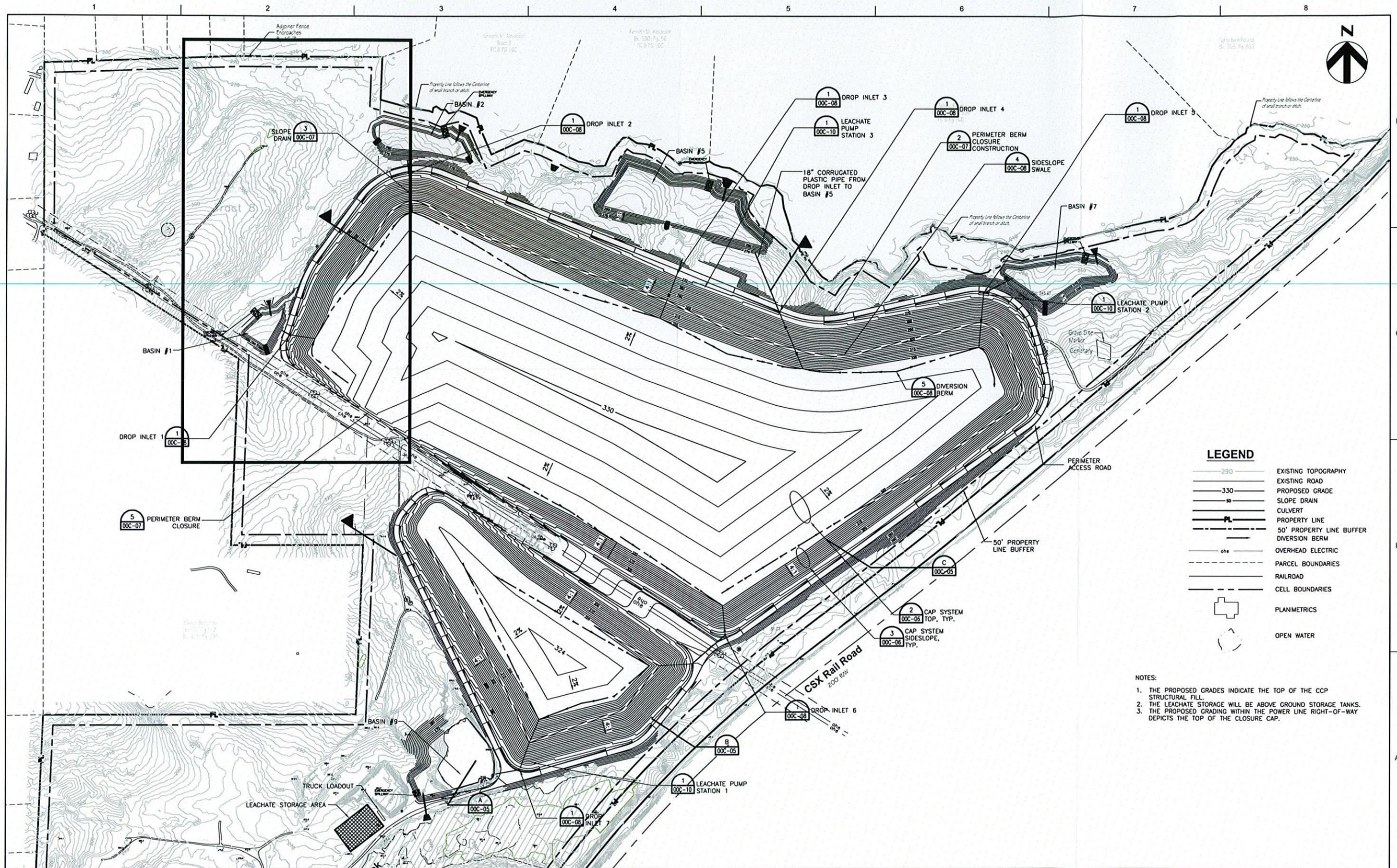
COLON MINE SITE STRUCTURAL FILL,  
SANFORD, NC

TOP OF LINER



FILENAME | 00C-03.dwg  
SCALE | 1"=200'

SHEET  
00C-03



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ISSUE	DATE	DESCRIPTION
C	03/19/15	EROSION CONTROL SUBMITTAL FOR NORTHWEST AREA
B	12/31/14	REVISED PER NCDENR COMMENTS
A	11/2014	ISSUED FOR APPROVAL

PROJECT MANAGER	M.D. PLUMMER, P.E.
DESIGNED BY	P. WESTMORELAND, P.E.
DRAWN BY	J. GAUL
CHECKED BY	J. READLING, P.E.
PROJECT NUMBER	453925-235691-018



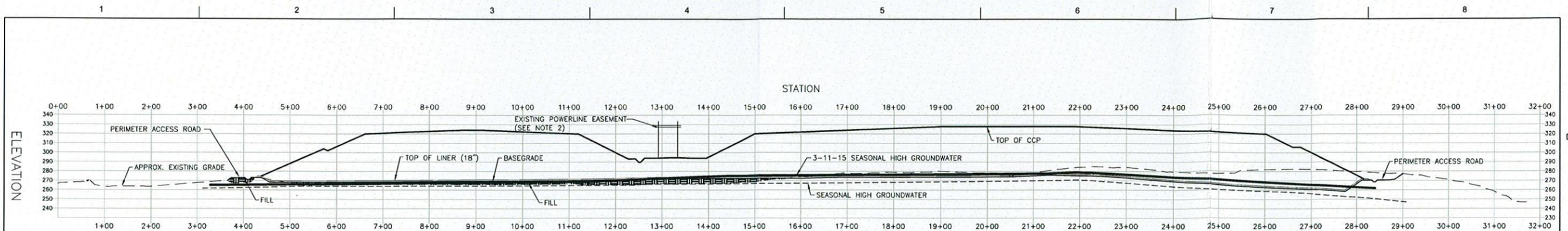
COLON MINE SITE STRUCTURAL FILL  
SANFORD, NC

RECLAMATION PLAN

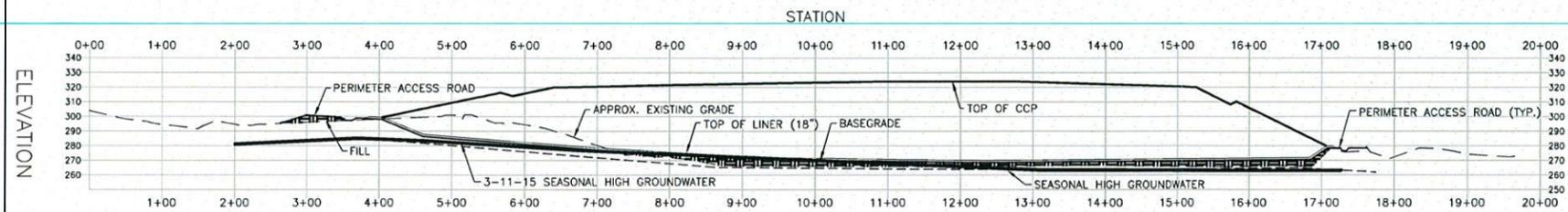


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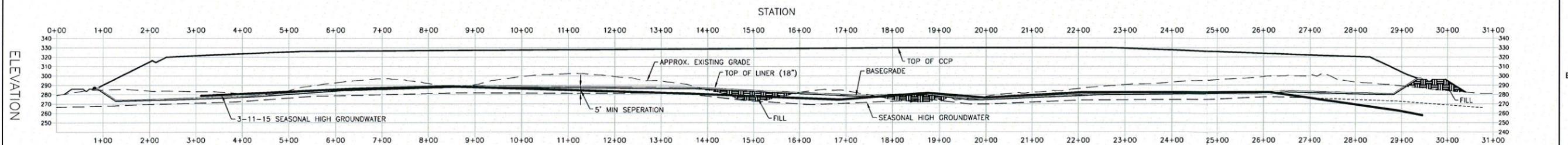
SHEET  
00C-04



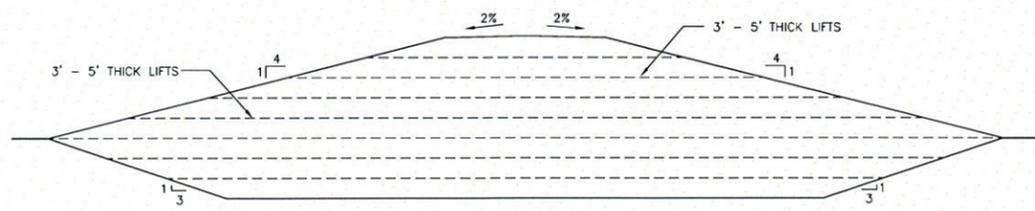
**SECTION A**  
HORIZONTAL: 1"=100'; VERTICAL: 1"=50'



**SECTION B**  
HORIZONTAL: 1"=100'; VERTICAL: 1"=50'



**SECTION C**  
HORIZONTAL: 1"=100'; VERTICAL: 1"=50'



**FILL SEQUENCE**  
3/4"=1'-0"

NOTE:  
1. EACH CELL WILL BE FILLED FROM HIGH TO LOW IN 3' TO 5' THICK LIFTS.

- NOTES:
1. IN THE AREAS WHERE SUBGRADE IS HIGHER THAN EXISTING GRADE, CLEAN SOIL WILL BE USED TO BRING EXISTING GRADE TO SUBGRADE. THE CLEAN SOIL WILL BE COMPACTED AS REQUIRED.
  2. THE SEPARATION BETWEEN THE TOP OF THE CAP SYSTEM AND THE OVERHEAD ELECTRICAL WILL BE MAINTAINED.
  3. REFER TO SHEET OOC-04 FOR SLOPE OF THE TOP OF THE CCP.



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ISSUE	DATE	DESCRIPTION
D	03/19/15	EROSION CONTROL SUBMITTAL FOR NORTHWEST AREA
C	03/2015	RAISED SUBGRADE AND LINER 6"
B	12/31/14	REVISED PER NCDENR COMMENTS
A	11/2014	ISSUED FOR APPROVAL

PROJECT MANAGER	M.D. PLUMMER, P.E.
DESIGNED BY	P. WESTMORELAND, P.E.
DRAWN BY	J. GAUL
CHECKED BY	J. READLING, P.E.
PROJECT NUMBER	453925-235691-018



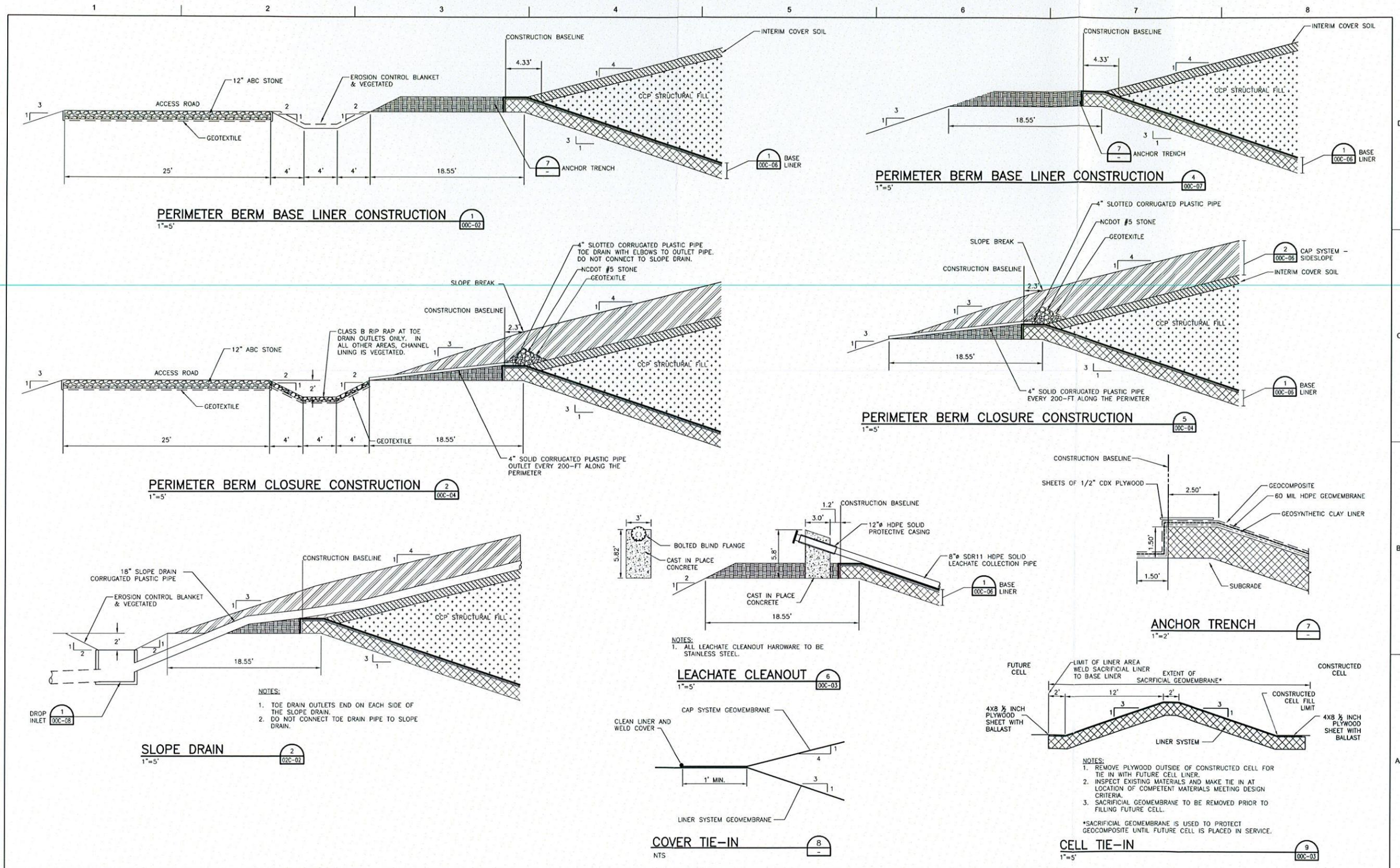
COLON MINE SITE STRUCTURAL FILL  
SANFORD, NC

SITE CROSS SECTIONS



FILENAME | OOC-05.dwg  
SCALE | 1"=100'

SHEET  
**OOC-05**



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ISSUE	DATE	DESCRIPTION
C	03/19/15	EROSION CONTROL SUBMITTAL FOR NORTHWEST AREA
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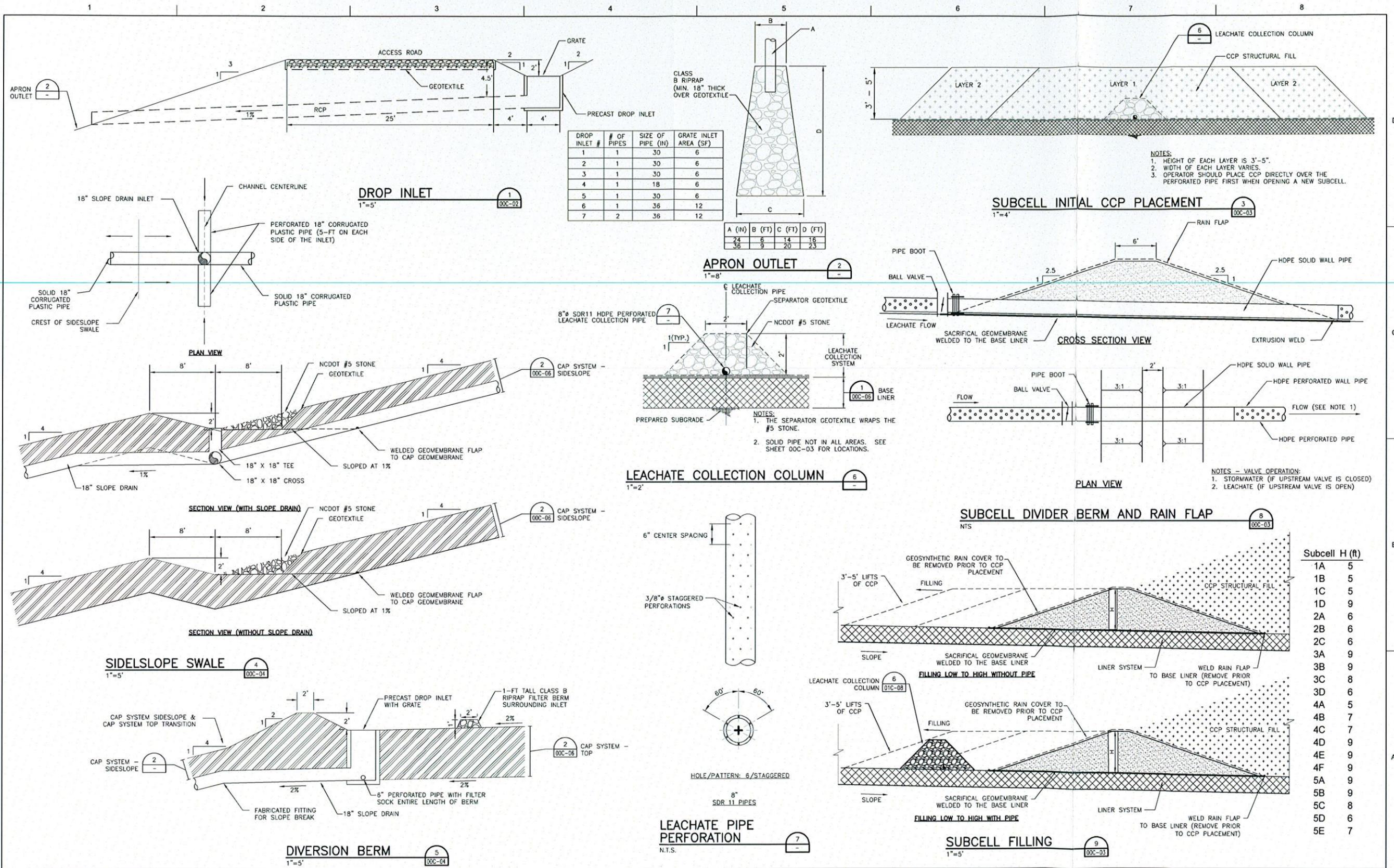
PROJECT MANAGER	M.D. PLUMMER, P.E.
DESIGNED BY	P. WESTMORELAND, P.E.
DRAWN BY	L. MCCAUL
CHECKED BY	J. READING, P.E.
PROJECT NUMBER	453925-235691-018



COLON MINE SITE STRUCTURAL FILL  
SANFORD, NC

SCALE AS SHOWN  
FILENAME 00C-07.dwg  
SHEET 00C-07

SHEET 00C-07



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N.C.S.E.L.S. License Number F-0116

ISSUE	DATE	DESCRIPTION
D	03/19/15	EROSION CONTROL SUBMITTAL FOR NORTHWEST AREA
C	03/20/15	REVISED SUBCELL & FILLING
B	12/31/14	REVISED PER NCDENR COMMENTS
A	11/2014	ISSUED FOR APPROVAL

PROJECT MANAGER	M.D. PLUMMER, P.E.
DESIGNED BY	P. WESTMORELAND, P.E.
DRAWN BY	L. MCCAUL
CHECKED BY	J. READLING, P.E.
PROJECT NUMBER	453925-235691-018

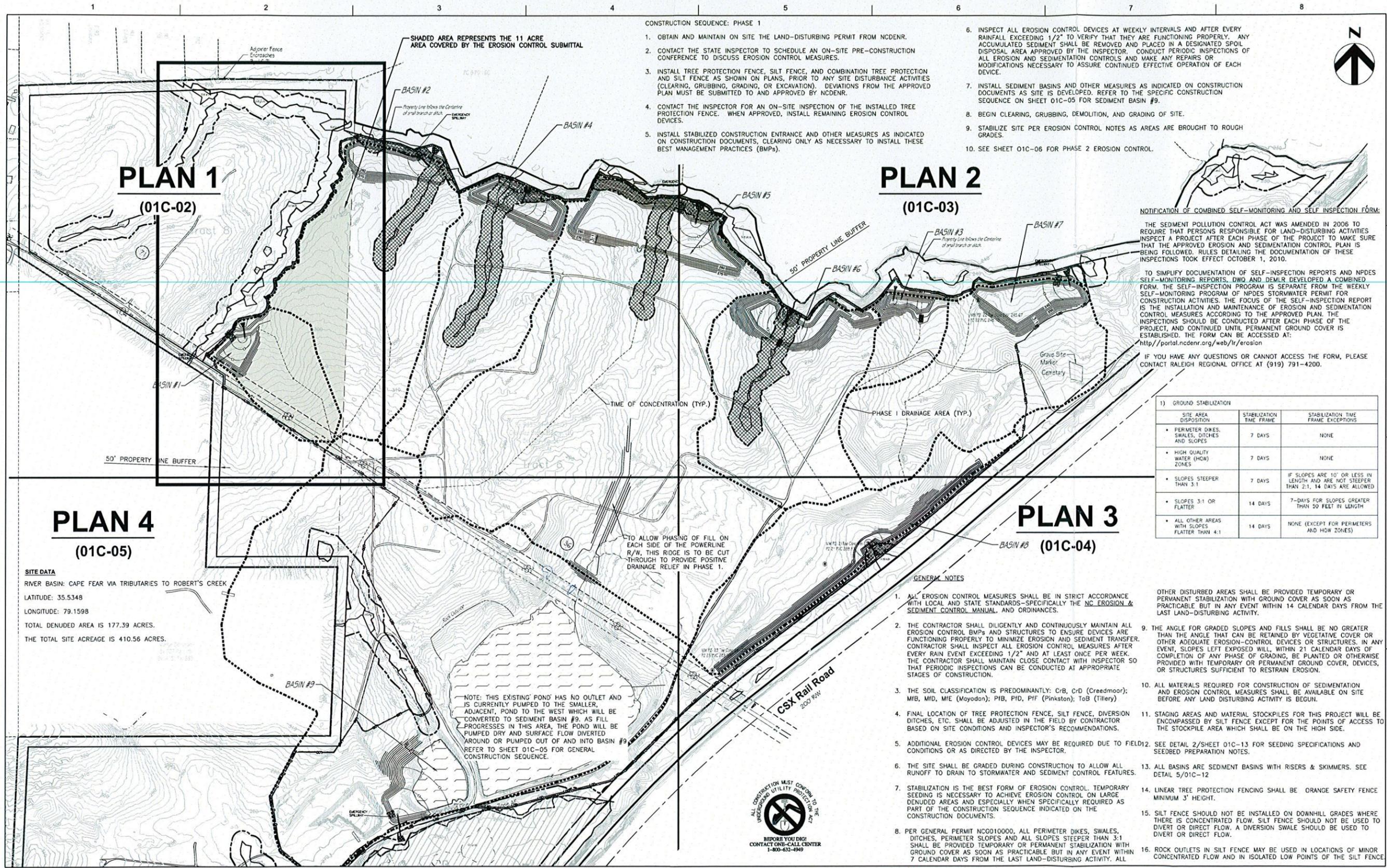


COLON MINE SITE STRUCTURAL FILL  
SANFORD, NC

MISCELLANEOUS DETAILS

0 1" 2" FILENAME: 00C-08.dwg  
SCALE: AS SHOWN

SHEET  
00C-08



- CONSTRUCTION SEQUENCE: PHASE 1
- OBTAIN AND MAINTAIN ON SITE THE LAND-DISTURBING PERMIT FROM NCDENR.
  - CONTACT THE STATE INSPECTOR TO SCHEDULE AN ON-SITE PRE-CONSTRUCTION CONFERENCE TO DISCUSS EROSION CONTROL MEASURES.
  - INSTALL TREE PROTECTION FENCE, SILT FENCE, AND COMBINATION TREE PROTECTION AND SILT FENCE AS SHOWN ON PLANS, PRIOR TO ANY SITE DISTURBANCE ACTIVITIES (CLEARING, GRUBBING, GRADING, OR EXCAVATION). DEVIATIONS FROM THE APPROVED PLAN MUST BE SUBMITTED TO AND APPROVED BY NCDENR.
  - CONTACT THE INSPECTOR FOR AN ON-SITE INSPECTION OF THE INSTALLED TREE PROTECTION FENCE. WHEN APPROVED, INSTALL REMAINING EROSION CONTROL DEVICES.
  - INSTALL STABILIZED CONSTRUCTION ENTRANCE AND OTHER MEASURES AS INDICATED ON CONSTRUCTION DOCUMENTS, CLEARING ONLY AS NECESSARY TO INSTALL THESE BEST MANAGEMENT PRACTICES (BMPs).
  - INSPECT ALL EROSION CONTROL DEVICES AT WEEKLY INTERVALS AND AFTER EVERY RAINFALL EXCEEDING 1/2" TO VERIFY THAT THEY ARE FUNCTIONING PROPERLY. ANY ACCUMULATED SEDIMENT SHALL BE REMOVED AND PLACED IN A DESIGNATED SPOIL DISPOSAL AREA APPROVED BY THE INSPECTOR. CONDUCT PERIODIC INSPECTIONS OF ALL EROSION AND SEDIMENTATION CONTROLS AND MAKE ANY REPAIRS OR MODIFICATIONS NECESSARY TO ASSURE CONTINUED EFFECTIVE OPERATION OF EACH DEVICE.
  - INSTALL SEDIMENT BASINS AND OTHER MEASURES AS INDICATED ON CONSTRUCTION DOCUMENTS AS SITE IS DEVELOPED. REFER TO THE SPECIFIC CONSTRUCTION SEQUENCE ON SHEET 01C-05 FOR SEDIMENT BASIN #9.
  - BEGIN CLEARING, GRUBBING, DEMOLITION, AND GRADING OF SITE.
  - STABILIZE SITE PER EROSION CONTROL NOTES AS AREAS ARE BROUGHT TO ROUGH GRADES.
  - SEE SHEET 01C-06 FOR PHASE 2 EROSION CONTROL.

**NOTIFICATION OF COMBINED SELF-MONITORING AND SELF INSPECTION FORM:**

THE SEDIMENT POLLUTION CONTROL ACT WAS AMENDED IN 2006 TO REQUIRE THAT PERSONS RESPONSIBLE FOR LAND-DISTURBING ACTIVITIES INSPECT A PROJECT AFTER EACH PHASE OF THE PROJECT TO MAKE SURE THAT THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN IS BEING FOLLOWED. RULES DETAILING THE DOCUMENTATION OF THESE INSPECTIONS TOOK EFFECT OCTOBER 1, 2010.

TO SIMPLIFY DOCUMENTATION OF SELF-INSPECTION REPORTS AND NPDES SELF-MONITORING REPORTS, DWOQ AND DEMLR DEVELOPED A COMBINED FORM. THE SELF-INSPECTION PROGRAM IS SEPARATE FROM THE WEEKLY SELF-MONITORING PROGRAM OF NPDES STORMWATER PERMIT FOR CONSTRUCTION ACTIVITIES. THE FOCUS OF THE SELF-INSPECTION REPORT IS THE INSTALLATION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROL MEASURES ACCORDING TO THE APPROVED PLAN. THE INSPECTIONS SHOULD BE CONDUCTED AFTER EACH PHASE OF THE PROJECT, AND CONTINUED UNTIL PERMANENT GROUND COVER IS ESTABLISHED. THE FORM CAN BE ACCESSED AT: <http://portal.ncdenr.org/web/it/erosion>

IF YOU HAVE ANY QUESTIONS OR CANNOT ACCESS THE FORM, PLEASE CONTACT RALEIGH REGIONAL OFFICE AT (919) 791-4200.

1) GROUND STABILIZATION		
SITE AREA DISPOSITION	STABILIZATION TIME FRAME	STABILIZATION TIME FRAME EXCEPTIONS
• PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
• HIGH QUALITY WATER (HQW) 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, 14 DAYS ARE ALLOWED
• SLOPES 3:1 OR FLATTER	14 DAYS	7-DAYS FOR SLOPES GREATER THAN 50 FEET IN LENGTH
• ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE (EXCEPT FOR PERIMETERS AND HQW ZONES)

**SITE DATA**  
 RIVER BASIN: CAPE FEAR VIA TRIBUTARIES TO ROBERT'S CREEK  
 LATITUDE: 35.5348  
 LONGITUDE: 79.1598  
 TOTAL DENUDE AREA IS 177.39 ACRES.  
 THE TOTAL SITE ACREAGE IS 410.56 ACRES.

TO ALLOW PHASING OF FILL ON EACH SIDE OF THE POWERLINE R/W, THIS RIDGE IS TO BE CUT THROUGH TO PROVIDE POSITIVE DRAINAGE RELIEF IN PHASE 1.

NOTE: THIS EXISTING POND HAS NO OUTLET AND IS CURRENTLY PUMPED TO THE SMALLER, ADJACENT, POND TO THE WEST WHICH WILL BE CONVERTED TO SEDIMENT BASIN #9. AS FILL PROGRESSES IN THIS AREA, THE POND WILL BE PUMPED DRY AND SURFACE FLOW DIVERTED AROUND OR PUMPED OUT OF AND INTO BASIN #9 REFER TO SHEET 01C-05 FOR GENERAL CONSTRUCTION SEQUENCE.

- GENERAL NOTES**
- ALL EROSION CONTROL MEASURES SHALL BE IN STRICT ACCORDANCE WITH LOCAL AND STATE STANDARDS—SPECIFICALLY THE NC EROSION & SEDIMENT CONTROL MANUAL, AND ORDINANCES.
  - THE CONTRACTOR SHALL DILIGENTLY AND CONTINUOUSLY MAINTAIN ALL EROSION CONTROL BMPs AND STRUCTURES TO ENSURE DEVICES ARE FUNCTIONING PROPERLY TO MINIMIZE EROSION AND SEDIMENT TRANSFER. CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES AFTER EVERY RAIN EVENT EXCEEDING 1/2" AND AT LEAST ONCE PER WEEK. THE CONTRACTOR SHALL MAINTAIN CLOSE CONTACT WITH INSPECTOR SO THAT PERIODIC INSPECTIONS CAN BE CONDUCTED AT APPROPRIATE STAGES OF CONSTRUCTION.
  - THE SOIL CLASSIFICATION IS PREDOMINANTLY: CrB, CrD (Creedmoor); MIB, MID, MIE (Moyadan); PIB, PID, PIF (Pinkston); ToB (Tillery)
  - FINAL LOCATION OF TREE PROTECTION FENCE, SILT FENCE, DIVERSION DITCHES, ETC. SHALL BE ADJUSTED IN THE FIELD BY CONTRACTOR BASED ON SITE CONDITIONS AND INSPECTOR'S RECOMMENDATIONS.
  - ADDITIONAL EROSION CONTROL DEVICES MAY BE REQUIRED DUE TO FIELD CONDITIONS OR AS DIRECTED BY THE INSPECTOR.
  - THE SITE SHALL BE GRADED DURING CONSTRUCTION TO ALLOW ALL RUNOFF TO DRAIN TO STORMWATER AND SEDIMENT CONTROL FEATURES.
  - STABILIZATION IS THE BEST FORM OF EROSION CONTROL. TEMPORARY SEEDING IS NECESSARY TO ACHIEVE EROSION CONTROL ON LARGE DENUDE AREAS AND ESPECIALLY WHEN SPECIFICALLY REQUIRED AS PART OF THE CONSTRUCTION SEQUENCE INDICATED ON THE CONSTRUCTION DOCUMENTS.
  - PER GENERAL PERMIT W0010000, ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1 SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS PRACTICABLE BUT IN ANY EVENT WITHIN 7 CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY. ALL OTHER DISTURBED AREAS SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN 14 CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY.
  - THE ANGLE FOR GRADED SLOPES AND FILLS SHALL BE NO GREATER THAN THE ANGLE THAT CAN BE RETAINED BY VEGETATIVE COVER OR OTHER ADEQUATE EROSION-CONTROL DEVICES OR STRUCTURES. IN ANY EVENT, SLOPES LEFT EXPOSED WILL, WITHIN 21 CALENDAR DAYS OF COMPLETION OF ANY PHASE OF GRADING, BE PLANTED OR OTHERWISE PROVIDED WITH TEMPORARY OR PERMANENT GROUND COVER, DEVICES, OR STRUCTURES SUFFICIENT TO RESTRAIN EROSION.
  - ALL MATERIALS REQUIRED FOR CONSTRUCTION OF SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE AVAILABLE ON SITE BEFORE ANY LAND DISTURBING ACTIVITY IS BEGUN.
  - STAGING AREAS AND MATERIAL STOCKPILES FOR THIS PROJECT WILL BE ENCOMPASSED BY SILT FENCE EXCEPT FOR THE POINTS OF ACCESS TO THE STOCKPILE AREA WHICH SHALL BE ON THE HIGH SIDE.
  - SEE DETAIL 2/SHEET 01C-13 FOR SEEDING SPECIFICATIONS AND SEEDBED PREPARATION NOTES.
  - ALL BASINS ARE SEDIMENT BASINS WITH RISERS & SKIMMERS. SEE DETAIL 5/01C-12
  - LINEAR TREE PROTECTION FENCING SHALL BE ORANGE SAFETY FENCE MINIMUM 3' HEIGHT.
  - SILT FENCE SHOULD NOT BE INSTALLED ON DOWNHILL GRADES WHERE THERE IS CONCENTRATED FLOW. SILT FENCE SHOULD NOT BE USED TO DIVERT OR DIRECT FLOW. A DIVERSION SWALE SHOULD BE USED TO DIVERT OR DIRECT FLOW.
  - ROCK OUTLETS IN SILT FENCE MAY BE USED IN LOCATIONS OF MINOR CONCENTRATED FLOW AND IN ISOLATED LOW POINTS OF THE SILT FENCE



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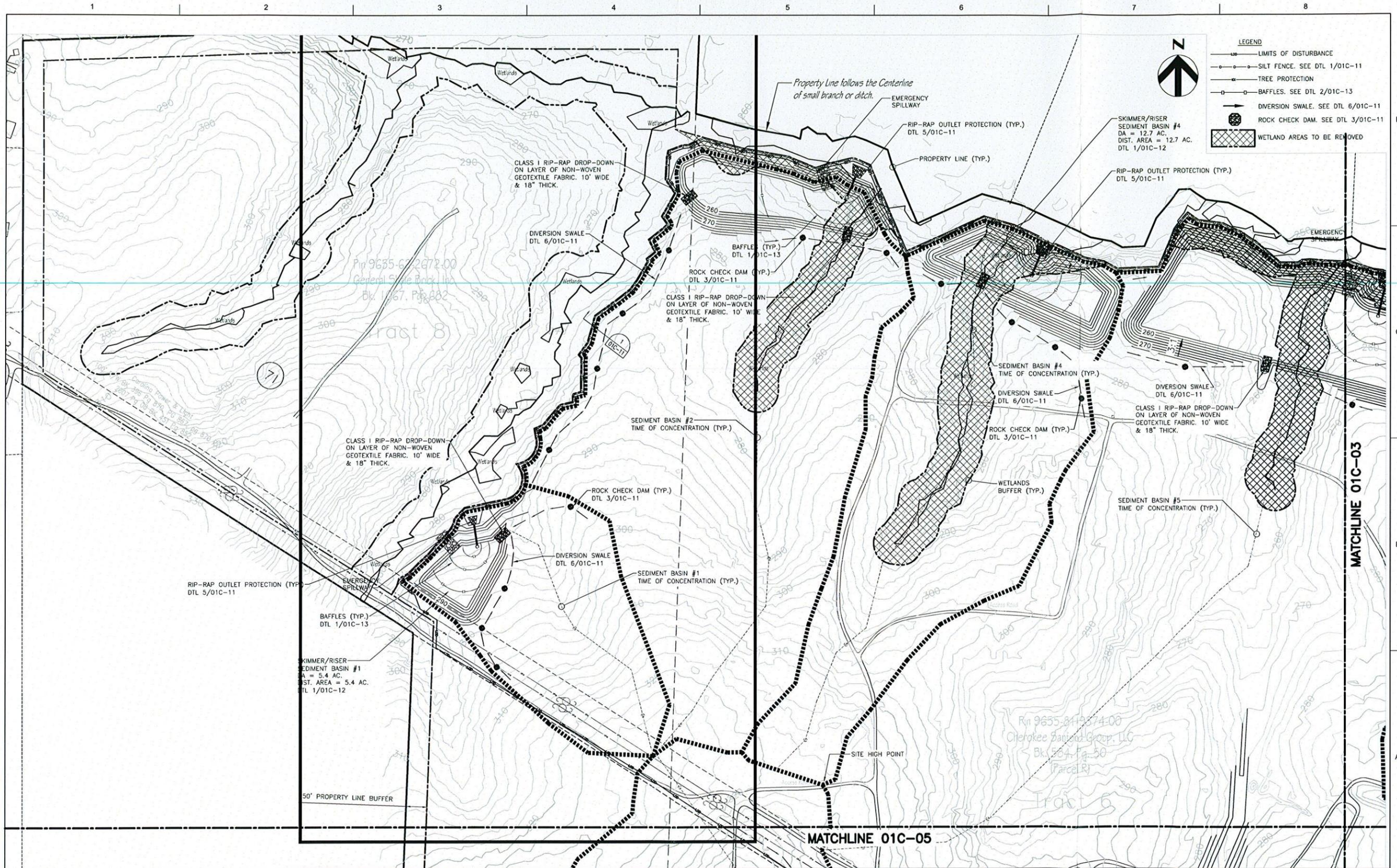
ISSUE	DATE	DESCRIPTION	PROJECT NUMBER
D	03/19/15	EROSION CONTROL SUBMITTAL FOR NORTHWEST AREA	453925-235691-018
C	01/15/15	REVISED PER NCDENR COMMENTS	
B	12/31/14	REVISED PER NCDENR COMMENTS	
A	11/2014	ISSUED FOR APPROVAL	

PROJECT MANAGER	M.D. PLUMMER, P.E.
DESIGNED BY	R. BAYSDEN, P.E.
DRAWN BY	R. BAYSDEN, P.E.
CHECKED BY	J. READLING, P.E.

**Charah**  
 COLON MINE SITE STRUCTURAL FILL  
 SANFORD, NC

FILENAME: 01C-01.dwg  
 SCALE: 1"=200'

SHEET  
**01C-01**



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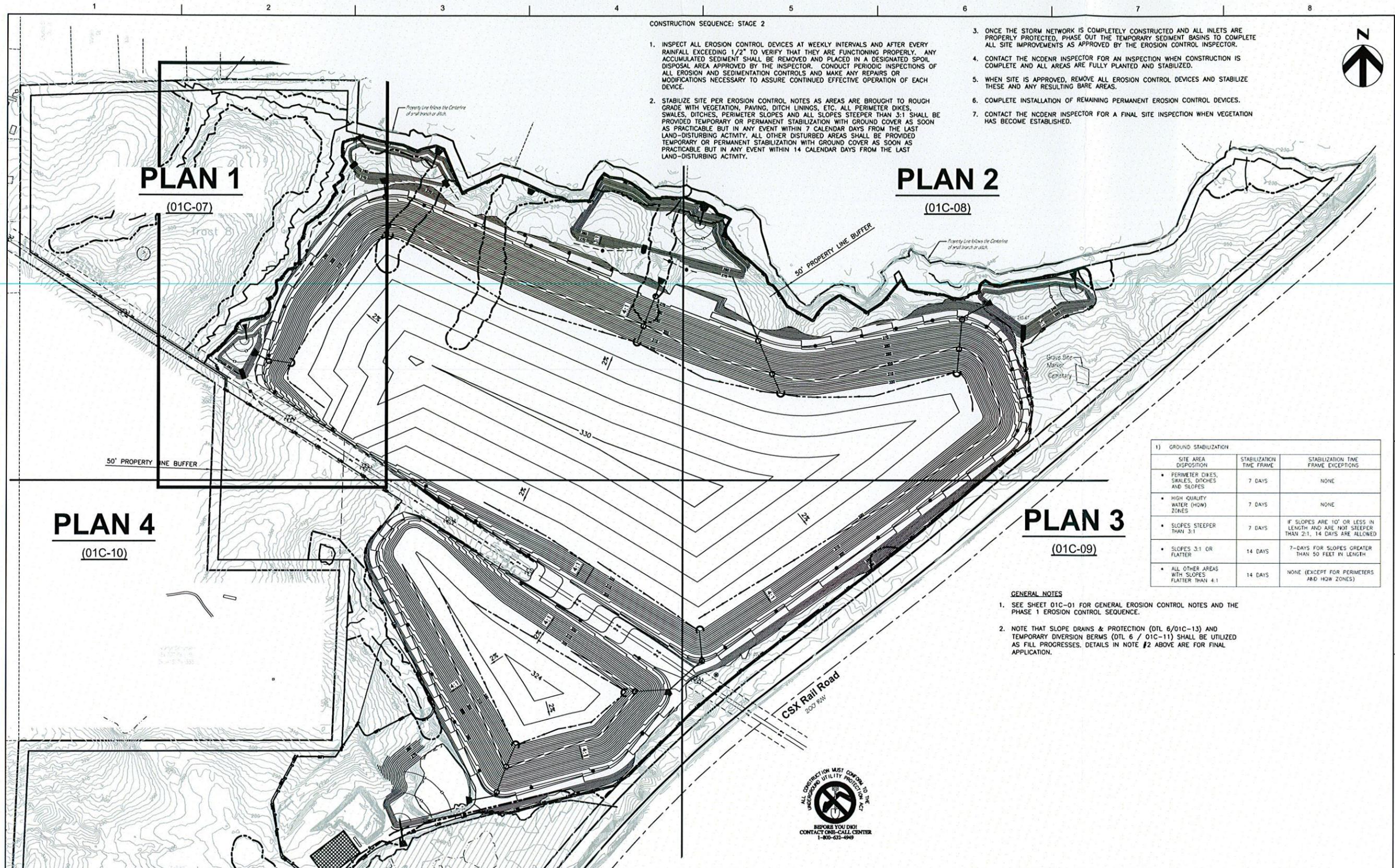


COLON MINE SITE STRUCTURAL FILL,  
SANFORD, NC

EROSION AND SEDIMENTATION  
CONTROL PLAN - PHASE 1  
PLAN 1

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SCALE 1"=100'

SHEET  
01C-02



CONSTRUCTION SEQUENCE: STAGE 2

1. INSPECT ALL EROSION CONTROL DEVICES AT WEEKLY INTERVALS AND AFTER EVERY RAINFALL EXCEEDING 1/2" TO VERIFY THAT THEY ARE FUNCTIONING PROPERLY. ANY ACCUMULATED SEDIMENT SHALL BE REMOVED AND PLACED IN A DESIGNATED SPOIL DISPOSAL AREA APPROVED BY THE INSPECTOR. CONDUCT PERIODIC INSPECTIONS OF ALL EROSION AND SEDIMENTATION CONTROLS AND MAKE ANY REPAIRS OR MODIFICATIONS NECESSARY TO ASSURE CONTINUED EFFECTIVE OPERATION OF EACH DEVICE.
2. STABILIZE SITE PER EROSION CONTROL NOTES AS AREAS ARE BROUGHT TO ROUGH GRADE WITH VEGETATION, PAVING, DITCH LININGS, ETC. ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1 SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN 7 CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY. ALL OTHER DISTURBED AREAS SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN 14 CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY.

3. ONCE THE STORM NETWORK IS COMPLETELY CONSTRUCTED AND ALL INLETS ARE PROPERLY PROTECTED, PHASE OUT THE TEMPORARY SEDIMENT BASINS TO COMPLETE ALL SITE IMPROVEMENTS AS APPROVED BY THE EROSION CONTROL INSPECTOR.
4. CONTACT THE NCDENR INSPECTOR FOR AN INSPECTION WHEN CONSTRUCTION IS COMPLETE AND ALL AREAS ARE FULLY PLANTED AND STABILIZED.
5. WHEN SITE IS APPROVED, REMOVE ALL EROSION CONTROL DEVICES AND STABILIZE THESE AND ANY RESULTING BARE AREAS.
6. COMPLETE INSTALLATION OF REMAINING PERMANENT EROSION CONTROL DEVICES.
7. CONTACT THE NCDENR INSPECTOR FOR A FINAL SITE INSPECTION WHEN VEGETATION HAS BECOME ESTABLISHED.



**PLAN 1**

(01C-07)

**PLAN 2**

(01C-08)

**PLAN 4**

(01C-10)

**PLAN 3**

(01C-09)

1) GROUND STABILIZATION		
SITE AREA DISPOSITION	STABILIZATION TIME FRAME	STABILIZATION TIME FRAME EXCEPTIONS
• PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
• HIGH QUALITY WATER (HQW) 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, 14 DAYS ARE ALLOWED
• SLOPES 3:1 OR FLATTER	14 DAYS	7-DAYS FOR SLOPES GREATER THAN 50 FEET IN LENGTH
• ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE (EXCEPT FOR PERIMETERS AND HQW ZONES)

GENERAL NOTES

1. SEE SHEET 01C-01 FOR GENERAL EROSION CONTROL NOTES AND THE PHASE 1 EROSION CONTROL SEQUENCE.
2. NOTE THAT SLOPE DRAINS & PROTECTION (DTL 6/01C-13) AND TEMPORARY DIVERSION BERMS (DTL 6 / 01C-11) SHALL BE UTILIZED AS FILL PROGRESSES, DETAILS IN NOTE #2 ABOVE ARE FOR FINAL APPLICATION.



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PROJECT MANAGER	M. PLUMMER, P.E.
DESIGNED BY	R. BAYSDEN, P.E.
DRAWN BY	R. BAYSDEN, P.E.
CHECKED BY	J. READLING, P.E.
PROJECT NUMBER	453925-235691-018

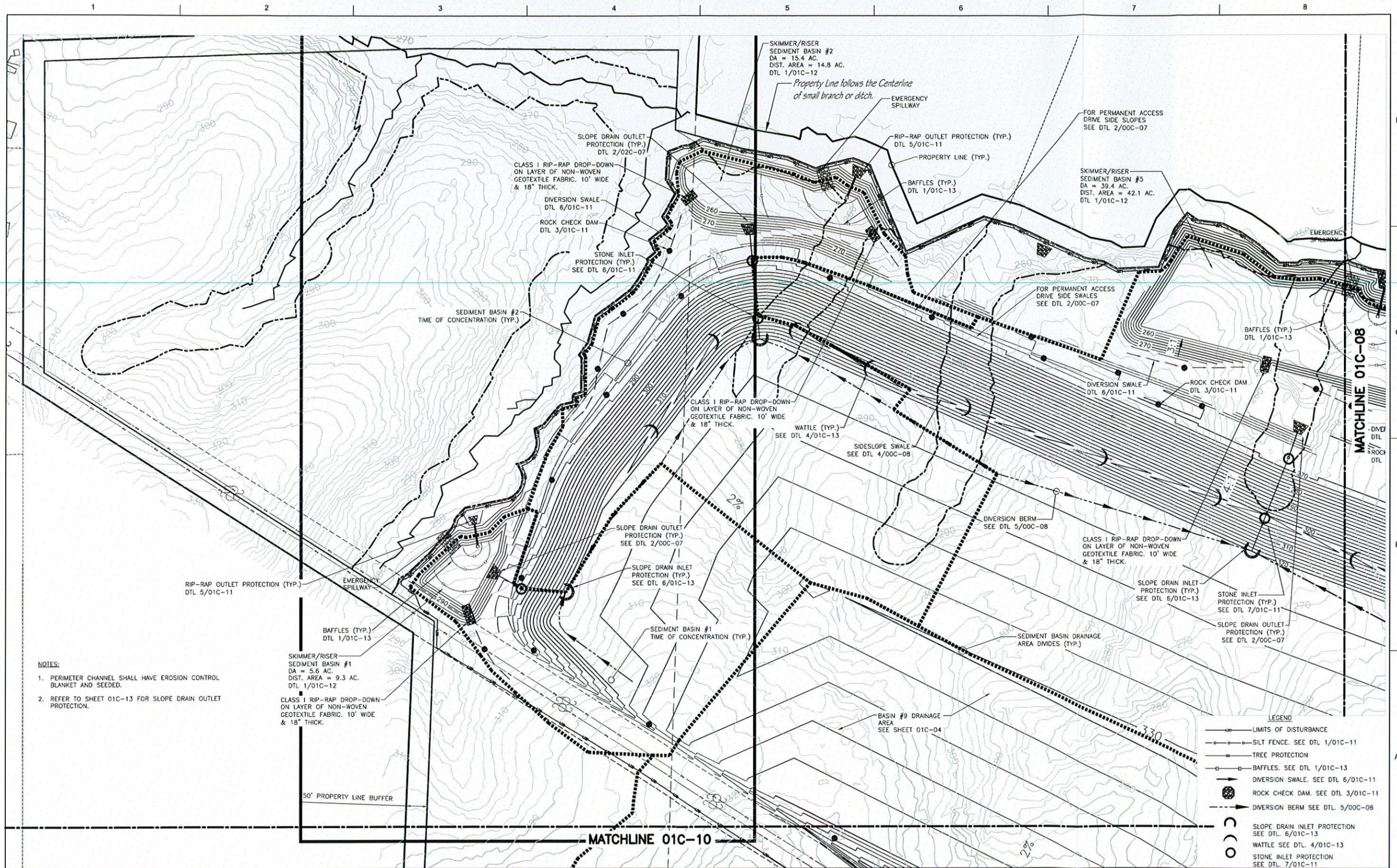
**Charah**  
COLON MINE SITE STRUCTURAL FILL  
SANFORD, NC

EROSION AND SEDIMENTATION  
CONTROL PLAN - PHASE 2  
OVERALL

SCALE 1"=200'  
FILENAME 01C-06.dwg

SHEET  
**01C-06**

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**NOTES:**

1. PERIMETER CHANNEL SHALL HAVE EROSION CONTROL BLANKET AND SEEDED.
2. REFER TO SHEET 01C-13 FOR SLOPE DRAIN OUTLET PROTECTION.

**LEGEND**

- LIMITS OF DISTURBANCE
- SILT FENCE. SEE DTL 1/01C-11
- TREE PROTECTION
- BAFFLES. SEE DTL 1/01C-13
- DIVERSION SWALE. SEE DTL 6/01C-11
- ROCK CHECK DAM. SEE DTL 3/01C-11
- DIVERSION BERM SEE DTL 5/00C-08
- SLOPE DRAIN INLET PROTECTION SEE DTL 6/01C-13
- WATTLE SEE DTL 4/01C-13
- STONE INLET PROTECTION SEE DTL 7/01C-11



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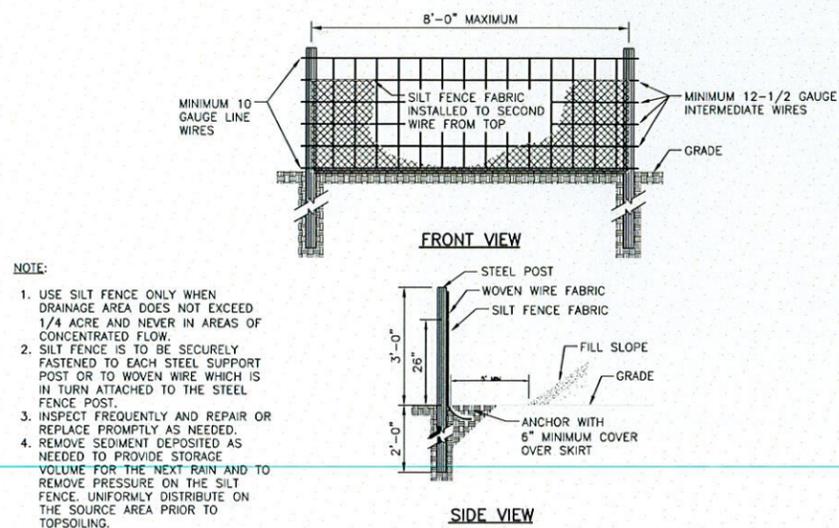
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COLON MINE SITE STRUCTURAL FILL  
SANFORD, NC



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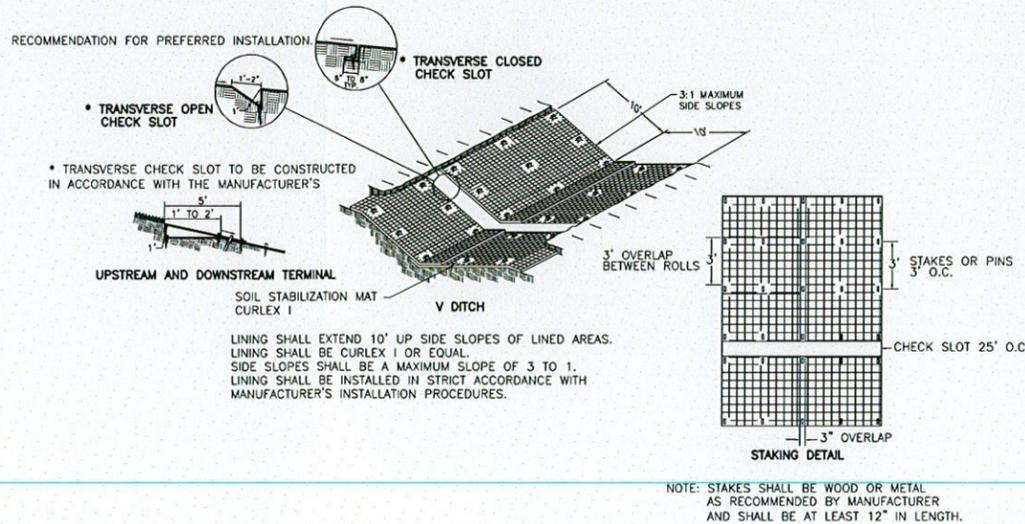
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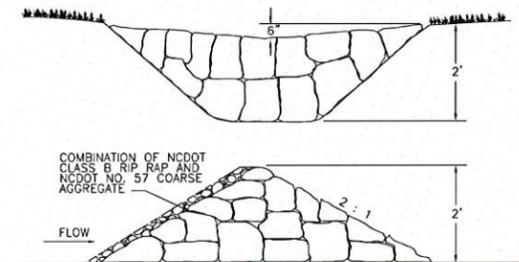
- NOTE:**
1. USE SILT FENCE ONLY WHEN DRAINAGE AREA DOES NOT EXCEED 1/4 ACRE AND NEVER IN AREAS OF CONCENTRATED FLOW.
  2. SILT FENCE IS TO BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST.
  3. INSPECT FREQUENTLY AND REPAIR OR REPLACE PROMPTLY AS NEEDED.
  4. REMOVE SEDIMENT DEPOSITED AS NEEDED TO PROVIDE STORAGE VOLUME FOR THE NEXT RAIN AND TO REMOVE PRESSURE ON THE SILT FENCE. UNIFORMLY DISTRIBUTE ON THE SOURCE AREA PRIOR TO TOPSOILING.

**TEMPORARY SILT FENCE DETAIL**  
NO TO SCALE



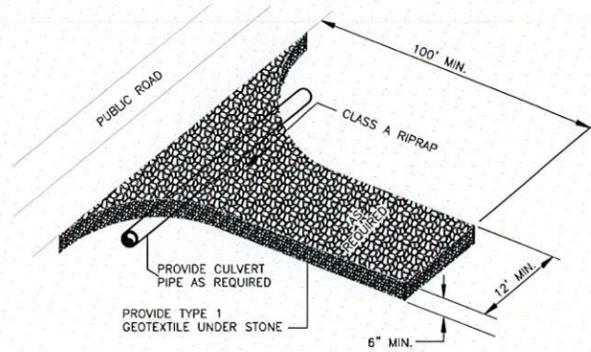
NOTE: STAKES SHALL BE WOOD OR METAL AS RECOMMENDED BY MANUFACTURER AND SHALL BE AT LEAST 12" IN LENGTH.

**TYPICAL SECTION FOR SOIL STABILIZATION MAT LINED AREAS (TYP.)**  
NTS

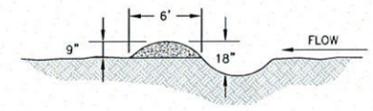


NOTE: PLACE EVERY 100' ALONG FLOW PATH.

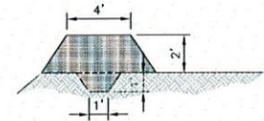
**ROCK CHECK DAM**  
NTS



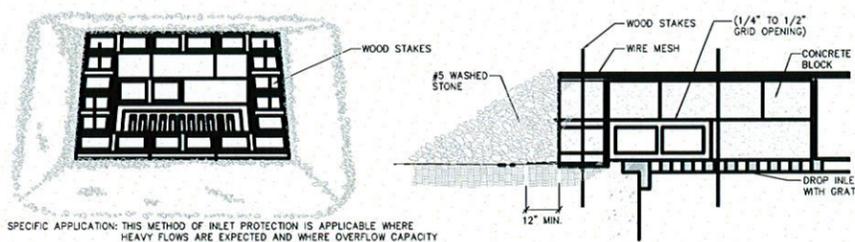
**TEMPORARY GRAVEL CONSTRUCTION ENTRANCE DETAIL**  
NOT TO SCALE



**DIVERSION SWALE**  
N.T.S.



**DIVERSION DIKE**  
N.T.S.



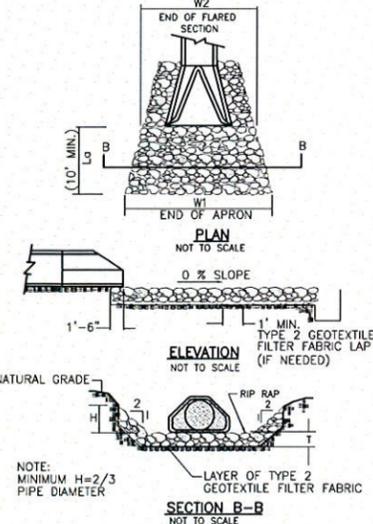
SPECIFIC APPLICATION: THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY FLOWS ARE EXPECTED AND WHERE OVERFLOW CAPACITY IS NECESSARY TO PREVENT EXCESSIVE PONDING AROUND THE STRUCTURE.

**BLOCK AND GRAVEL STONE INLET SEDIMENT FILTER**  
NOT TO SCALE

- NOTES:**
1. CLASS OR MEDIAN SIZE OF RIP RAP AND LENGTH, WIDTH AND DEPTH OF APRON TO BE SHOWN ON PLANS.
  2. RIP RAP SHOULD EXTEND UP BOTH SIDES OF THE APRON AND AROUND THE END OF THE PIPE OR CULVERT AT THE DISCHARGE OUTLET AT A MAXIMUM SLOPE OF 2:1 AND A HEIGHT NOT LESS THAN TWO THIRDS THE PIPE DIAMETER OR CULVERT HEIGHT.
  3. THERE SHALL BE NO OVERFLOW FROM THE END OF THE APRON TO THE SURFACE OF THE RECEIVING CHANNEL. THE AREA TO BE PAVED OR RIP RAPPED SHALL BE UNDERCUT SO THAT THE INVERT OF THE APRON SHALL BE THE SAME GRADE (FLUSH) WITH THE SURFACE OF THE RECEIVING CHANNEL. THE APRON SHALL HAVE A CUTOFF OR TOE WALL AT THE DOWNSTREAM END.
  4. THE WIDTH OF THE END OF THE APRON SHALL BE EQUAL TO THE BOTTOM WIDTH OF THE RECEIVING CHANNEL. MAXIMUM TAPER TO RECEIVING CHANNEL 5:1.
  5. ALL SUBGRADE FOR STRUCTURE TO BE COMPACTED TO 95% OR GREATER.
  6. THE PLACING OF FILL, EITHER LOOSE OR COMPACTED IN THE RECEIVING CHANNEL SHALL NOT BE ALLOWED.
  7. NO BENDS OR CURVES IN THE HORIZONTAL ALIGNMENT OF THE APRON UNLESS OTHERWISE SHOWN.
  8. TYPE 2 GEOTEXTILE FILTER FABRIC SHALL BE INSTALLED ON COMPACTED SUBGRADE PRIOR TO PLACEMENT OF RIP RAP.
  9. ANY DISTURBED AREA FROM END OF APRON TO RECEIVING CHANNEL MUST BE STABILIZED.

LOCATION	W1	W2	Lg	CLASS	T
SB1	12'	4.5'	10'	B	18"
SB2*	12'	6'	10'	B	18"
SB3	9'	3'	8'	B	18"
SB4	9'	3'	8'	B	18"
SB5*	12'	6'	10'	B	18"
SB6	9'	3'	8'	B	18"
SB7*	12'	6'	10'	B	18"
SB8	9'	3'	8'	B	18"
SB9*	26'	11'	22'	B	18"

1. SB = SEDIMENT BASIN
2. CLASS = NCDOT CLASS RIP RAP
3. \* = FOR EACH BARREL. SEE SEDIMENT BASIN SCHEDULE ON 01C-12.
4. CLASS A RIP RAP MIDRANGE = 4"
5. CLASS B RIP RAP MIDRANGE = 8"
6. CLASS 1 RIP RAP MIDRANGE = 10"
7. CLASS 2 RIP RAP MIDRANGE = 14"



**RIPRAP APRON AT PIPE OUTFALLS**  
NTS



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PROJECT MANAGER	M.D. FLUMMER, P.E.
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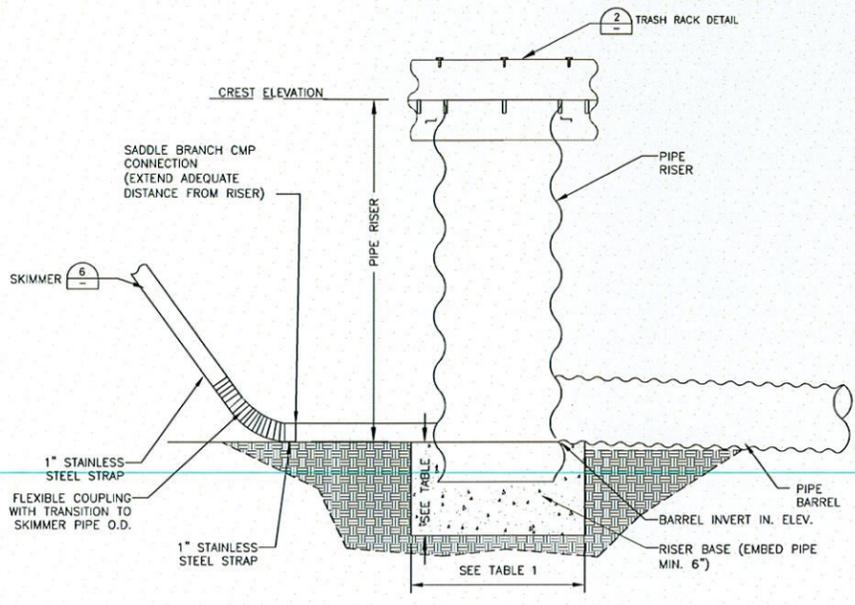


COLON MINE SITE STRUCTURAL FILL  
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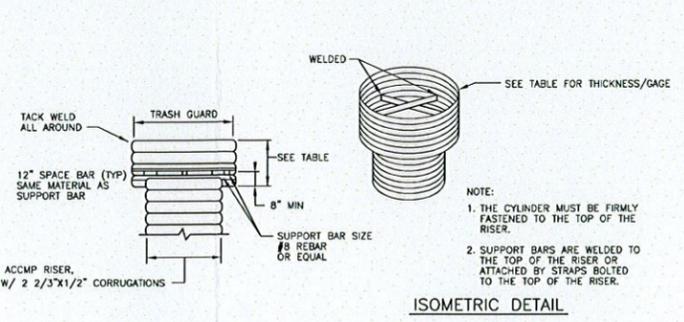
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EROSION AND SEDIMENTATION  
CONTROL DETAILS  
(1 OF 3)

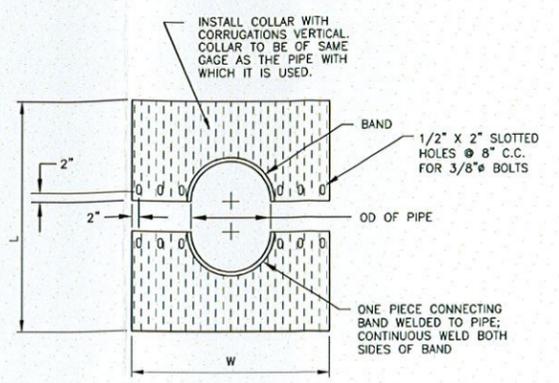
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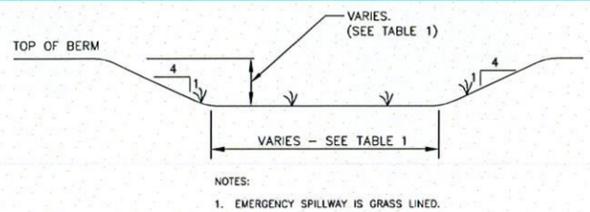
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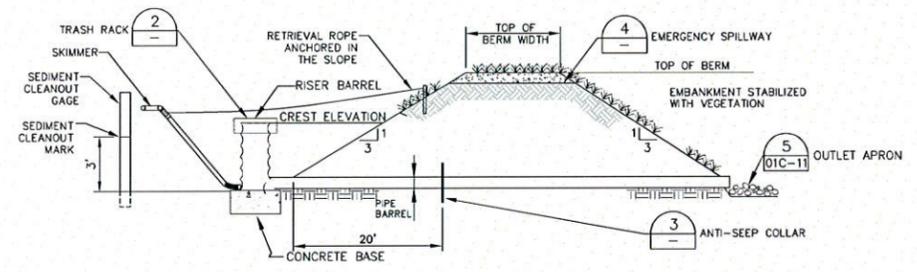
**TRASH RACK DETAIL**  
N.T.S.



**ANTI-SEEP COLLAR DETAIL**  
N.T.S.



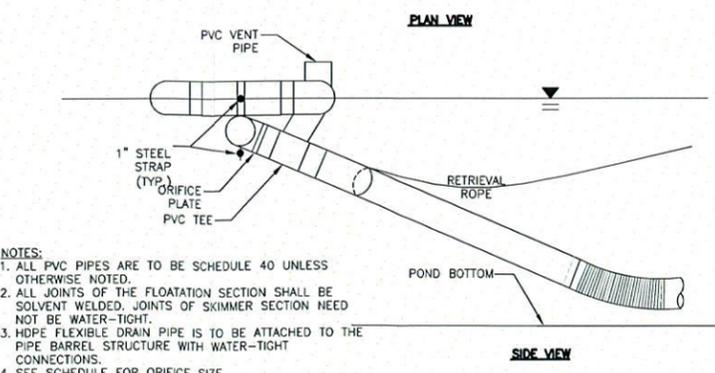
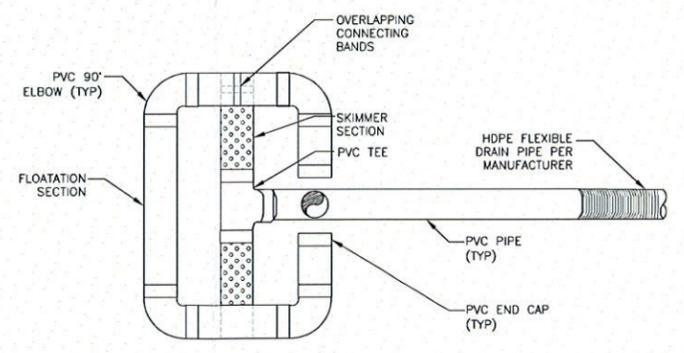
**EMERGENCY SPILLWAY TYPICAL**  
N.T.S.



Sediment Basin #	Useful Life (Phase)	Bottom Elevation (MSL)	Top of Berm Elevation (MSL)	Top of Berm Width (FT)	Emergency Spillway Elevation (MSL)	Emergency Spillway Width (FT)	Number of Riser/Barrel/Skimmer Assemblies	Riser Diameter (IN)	Riser Crest Elevation (MSL)	Trash Guard Diameter (IN)	Trash Guard Thickness (Gage)	Trash Guard Height (IN)	Concrete Ballast Dimension s (FT)	Barrel Diameter (IN)	Barrel Invert In (MSL)	Barrel Invert Out (MSL)	Anti-seep Collar Size (FT)	Skimmer Size (IN)	Skimmer Orifice (IN)	Dewatering Time (days)
1	1 & 2	283.0	290.5	3	290.0	20	1	54	289.4	78	16	25	6x6x2	18	283.0	282.5	3x3	4	2.7	5
2	1 & 2	259.0	266.0	6	265.0	15	2	60	264.2	90	14	29	6x6x2	24	259.0	258.5	4x4	4	3.1	5
3	1	244.0	250.0	12	249.0	10	1	24	248.4	36	16	13	3x3x1	12	244.0	243.5	2x2	2.5	2	5
4	1	261.0	267.6	12	267.0	20	1	24	266.3	36	16	13	3x3x2	12	261.0	260.5	2x2	4	3.7	5
5	1 & 2	255.0	262.0	12	261.0	20	2	48	260.3	72	16	21	5x5x2	24	255.0	253.8	4x4	6	5.1	5
6	1	249.0	256.0	12	255.1	10	1	18	254.0	27	16	8	2.5x2.5x1	12	249.0	248.5	2x2	5	4	5
7	1 & 2	238.0	245.5	12	244.9	20	2	60	244.4	90	14	29	6x6x2.5	24	238.0	237.5	4x4	4	3.5	5
8	1	273.0	279.0	12	278.3	10	1	18	277.5	27	16	8	2.5x2.5x1	12	273.0	272.0	2x2	4	3.2	5
9	1 & 2	262.0	270.5	3	269.5	50	2	72	268.7	102	14	36	7x7x3	42	262.0	260.8	7x7	5	4.6	5

NOTES:  
1. MSL = MEAN SEA LEVEL  
2. ALL PIPES ARE ASPHALT COATED 16GA OR HEAVIER EXCEPT FOR SKIMMER

**SEDIMENT BASIN SCHEDULE DETAIL**  
N.T.S.



NOTES:  
1. ALL PVC PIPES ARE TO BE SCHEDULE 40 UNLESS OTHERWISE NOTED.  
2. ALL JOINTS OF THE FLOTATION SECTION SHALL BE SOLVENT WELDED. JOINTS OF SKIMMER SECTION NEED NOT BE WATER-TIGHT.  
3. HDPE FLEXIBLE DRAIN PIPE IS TO BE ATTACHED TO THE PIPE BARREL STRUCTURE WITH WATER-TIGHT CONNECTIONS.  
4. SEE SCHEDULE FOR ORIFICE SIZE.  
5. FAIRCLOTH TYPE OR EQUIVALENT SKIMMER TO BE USED.

**FAIRCLOTH SKIMMER DETAIL**  
N.T.S.

- MAINTENANCE AND INSPECTION**
- INSPECT SEDIMENT BASINS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY.
  - REMOVE SEDIMENT AND RESTORE THE BASIN TO ITS ORIGINAL DIMENSIONS WHEN IT ACCUMULATES TO ONE-HALF THE DESIGN DEPTH. PLACED REMOVED SEDIMENT IN AN AREA WITH SEDIMENT CONTROLS
  - CHECK EMBANKMENT, SPILLWAYS, 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 RISER AND POOL AREA.
  - ALL CMP SHALL BE FULLY ASPHALT COATED, 16 GA OR HEAVIER
  - POND DIMENSIONS SHOWN ARE FOR THE CONTROLLING PHASE.



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D	03/19/15	EROSION CONTROL SUBMITTAL FOR NORTHWEST AREA	453925-235691-018
C	03/2015	REVISED SEDIMENT BASIN SCHEDULE	
B	12/31/14	REVISED PER NCDENR COMMENTS	
A	11/2014	ISSUED FOR APPROVAL	

PROJECT MANAGER	M.D. PLUMMER, P.E.
DESIGNED BY	R. BAYSDEN, P.E.
DRAWN BY	R. BAYSDEN, P.E.
CHECKED BY	J. READLING, P.E.

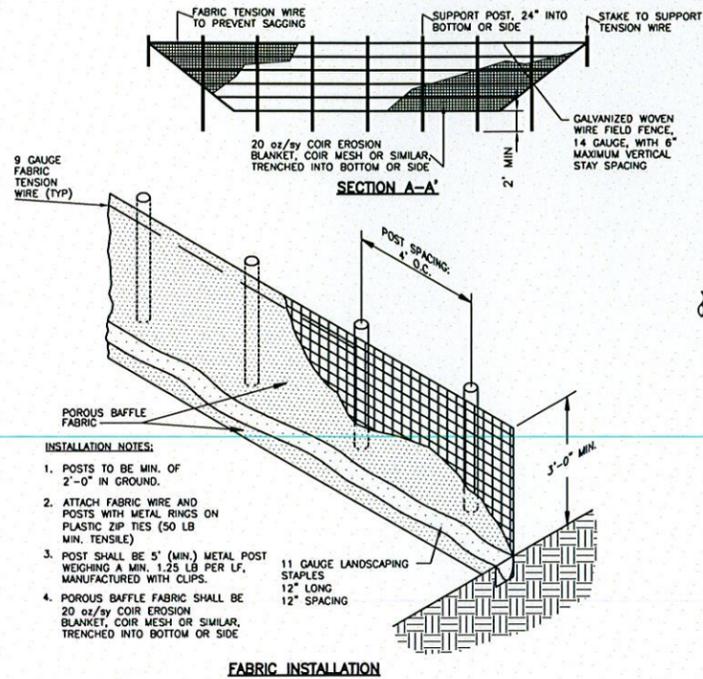
**Charah**  
COLON MINE SITE STRUCTURAL FILL  
SANFORD, NC

0 1" 2"  
SCALE AS SHOWN  
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SCALE AS SHOWN

**EROSION AND SEDIMENTATION CONTROL DETAILS (2 OF 3)**

SHEET  
**01C-12**

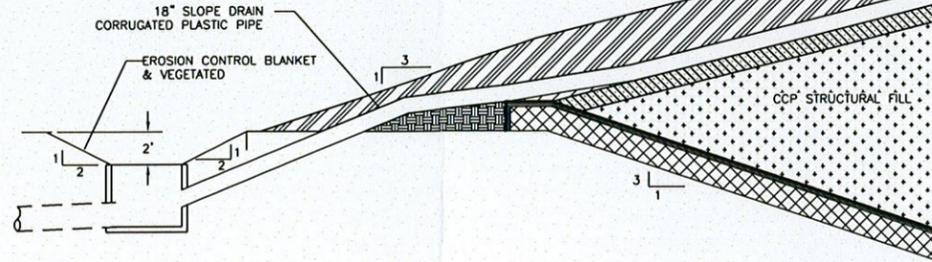
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- INSTALLATION NOTES:**
1. POSTS TO BE MIN. OF 2'-0" IN GROUND.
  2. ATTACH FABRIC WIRE AND POSTS WITH METAL RINGS OR PLASTIC ZIP TIES (50 LB MIN. TENSILE)
  3. POST SHALL BE 5" (MIN.) METAL POST WEIGHING A MIN. 1.25 LB PER LF, MANUFACTURED WITH CLIPS.
  4. POROUS BAFFLE FABRIC SHALL BE 20 oz/ly COIR EROSION BLANKET, COIR MESH OR SIMILAR, TRENCHED INTO BOTTOM OR SIDE

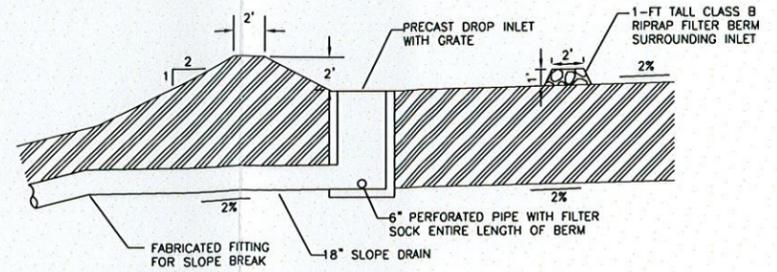
**SEDIMENT BAFFLE**

N.T.S.



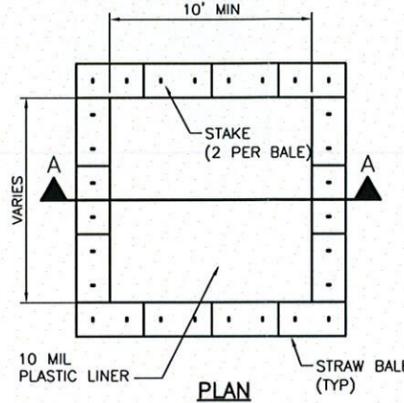
**SLOPE DRAIN INLET / OUTLET PROTECTION**

NOT TO SCALE



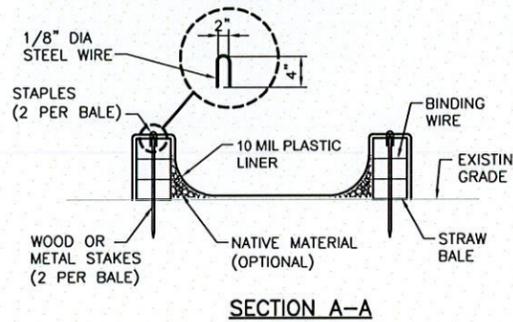
**SILT FENCE W/ ROCK OUTLET**

N.T.S.

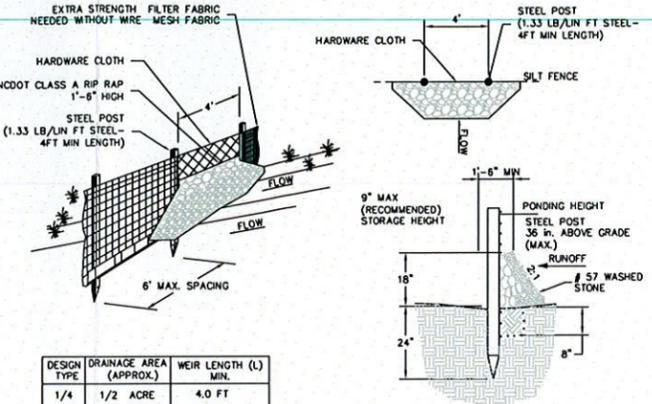


**CONCRETE WASHOUT AREA DETAIL**

NOT TO SCALE



**SECTION A-A**



**ROCK SECTION DETAIL**

TRENCH WITH GRAVEL

FOR SHOULDERS, SIDE DITCHES, SLOPES (MAX 3:1):

DATE	TYPE	PLANTING RATE
AUG 15 - NOV 1	TALL FESCUE	300 LBS/ACRE
NOV 1 - MAR 1	TALL FESCUE & ABRUZZI RYE	300 LBS/ACRE
MAR 1 - APR 15	HULLED COMMON BERMUDAGRASS	300 LBS/ACRE
APR 15 - JUN 30	TALL FESCUE AND BROWNTOP MILLET OR SORGHUM-SUDAN HYBRIDS***	300 LBS/ACRE
APR 15 - JUN 30	TALL FESCUE AND BROWNTOP MILLET OR SORGHUM-SUDAN HYBRIDS***	300 LBS/ACRE

FOR SHOULDERS, SIDE DITCHES, SLOPES (MAX 3:1 TO 2:1):

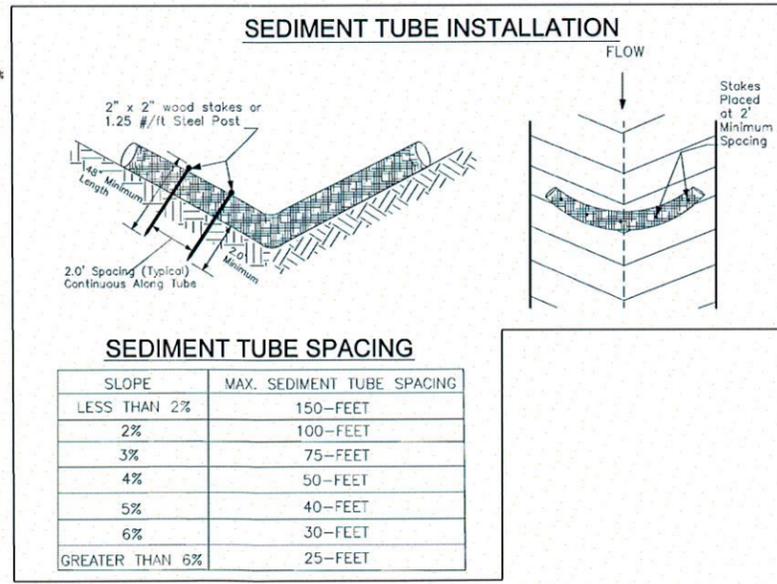
DATE	TYPE	PLANTING RATE
MAR 1 - JUN 1	SERICA LESPEDEZA (SCARIFIED) AND USE THE FOLLOWING COMBINATIONS:	50 LBS/ACRE (SERICEA LESPEDEZA);
MAR 1 - APR 15	ADD TALL FESCUE	120 LBS/ACRE
MAR 1 - JUN 30	OR ADD WEEPING LOVE GRASS	10 LBS/ACRE
MAR 1 - JUN 30	OR ADD HULLED COMMON BERMUDAGRASS	25 LBS/ACRE
SEPT 1 - MAR 1	SERICA LESPEDEZA (UNHULLED UNSCARIFIED) AND TALL FESCUE	70 LBS/ACRE (SERICEA LESPEDEZA); 120 LBS/ACRE (TALL FESCUE)
NOV 1 - MAR 1	AND ABRUZZI RYE	25 LBS/ACRE

**SEEDBED PREPARATION NOTES**

1. SURFACE WATER CONTROL MEASURES TO BE INSTALLED ACCORDING TO PLAN.
2. AREAS TO BE SEEDDED SHALL BE RIPPED AND SPREAD WITH AVAILABLE TOPSOIL 3" DEEP. TOTAL SEEDBED PREPARED DEPTH SHALL BE 4" TO 6" DEEP.
3. LOOSE ROCKS, ROOTS AND OTHER OBSTRUCTIONS SHALL BE REMOVED FROM THE SURFACE SO THAT THEY WILL NOT INTERFERE WITH ESTABLISHMENT AND MAINTENANCE OF VEGETATION. SURFACE FOR FINAL SEEDBED PREPARATION AT FINISHED GRADES SHOWN SHALL BE REASONABLY SMOOTH AND UNIFORM.
4. IF NO SOIL TEST IS TAKEN, FERTILIZER AND LIME TO BE ACCORDING TO SEEDING SPECIFICATIONS BELOW. IN ADDITION, PROVIDE 15 LBS/1000 S.F. OF SUPERPHOSPHATE.
5. IF SOIL TEST IS TAKEN, PROVIDE LIME AND FERTILIZER ACCORDING TO SOIL TEST REPORT.
6. LIME AND FERTILIZER SHALL BE APPLIED UNIFORMLY AND MIXED WITH THE SOIL DURING SEEDBED PREPARATION. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED DEPENDING ON FIELD CONDITION.
7. MULCH TO BE TACKED OR MECHANICALLY TIED DOWN IMMEDIATELY AFTER MULCH IS SPREAD.
8. ALL SLOPES GREATER THAN 2.5:1 SHALL BE STABILIZED WITH JUTE MESH.

**SEEDING**

N.T.S.



**SEDIMENT TUBE SPACING**

**SEDIMENT TUBES - GENERAL NOTES**

1. Sediment tubes may be installed along contours, in drainage conveyance channels, and around inlets to help prevent off-site discharge of sediment-laden stormwater runoff.
2. Sediment tubes are elongated tubes of compacted geotextiles, curled excelsior wood, natural coconut fiber, or hardwood mulch. Straw, pine needles, and leaf mulch-filled sediment tubes are not permitted.
3. The outer netting of the sediment tube should consist of seamless, high-density polyethylene photodegradable materials treated with ultraviolet stabilizers or a seamless, high-density polyethylene non-degradable material.
4. Sediment tubes, when used as checks within channels, should range between 18-inches and 24-inches depending on channel dimensions. Diameters outside this range may be allowed where necessary when approved.
5. Curled excelsior wood, or natural coconut products that are rolled up to create a sediment tube are not allowed.
6. Sediment tubes should be staked using wooden stakes (2-inch X 2-inch) or steel posts (standard "U" or "T" sections with a minimum weight of 1.25 pounds per foot) at a minimum of 48-inches in length placed on 2-foot centers.
7. Install all sediment tubes to ensure that no gaps exist between the soil and the bottom of the tube. Manufacturer's recommendations should always be consulted before installation.
8. The ends of adjacent sediment tubes should be overlapped 6-inches to prevent flow and sediment from passing through the field joint.
9. Sediment tubes should not be stacked on top of one another, unless recommended by manufacturer.
10. Each sediment tube should be installed in a trench with a depth equal to 1/5 the diameter of the sediment tube.
11. Sediment tubes should continue up the side slopes a minimum of 1-foot above the design flow depth of the channel.
12. Install stakes at a diagonal facing incoming runoff.

**SEDIMENT TUBES - INSPECTION & MAINTENANCE**

1. The key to functional sediment tubes is weekly inspections, routine maintenance, and regular sediment removal.
2. Regular inspections of sediment tubes shall be conducted once every calendar week and, as recommended, within 24-hours after each rainfall event that produces 1/2-inch or more of precipitation.
3. Attention to sediment accumulations in front of the sediment tube is extremely important. Accumulated sediment should be continually monitored and removed when necessary.
4. Remove accumulated sediment when it reaches 1/3 the height of the sediment tube.
5. Removed sediment shall be placed in stockpile storage areas or spread thinly across disturbed area. Stabilize the removed sediment after it is relocated.
6. Large debris, trash, and leaves should be removed from in front of tubes when found.
7. If erosion causes the edges to fall to a height equal to or below the height of the sediment tube, repairs should be made immediately to prevent runoff from bypassing tube.
8. Sediment tubes should be removed after the contributing drainage area has been completely stabilized. Permanent vegetation should replace areas from which sediment tubes have been removed.

**WATTLE INSTALLATION**

NOT TO SCALE



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704.338.6700  
N.C.B.E.L.S. License Number F-0116

ISSUE	DATE	DESCRIPTION
C	03/19/15	EROSION CONTROL SUBMITTED FOR NORTHWEST AREA
B	12/31/14	REVISED PER NCDENR COMMENTS
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PROJECT NUMBER	453925-235691-018



COLON MINE SITE STRUCTURAL FILL  
SANFORD, NC



SCALE AS SHOWN

**EROSION AND SEDIMENTATION CONTROL DETAILS (3 OF 3)**

SHEET 01C-13