



PAT McCRORY
Governor

NICHOLAS J. TENNYSON
Secretary

August 5, 2016
Chatham County

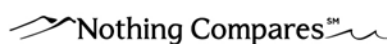
**Subject: Subdivision Final Plan Review – Cedar Mountain Phase 3A Subdivision
off of Cedar Grove Road off SR 1540**

Lewis Metty Development, INC.
c/o Lewis Metty
565 Oak Hill Road
Pittsboro, North Carolina 27313

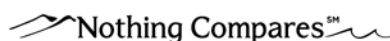
Dear Mr. Metty:

The N. C. Department of Transportation, Division of Highways has reviewed the construction plans signed and sealed by Samir Bahho P.E. on May 5, 2016 as submitted to this office and approval is granted subject to the following stipulations and recommendations:

1. All Construction is to be in accordance with the details as shown on the plans, as well as conform to the most recent edition of the *Standard Specifications for Roads and Structures*.
2. A Driveway Permit is not needed for this package.
3. The entire proposed right of way is to be cleared and grubbed throughout the whole phase of the project. Please be aware that the areas within the sight distance quadrants are to be treated as right of way.
4. All soil areas within the proposed right of way and any other soil areas disturbed during construction shall be seeded and mulched immediately upon completion of roadway construction. The seeding shall be done as outlined in the seeding specification attachment.
5. The crossline drainage is approved as proposed on the construction plans. If, however field conditions dictate any changes, these shall be made upon approval by NCDOT. If any of the property owners desire to pipe their ditches within the proposed NCDOT right of way, please advise them that this work should conform to NCDOT specifications for this type of work (see attached). If any ditches are piped and not satisfactorily completed to NCDOT specifications, this could result in the road not being accepted for addition to the state maintained system of roads. Any ditches piped or other encroachment prior to addition to the state maintained system are subject to an encroachment agreement, as are utility companies, when the road is added.



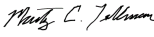
6. The typicals as shown in the plans, are approved.
7. The Division of Highways will only allow mailboxes, with non-rigid type post, such as 4" x 4" wooden or small diameter metal type on new additions. Brick columns or mailboxes on rigid stands such as block, stone or any other type deemed to be a traffic hazard will not be allowed within the right of way. This policy applies to all roads being considered for addition to the State Maintained System.
8. An erosion control plan shall require approval from Chatham County. The developer should forward this plan to Mr. Jim Willis, Erosion and Sediment Control Officer, 80 East, P.O. Box 130, Pittsboro, N.C. 27312, phone (919) 545-8343 for his review and approval.
9. As this subdivision is proposed to be public and is likely to be requested to be added to the state maintained system of roads, the developer will be responsible for providing a PE Certification, (See Attached) and testing results for base and asphalt density stating that the streets have been built in accordance with the most current "Subdivision Roads: Minimum Construction Standards" manual and with the attached approved plans. Please be advised that this PE Certification does not approve the road for addition to the State Highway System for maintenance. When the proper home density is achieved and roads have been satisfactorily maintained, the developer or property owners must submit Form SR-1, Petition for Road Addition (copy attached to this correspondence), and four (4) copies of the recorded plat to request that the road or roads be added to the State Highway system. Any maintenance problems found when the road is requested to be added must be repaired by the developer prior to the road becoming state maintained. As stated in GS 136-102.6, final acceptance by the Division of Highways of the public streets and placing them on the State highway system for maintenance shall be conclusive proof that the streets have been constructed according to the minimum standards of the Board of Transportation.
10. The developer shall comply with all applicable local, state, and federal environmental regulations, and shall obtain all necessary local, state, and federal environmental permits, including, but not limited to, those related to sediment control, stormwater, wetlands, streams, endangered species, and historical sites.
11. A properly completed Verification of Compliance with the Department of Environment and Natural Resources (DENR)(page 35, attached) must be submitted prior to the road(s) being considered for addition to the NCDOT System.
12. In preparing the final plat for certification by this office and subsequent recording, the following information will be incorporated:
 - A. The sight distance quadrants at the intersections shall be shown either as a public easement or as the property line.
 - B. Public easements for drainage throughout the development.



- C. All roads shall be shown as public and the right of way width shown
- D. If the plans of this subdivision change in a way that would cause a change in the classification of these roads from Local Residential to Residential Collector the developer will be responsible for upgrading roads to meet Residential Collector standards prior to addition the state maintenance system.
- E. This approval does not approve the utilities within this subdivision. Any utilities shall be submitted for approval to this office via a properly executed Encroachment Agreement to be approved at the time the roads within the subdivision are petitioned to be added to the state system for maintenance. Please note that water valves should be located a minimum of 6' from edge of pavement, fire hydrants should be behind the right of way line and all service taps should be installed prior to paving.

If you have any further questions regarding this matter, please do not hesitate to call this office at 336. 318.4000

Yours truly,

DocuSigned by:

E72EF75317784CB...

Marty C. Tillman
District Engineer

Attachments

cc: Brandon Jones, P.E., Division Engineer
Justin Bullock, P.E., Chatham County Maintenance Engineer
Lynn Richardson, Chatham County Planning
Samir Bahho, P.E, Civil and Structural Engineering Services, PLLC.
File





STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT MCCRORY
GOVERNOR

DIVISION OF HIGHWAYS

ANTHONY J. TATA
SECRETARY

PROFESSIONAL ENGINEER CERTIFICATION
SUBDIVISIONS AND COMMERCIAL DRIVEWAYS
DIVISION 8, DISTRICT 1

DATE: _____

COUNTY: _____

SUBDIVISION NAME: _____

STREET NAMES From Sta. No. To Sta. No. _____

This is to certify that the above listed roads have been constructed in accordance with the approved plans and all aspects of the most current Subdivision Roads: Minimum Construction Standards manual.

NAME: _____

SIGNATURE: _____

NC PE LICENSE #: _____

Professional Engineer Seal

**North Carolina Department of Transportation
Division of Highways
Petition for Road Addition**

ROADWAY INFORMATION: (Please Print/Type)

County: _____ Road Name: _____
(Please list additional street names and lengths on the back of this form.)

Subdivision Name: _____ Length (miles): _____

Number of occupied homes having street frontage: _____ Located (miles): _____

miles N ☐ S ☐ E ☐ W ☐ of the intersection of Route _____ and Route _____ .
(Check one) (SR, NC, US) (SR, NC, US)

We, the undersigned, being property owners and/or developers of _____ in _____ County, do hereby request the Division of Highways to add the above described road.

CONTACT PERSON: Name and Address of First Petitioner. (Please Print/Type)

Name: _____ Phone Number: _____

Street Address: _____

Mailing Address: _____

PROPERTY OWNERS

Name

Mailing Address

Telephone

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

INSTRUCTIONS FOR COMPLETING PETITION:

1. Complete Information Section
2. Identify Contact Person (This person serves as spokesperson for petitioner(s)).
3. Attach four (4) copies of recorded subdivision plat or property deeds, which refer to candidate road.
4. Adjoining property owners and/or the developer may submit a petition. Subdivision roads with prior NCDOT review and approval only require the developer's signature.
5. If submitted by the developer, encroachment agreements from all utilities located within the right of way shall be submitted with the petition for Road addition. However, construction plans may not be required at this time.
6. Submit to District Engineer's Office.

FOR NCDOT USE ONLY: Please check the appropriate block

☐ Rural Road ☐ Subdivision platted prior to October 1, 1975 ☐ Subdivision platted after September 30, 1975

REQUIREMENTS FOR ADDITION

If this road meets the requirements necessary for addition, we agree to grant the Department of Transportation a right-of-way of the necessary width to construct the road to the minimum construction standards of the NCDOT. The right-of-way will extend the entire length of the road that is requested to be added to the state maintained system and will include the necessary areas outside of the right-of-way for cut and fill slopes and drainage. Also, we agree to dedicate additional right-of-way at intersections for sight distance and design purposes and execute said right-of-way agreement forms that will be submitted to us by representatives of the NCDOT. The right-of-way shall be cleared at no expense to the NCDOT, which includes the removal of utilities, fences, other obstructions, etc.

General Statute 136-102.6 (see page 29 for Statute) states that any subdivision recorded on or after October 1, 1975, must be built in accordance with NCDOT standards in order to be eligible for addition to the State Road System.

<u>ROAD NAME</u>	<u>HOMES</u>	<u>LENGTH</u>	<u>ROAD NAME</u>	<u>HOMES</u>	<u>LENGTH</u>

**POSSIBLE SUPPLIERS FOR
GRATES AND FRAMES**

SOUTHERN FOUNDRY
P.O. BOX 186
APEX, N.C. 27502
(919) 362-7744

NORFOLK CAST, INC.
P.O. BOX 328
NORFOLK, VA. 23501

VULCAN FOUNDRY CORP.
P.O. BOX 905
DENHAM SPRINGS, LA.
1(800)626-4653

US FOUNDRY
8351 N. W. 93RD ST
MEDLEY, FLA. 33166
(305) 885-0301 FAX (305) 844-3253

SUPER CAST, INC.
1104 US HWY. 117 BYPASS, S.
GOLDSBORO, N.C. 27530
(919) 736-9010 FAX (919) 736-0290

BUNCH PATTERN WORKS, INC.
P.O. BOX 267 HWY 308 N.
LEWISTON-WOODVILLE, N.C. 27849

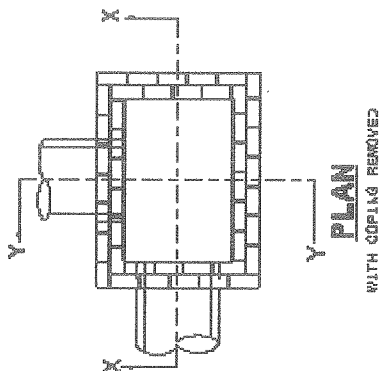
CAPITAL FOUNDRY OF VIRGINIA, INC.
P.O. BOX 2212
VIRGINIA BEACH, VIRGINIA 23450

EMPORIA FOUNDRY, INC.
620 REESE STREET
EMPORIA, VIRGINIA 23847

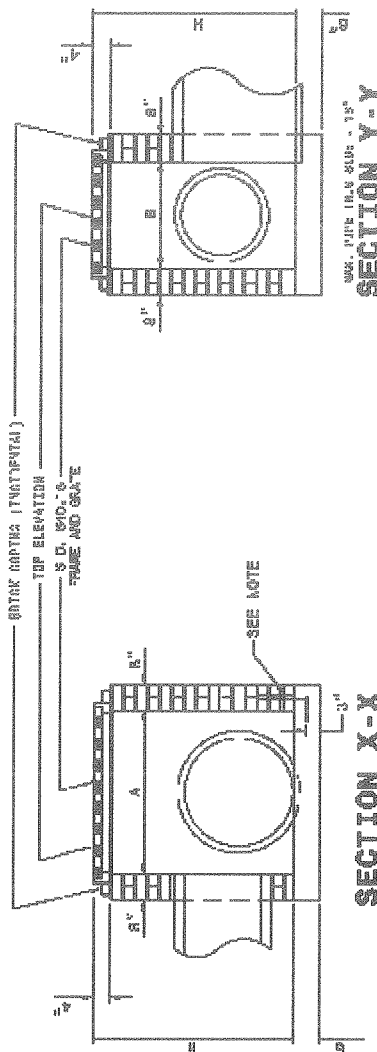
ENNIS ENTERPRISES
P.O. BOX 931
WILMINGTON, N.C. 28402
(910) 371-9323

GENERAL NOTES:

- MORTAR JOINTS $\frac{1}{8}$ " +/- $\frac{1}{16}$ " THICK.
USE CLASS "B" CONCRETE THROUGHOUT.
USE FORMER FOR CONSTRUCTION OF THE BOTTOM SLAB.
USE #4 BAR CORNER AT 12" CENTERS.
DEDUCT FOR PIPE(S) FROM TOTAL CU. YDS. OF BRICK MASONRY.
PROVIDE ALL CATCH BASINS OVER 3'-0" IN DEPTH WITH STEPS 12"
ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.08.
USE BRICK OF CONCRETE BLOCK WHICH COMPLIES WITH THE REQUIREMENTS
OF SECTION 840 OF THE STANDARD SPECIFICATIONS.
IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB
AS SHOWN ON STD. NO. 840.00.
FOR 0'-0" IN HEIGHT OR LESS, USE 8" WALL. OVER 8'-0" IN HEIGHT, USE
12" WALL TO 6'-0" FROM TOP OF WALL AND 8" WALL FOR THE REMAINING
8'-0" QUANTITIES TO BE ADJUSTED ACCORDINGLY.
CONSTRUCT WITH PIPE CORNERS MATCHING.
SEE STANDARD DRAWING 840.25 FOR ATTACHMENT OF FRAMES AND GRATES.
DO NOT USE BRICK MASONRY DROP INLET IN LOCATIONS SUBJECT TO
TRAFFIC.
CHAMFER ALL EXPOSED CORNERS 1".
DRAWING NOT TO SCALE.



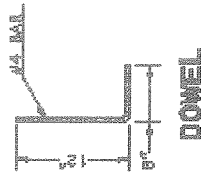
PLAN



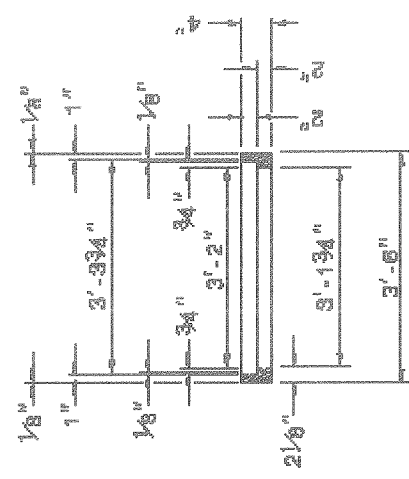
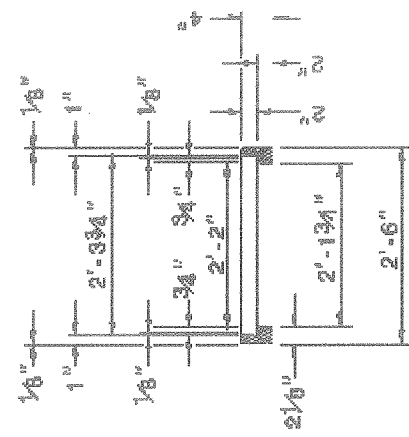
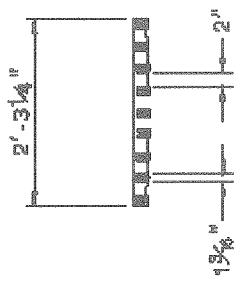
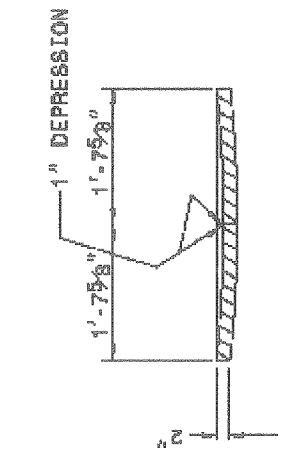
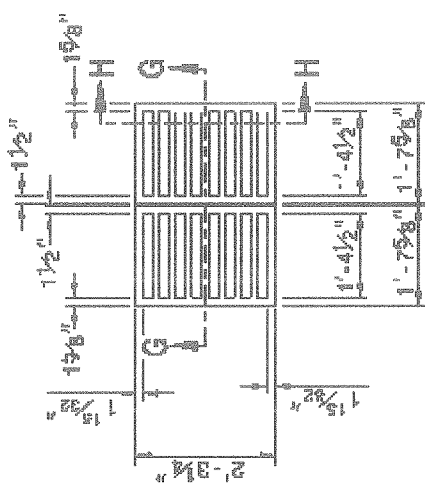
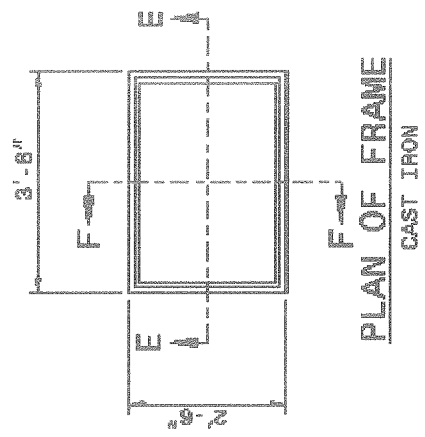
SECTION X-X

SECTION Y-Y

DIMENSIONS AND QUANTITIES FOR DROP INLET (BASED ON MIN. HEIGHT, H)									
DIMENSIONS OF BOX & PIPE			CUBIC YARDS		CUBIC YARDS		DEDUCTIONS FOR		
PIPE	SPAN	WIDTH	MIN. HEIGHT	CONCRETE	BRICK MASONRY	ONE PIPE			
D	A	B	H	BOTTOM SLAB	WALL PER FOOT HT.	TOTAL BRICK MASONRY PER FT. HT. & 12" C.T.	C.S.	R.C.	
12"	3'-0"	2'-0"	2'-0"	0.268	0.318	2.682	0.090	0.032	
15"			2'-3"	0.268	0.313	2.600	0.261	0.047	
18"			2'-6"	0.268	0.318	2.678	0.474	0.068	
24"			3'-0"	0.268	0.313	2.355	0.078	0.118	
30"			3'-6"	0.268	0.313	0.991	0.122	0.170	



DOWEL



**VERIFICATION OF COMPLIANCE WITH
ENVIRONMENTAL REGULATIONS**

(Check Appropriate Box)

- ☐ Permits from the N.C. Department of Environment and Natural Resources and the U.S. Army Corp of Engineers are not required for this project. However, all applicable federal and state regulations have been followed.
- ☐ The required permits from the N.C. Department of Environment and Natural Resources and the U.S. Army Corp of Engineers have been obtained for this project. Copies of permits and Completion Certificates are attached.
- ☐ All applicable NPDES Stormwater Permit requirements have been met for this project. (The applicant should contact the N.C. Division of Water Quality in Raleigh to determine if a stormwater permit is required.)
- ☐ The project is in compliance with all applicable sedimentation and erosion control laws and regulations.

Project Name: _____

Township: _____

County: _____

Project Engineer: _____

Phone No.: _____

Project Contact: _____

Applicants Name: _____

P.E. SEAL

Date Submitted: _____

(Reference Page 11, Item 10)

11/07/2003

ATTACHMENT "A"

Seeding and mulching shall be in accordance with Section 880 of the North Carolina Standard Specifications for Roads and Structures, except that Articles 880-3(B) shall not apply. Final determination of soil type shall be made by the Engineer. The following rates in pounds per acre shall apply:

<u>SANDY SOIL</u>	<u>CLAY SOIL</u>
50# - KY 31 Tall Fescue or Alta Tall Fescue	100# - KY 31 Tall Fescue or Alta Tall Fescue
5# - Centipede	15# - Kenblue Bluegrass
50# - Pensacola Bahiagrass	500# - Fertilizer
500# - Fertilizer	4000# - Limestone
4000# - Limestone	

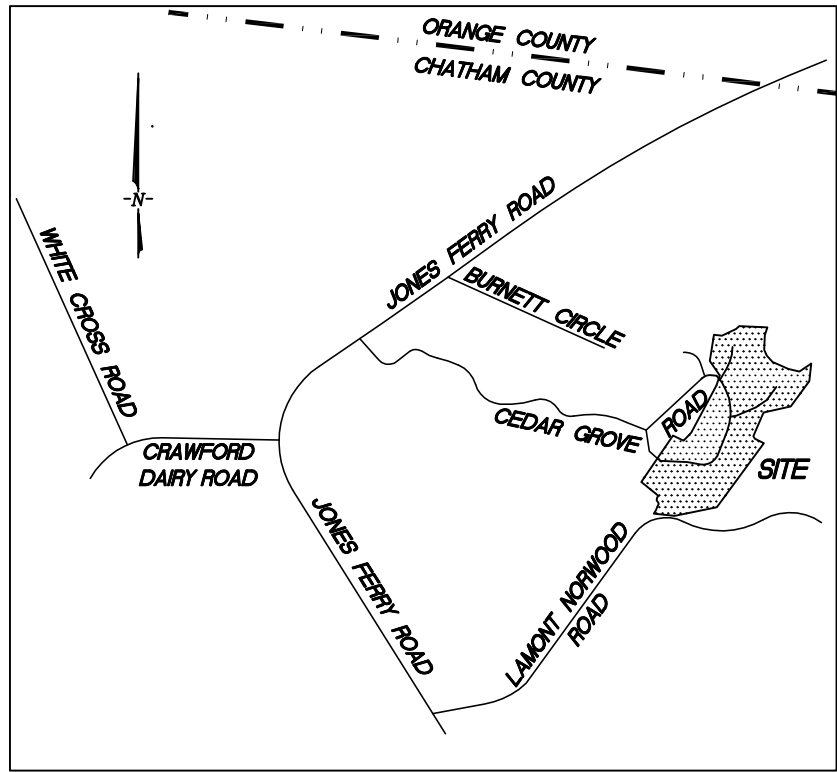
Add 10# Kobe or Korean Lespedeza and 10# Millet to the above mixture from May 1 to August 31.

On cut and fill slopes 2:1 or steeper, add 30# Sericea Lespedeza from January 1 to December 31.

Fertilizer shall be 10-20-20 analysis. Upon written approval of the Engineer, a different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as a 10-20-20 analysis.

CEDAR MOUNTAIN SUBDIVISION

PHASE 3A



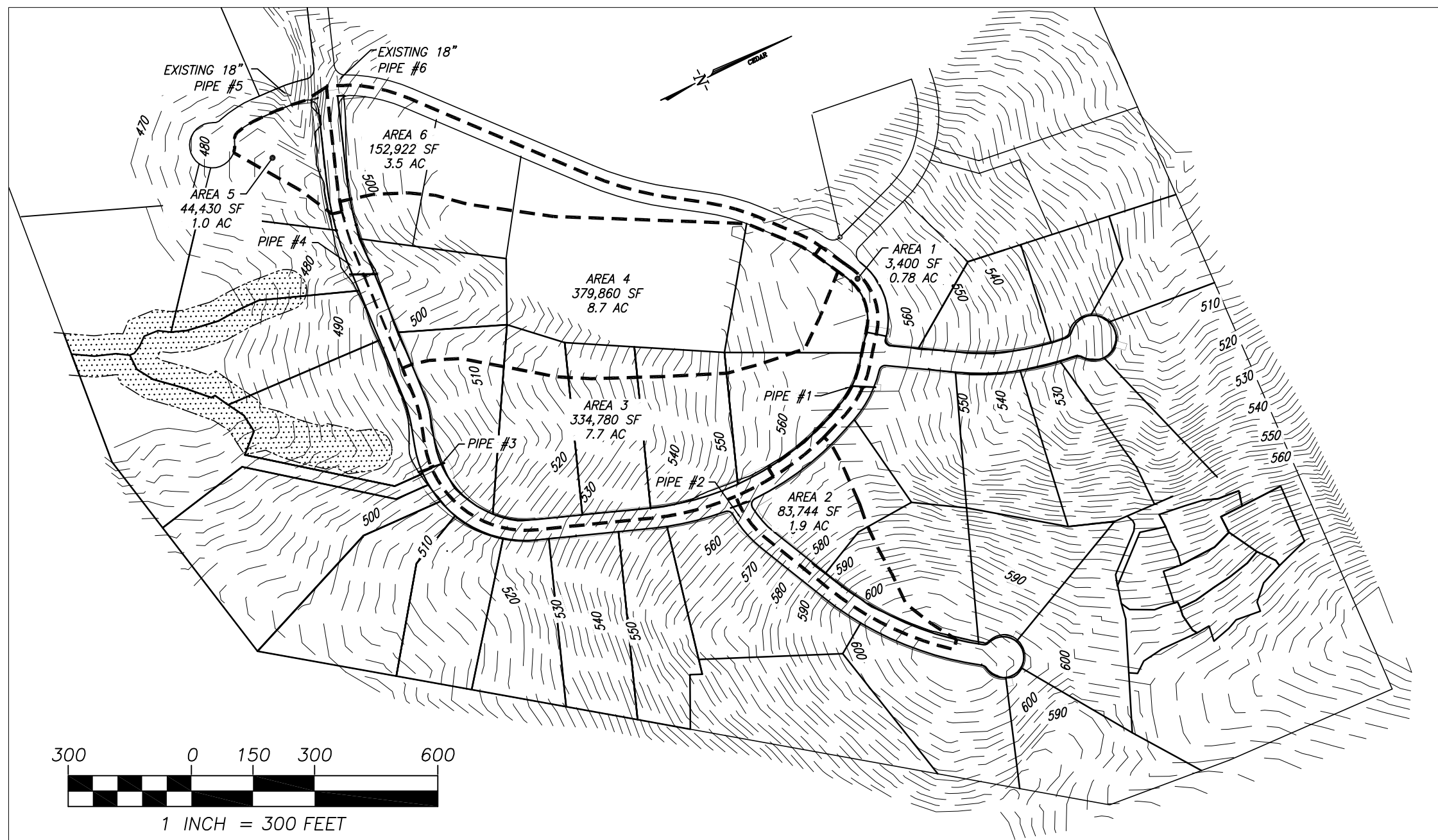
VICINITY MAP - NOT TO SCALE

NOTES

1. ALL PIPE DEPTH COVER AND MATERIAL SHALL BE IN ACCORDANCE WITH THE NCDOT PIPE MATERIAL SELECTION GUIDE.
2. ALL DITCHES MUST BE STABLE PRIOR TO ACCEPTANCE BY NCDOT.

CONSTRUCTION SEQUENCE

1. BEFORE ANY CLEARING AND GRADING CONSTRUCTION ON THE SITE BEGINS, CONTRACTOR SHALL CALL FOR A PRECONSTRUCTION CONFERENCE TO INCLUDE CHATHAM COUNTY REPRESENTATIVE, CONTRACTOR, OWNER AND PROJECT ENGINEER. PRECONSTRUCTION CONFERENCE SERVES TO EXCHANGE INFORMATION ABOUT CONTACT PERSONS INVOLVED IN THE CONSTRUCTION OF SITE IN ORDER TO ESTABLISH THE RIGHT WAY OF COMMUNICATION AND KNOW THE PROCEDURES TO BE FOLLOWED DURING CONSTRUCTION. CONTRACTOR SHALL START BY CONSTRUCTION EROSION AND SEDIMENT CONTROL DEVICES AS FOLLOWS:
 - CLEAR ENOUGH AREAS OF ROADS TO THE INSTALLATION E&SC DEVICES.
 - INSTALL CONSTRUCTION ENTRANCE AS SHOWN ON E&SC PLAN AND DETAILS
 - INSTALL SILT FENCE/TREE PROTECTION FENCE AS SHOWN ON E&SC PLAN AND DETAILS
 - SEDIMENT PITS AS SHOWN ON CONSTRUCTION DRAWINGS
2. REMOVE TOP SOIL AND STORE IT IN THE DESIGNATED AREA "STOCK PILE". SOIL SHALL BE AERATED AND LATER USED AS TOP SOIL IN VEGETATED AREAS OR DISPOSED OF IT AND SEEDED PROPERLY. TOP SOIL TO BE REMOVED AS GRADING OPERATIONS IN 3, 4, 5, AND 6.
3. GRADING OPERATIONS TO STATION 85+00
 - INSTALL CROSS PIPE #1 AND ALL THE E&SC MEASURES AROUND THE PIPE AS SHOWN ON CONSTRUCTION PLAN.
 - CONTINUE GRADING AND INSTALLING TEMPORARY DRAINAGE DITCHES AND CHECK DAM AS GRADING PROGRESSES TO STATION 85+00
 - PROTECT CROSS DITCH AT PIPE #3 BY A CROSS THE ROAD SILT FENCE TO DIVERT CONSTRUCTION DRAIN WATER TO SEDIMENT PIT #1 AND #2 UNTIL CONSTRUCTION IS READY TO PROGRESS PAST STATION 85+00
 - ADJUST SILT FENCES, TEMPORARY DITCHES AND ROCK DAMS WITH CHANGES IN EXCAVATION AND GRADING ELEVATIONS.
4. GRADING OPERATION TO STATION 90+00 BEFORE PROGRESS IN GRADING OPERATIONS PAST STATION 85+00:
 - INSTALL CROSS PIPE #3 AND ALL THE E&SC MEASURES AROUND THE PIPE AS SHOWN ON CONSTRUCTION PLAN
 - CONTINUE GRADING AND INSTALLING TEMPORARY DRAINAGE DITCHES AND CHECK DAM AS GRADING PROGRESSES TO STATION 90+00
 - PROTECT CROSS DITCH AT PIPE #4 BY INSTALLING CROSS THE ROAD SILT FENCE TO DIVERT CONSTRUCTION DRAIN WATER TO SILT FENCE OUTLET DEVICES LEFT AND RIGHT UNTIL CONSTRUCTION IS READY TO PROGRESS PAST STATION 90+00
 - ADJUST SILT FENCES, TEMPORARY DITCHES AND ROCK DAMS WITH CHANGES IN EXCAVATION AND GRADING ELEVATIONS CONSTRUCTION DRAIN
5. GRADING FROM STATION 90+00 TO END OF ROAD BEFORE PROGRESSING WITH GRADING OPERATIONS PAST STATION 90+00:
 - INSTALL CROSS PIPE #4 AND ALL THE E&SC MEASURES AROUND THE PIPE AS SHOWN ON CONSTRUCTION PLAN
 - CONTINUE GRADING AND INSTALLING TEMPORARY DRAINAGE DITCHES AND CHECK DAMS AS GRADING PROGRESSES TO THE END STATION OF CEDAR GROVE ROAD AS SHOWN ON CONSTRUCTION PLANS
 - ADJUST SILT FENCES, TEMPORARY DITCHES AND ROCK DAMS WITH CHANGES IN EXCAVATION AND GRADING ELEVATIONS CONSTRUCTION DRAIN
6. EAGLE CREST COURT:
 - CONTINUE GRADING AND INSTALLING TEMPORARY DRAINAGE DITCHES AND CHECK DAM AS GRADING PROGRESSES TO STATION TO THE END OF CUL-DE-SAC
 - ADJUST SILT FENCES, TEMPORARY DITCHES AND ROCK DAMS WITH CHANGES IN EXCAVATION AND GRADING ELEVATIONS.
7. OWLS NEST COURT:
 - INSTALL CROSS PIPE #2 AND ALL THE E&SC MEASURES AROUND THE PIPE AS SHOWN ON CONSTRUCTION PLAN
 - CONTINUE GRADING AND INSTALLING TEMPORARY DRAINAGE DITCHES AND CHECK DAM AS GRADING PROGRESSES TO THE END OF CUL-DE-SAC
 - ADJUST SILT FENCES, TEMPORARY DITCHES AND ROCK DAMS WITH CHANGES IN EXCAVATION AND GRADING ELEVATIONS.



DRAINAGE AREAS FOR CROSS PIPES

EROSION AND SEDIMENT CONTROL CONSTRUCTION AND MAINTENANCE NOTES

1. THE CONTRACTOR SHALL DESIGNATE AN EROSION AND SEDIMENT CONTROL COORDINATOR FOR THE SITE
2. HOLD PRE-CONSTRUCTION MEETING AT LEAST ONE WEEK BEFORE THE START OF ANY CONSTRUCTION OPERATION. INVITE TOWN OF CHATHAM COUNTY EROSION AND SEDIMENT CONTROL COORDINATOR.
3. CLEAR ENOUGH AREA TO START INSTALLING E&SC DEVICES AS PER DETAILS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLANS AND DETAIL SHEETS
4. START CLEARING AND GRUBBING OPERATIONS. INSTALL CROSS DRAINAGE PIPES AS THE CLEARING AND GRUBBING OPERATIONS PROGRESS AND REACH DRAINAGE CROSS PIPES AS SHOWN ON CONSTRUCTION PLANS. INSTALL E&SC MEASURES AROUND THE INSTALLED CROSS PIPES AS SHOWN ON THE CONSTRUCTION PLANS.
5. START CONSTRUCTION OPERATIONS AS OUTLINED ON THE PROJECT PLANS
6. ADJUST E&SC DEVICES AS OUTLINED IN THE CONSTRUCTION SEQUENCE IN ORDER TO PERFORM PROPERLY WITH THE NEW GRADE
7. WHEN CHANGES IN CONSTRUCTION ACTIVITIES SEQUENCE ARE NEEDED, AMEND E&SC PRACTICES TO MAINTAIN MANAGEMENT CONTROL. CONSULT WITH THE PROJECT ENGINEER BEFORE MAKING CHANGES.
8. ALL GRADED AREAS WILL BE SEEDED, FERTILIZED AND MULCHED TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER WITHIN 7 DAYS OR 14 CALENDAR DAYS (WHICHEVER IS SHORTER) OF COMPLETION OF ANY PHASE OF GRADING. IF WORK ON THE PROJECT CEASES FOR MORE THAN THE AFOREMENTIONED LENGTH OF TIME, ALL DISTURBED AREAS SHALL HAVE TEMPORARY VEGETATIVE GROUND COVER ESTABLISHED AND EROSION CONTROL PRACTICES MAINTAINED.
9. ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSPECTED WEEKLY AND AFTER RAINFALL EVENTS. NEEDED REPAIR SHALL BE MADE IMMEDIATELY.
10. ESTIMATED TIME BEFORE FINAL STABILIZATION IS 6 MONTHS
11. ESTIMATED DISTURBED AREA IS APPROXIMATELY 6 ACRES
12. AFTER SITE IS STABILIZED, TEMPORARY SEDIMENT TRAPS, TEMPORARY DIVERSIONS, CONSTRUCTION ENTRANCE AND CONSTRUCTION STAGING AND MATERIAL STOCKPILE AREAS AND OTHER EROSION CONTROL DEVICES SHALL BE REMOVED, RESTORED TO ORIGINAL AND PERMANENTLY VEGETATED. CONTRACTOR SHALL RECEIVE PERMISSION FROM THE PROJECT INSPECTOR BEFORE REMOVING AND E&SC DEVICES.
13. CONTRACTOR IS RESPONSIBLE FOR INSTALLATION, MAINTENANCE AND REMOVAL OF ALL TEMPORARY E&SC DEVICES ON THE PROJECT.
14. AREA TO BE PERMANENTLY STABILIZED WITH VEGETATION IS APPROXIMATELY 3 ACRES

MAINTENANCE OF EROSION AND SEDIMENT CONTROL PRACTICES

1. THE CONTRACTOR SHALL CHECK ALL EROSION AND SEDIMENT CONTROL PRACTICES FOR STABILITY AND OPERATION FOLLOWING EVERY RUNOFF PRODUCING RAINFALL BUT IN NO CASE LESS THAN ONCE EVERY WEEK. ANY NEEDED REPAIRS WILL BE MADE IMMEDIATELY BY THE CONTRACTOR TO MAINTAIN ALL PRACTICES AS DESIGNED, ALSO PER NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES), A RAIN GAUGE MUST BE INSTALLED ON SITE. THE RAIN GAUGE MUST BE KEPT ONSITE AND INSPECTED BY THE CONTRACTOR MUST BE MADE AND LOGGED AFTER EVERY HALF INCH RAINFALL OR ONCE A WEEK.
2. THE CONTRACTOR SHALL REMOVE SEDIMENT FROM SEDIMENT BASINS/TRAPS WHEN STORAGE CAPACITY HAS BEEN APPROXIMATELY 50% FILLED OF FIRST BAFFLE. GRAVEL SHALL BE CLEANED OR REPLACED WHEN THE SEDIMENT POOL NO LONGER DRAINS PROPERLY. REPAIR BAFFLES IF DAMAGED AND REMOVE DEBRIS FROM SKIMMER.
3. THE CONTRACTOR SHALL REMOVE SEDIMENT FROM BEHIND SILT FENCE WHEN IT BECOMES (0.5') DEEP AT THE FENCE. SILT FENCE SHALL BE REPAIRED AS NECESSARY TO MAINTAIN A BARRIER. CONTRACTOR SHALL RESTORE SEDIMENT STORAGE AREA FOR PIPE INLET PROTECTION TO ITS ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO 1/2 DESIGN DEPTH. CONTRACTOR SHALL REPAIR ANY DAMAGE TO THE STRUCTURE OF INLET DISPLACED STONE AND RIP RAP
4. THE CONTRACTOR SHALL FERTILIZE, RESEED AS NECESSARY, AND MULCH ALL SEEDED AREAS ACCORDING TO SEEDING SPECIFICATION IN THE PLANS TO MAINTAIN VIGOROUS, DENSE VEGETATIVE COVER.
5. THE CONTRACTOR SHALL PROVIDE GROUND COVER ON EXPOSED SLOPES OR OTHER AREAS WITHIN 21 CALENDAR DAYS OF COMPLETION OF ANY PHASE OF GRADING. PERMANENT GROUND COVER IS TO BE PROVIDED FOR ALL DISTURBED AREA WITHIN 21 CALENDAR DAYS OR SOONER AFTER COMPLETION OF CONSTRUCTION OR DEVELOPMENT.
6. THE EROSION & SEDIMENT CONTROL DESIGNATED COORDINATOR SHALL FAMILIARIZE HIM/HERSELF WITH MAINTENANCE PROCEDURES IN THE PRACTICE STANDARDS AND SPECIFICATIONS (EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL) AND MAKE RECOMMENDATIONS.

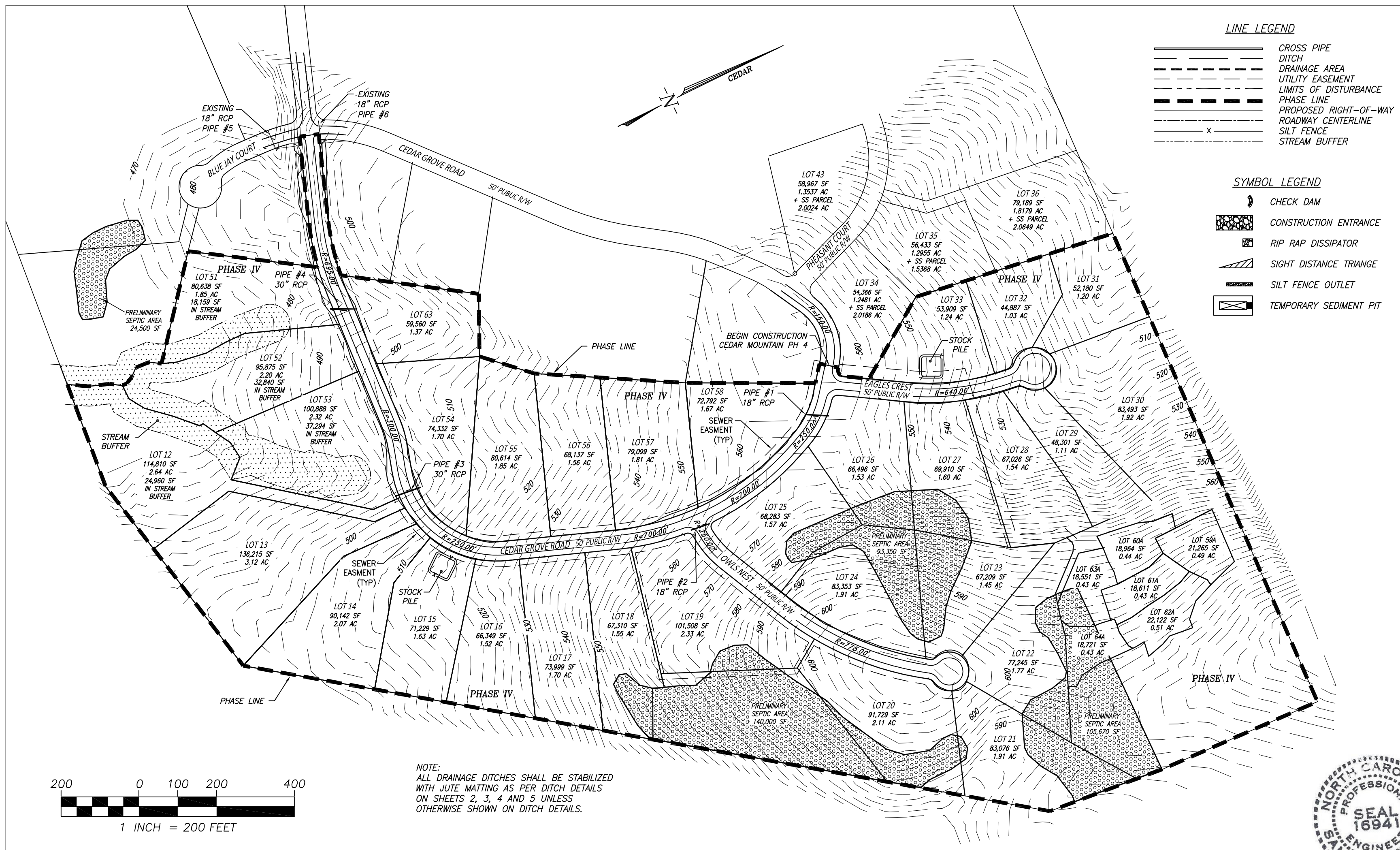
DEVELOPER/OWNER: LEWIS METTY DEVELOPMENT, INC
ADDRESS: 565 OAK HILL ROAD
PITTSBORO, NC 27313
CONTACT PERSON: CHARLES E. LEWIS
TELEPHONE: 919-619-9878
EMAIL ADDRESS: LEWISBLDGCO@BELLSOUTH.NET

ENGINEERS:
CIVIL AND STRUCTURAL ENGINEERING SERVICES, PLLC
CONTACT PERSON: SAMIR BAHHO, PE
TELEPHONE: 919-851-1642
EMAIL ADDRESS: BA.CASESPLLC@GMAIL.COM

SURVEYORS: MAERSTAN, PLLC
ADDRESS: 140 IOWA LANE, SUITE 104
CARY, NC 27511
CONTACT PERSON: RICHARD BULLOCK, PLS
EMAIL ADDRESS: RICHARD@MAERSTAN.COM

SHEET INDEX

- 1 OVERALL PROJECT AND DRAINAGE AREAS
- 2 CEDAR GROVE ROAD STATION 69+00 - 81+00
- 3 CEDAR GROVE ROAD STATION 81+00 - 95+00
- 4 EAGLES CREST COURT STATION 9+50 - 15+59
- 5 OWLS NEST COURT STATION 10+00 - 18+36
- 6 CONSTRUCTION DETAILS



NOTE:
ALL DRAINAGE DITCHES SHALL BE STABILIZED WITH JUTE MATTING AS PER DITCH DETAILS ON SHEETS 2, 3, 4 AND 5 UNLESS OTHERWISE SHOWN ON DITCH DETAILS.

5/02/2016



PROJECT: LEWIS METTY DEVELOPMENT COMPANY, LLC
CEDAR MOUNTAIN SUBDIVISION PHASE 3A
NORTH CAROLINA
BALDWIN TOWNSHIP
CHATHAM COUNTY
ROADWAY CONSTRUCTION, EROSION & SEDIMENT CONTROL PLAN

DEVELOPER/OWNER: LEWIS METTY DEVELOPMENT, INC
ADDRESS: 565 OAK HILL ROAD
PITTSBORO, NC 27313
CONTACT PERSON: CHARLES E. LEWIS
TELEPHONE: 919-619-9878
EMAIL ADDRESS: LEWISBLDGCO@BELLSOUTH.NET

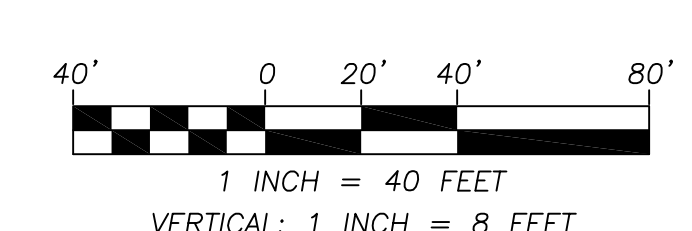
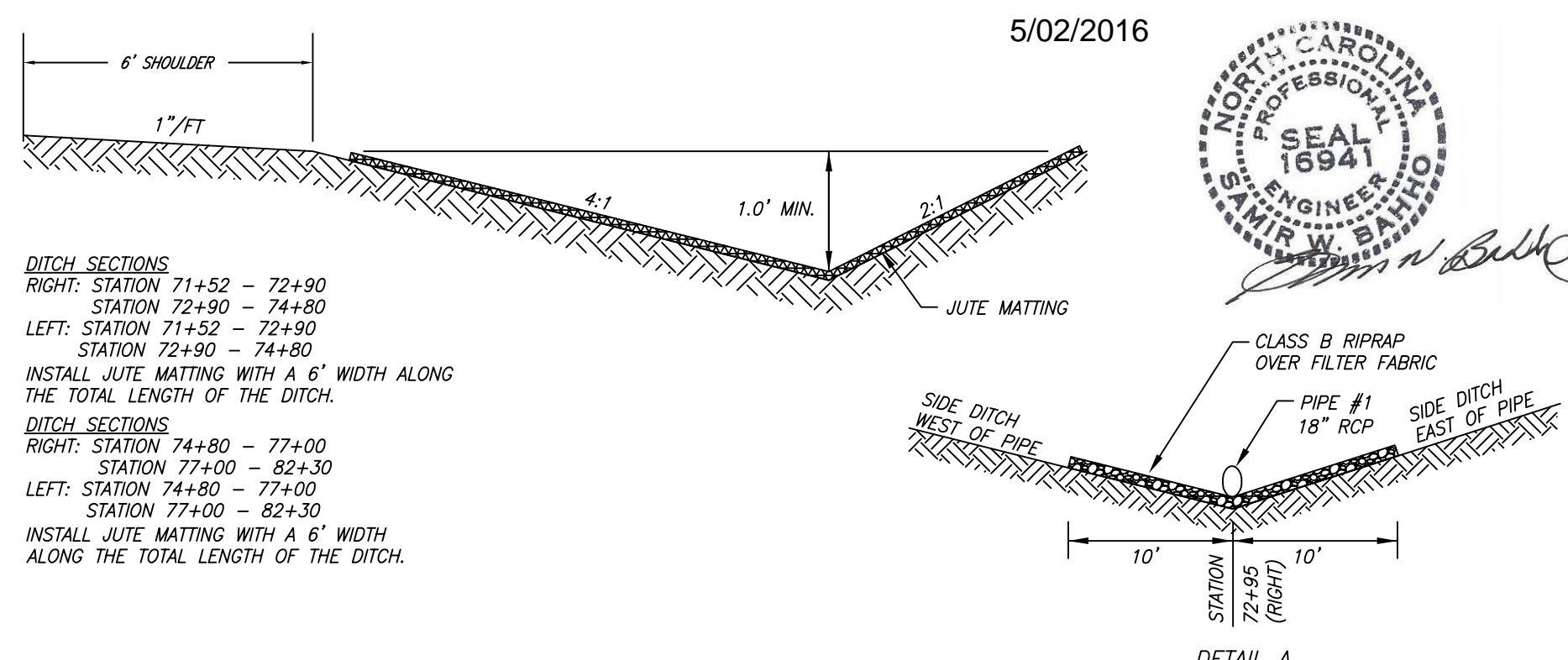
ENGINEERS:
CIVIL AND STRUCTURAL ENGINEERING SERVICES, PLLC
CONTACT PERSON: SAMIR BAHHO, PE
TELEPHONE: 919-851-1642
EMAIL ADDRESS: BA.CASESPLLC@GMAIL.COM

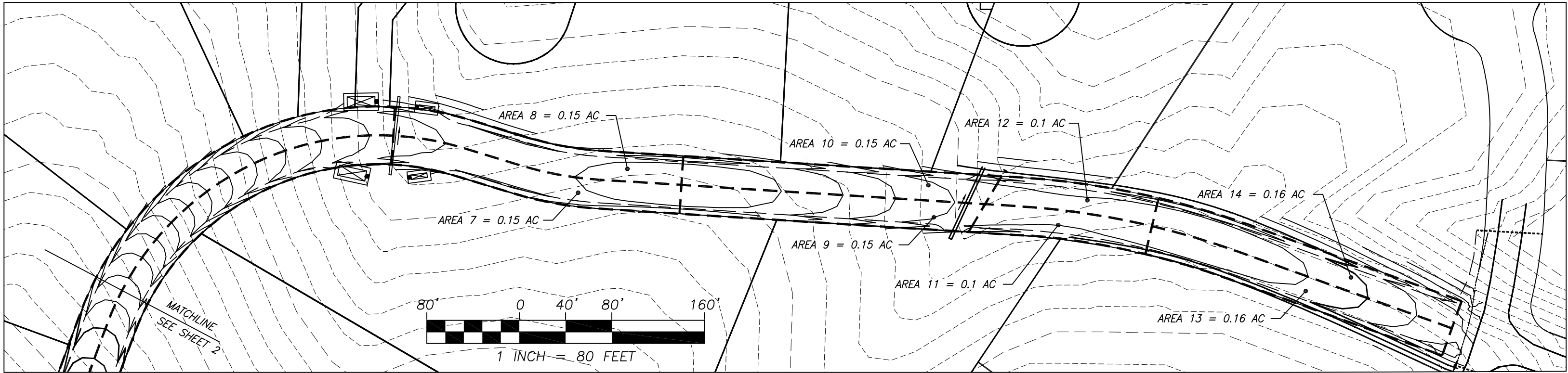
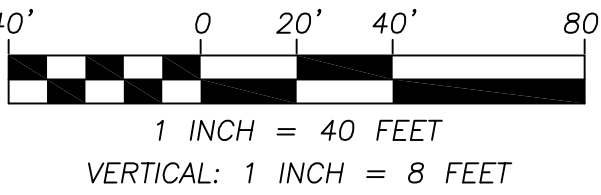
SURVEYORS: MAERSTAN, PLLC
ADDRESS: 140 IOWA LANE, SUITE 104
CARY, NC 27511
CONTACT PERSON: RICHARD BULLOCK, PLS
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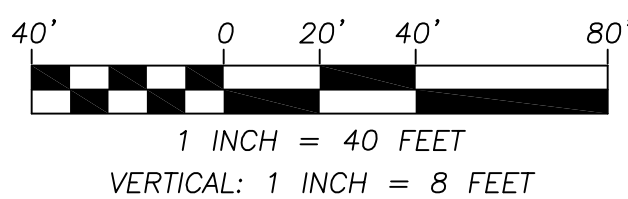
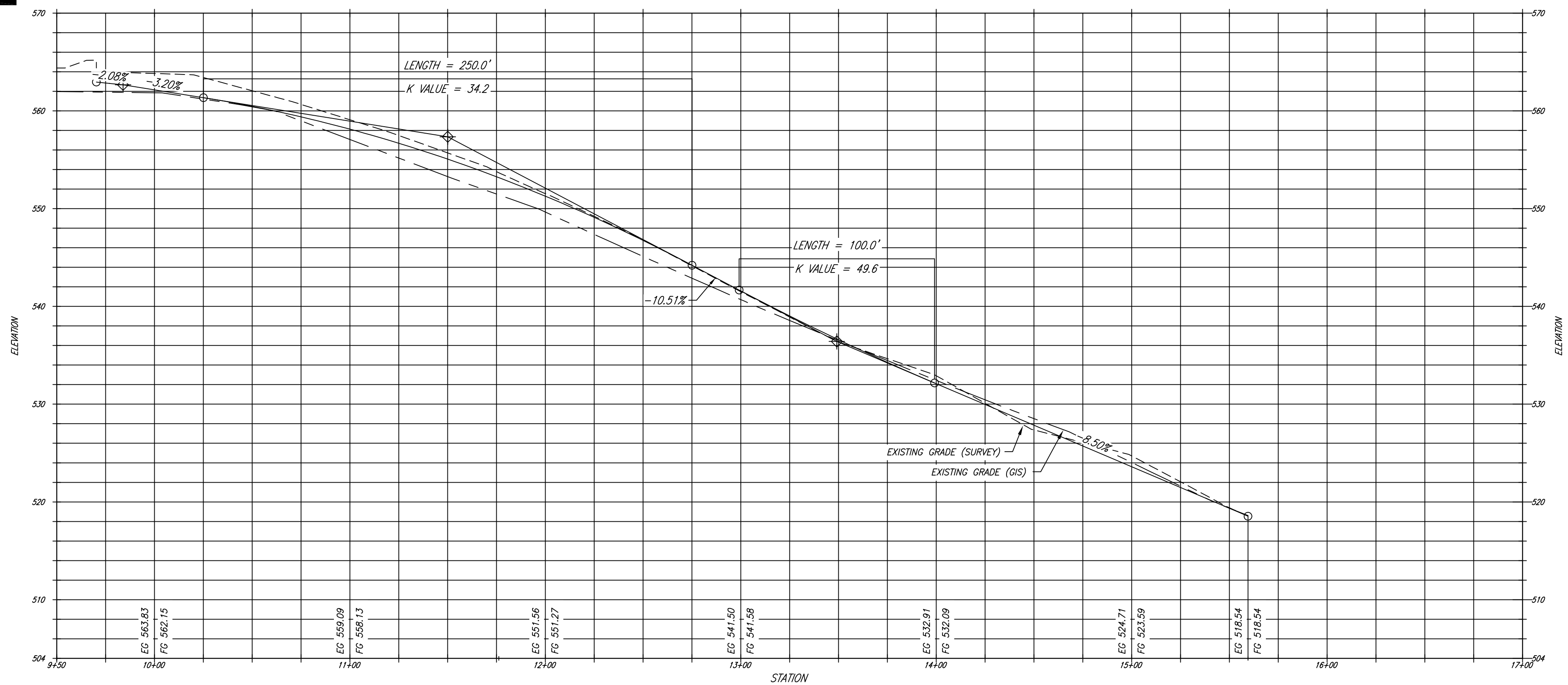
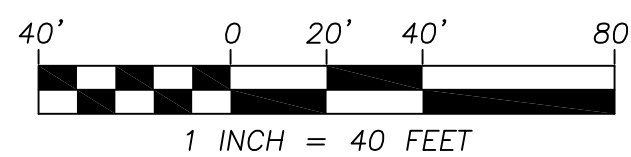
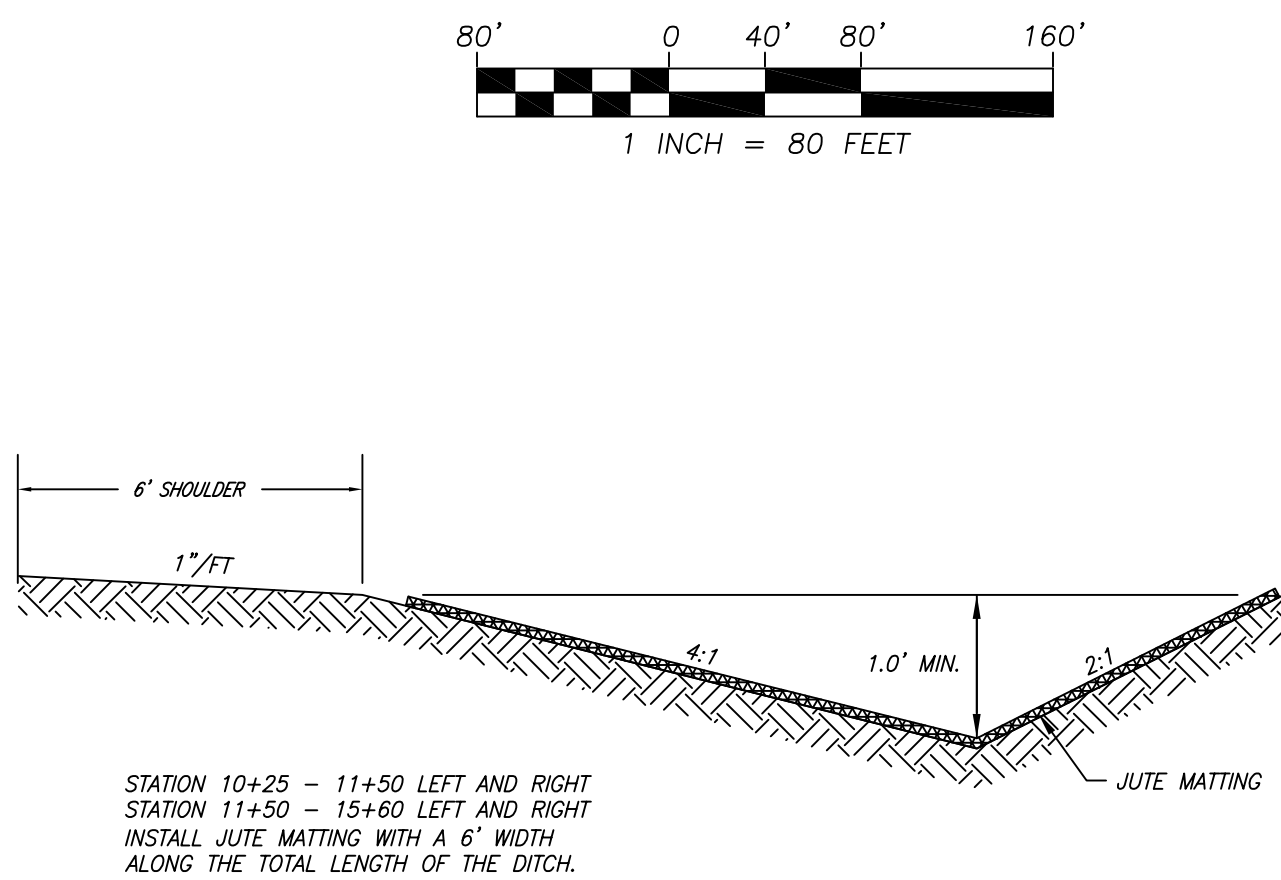
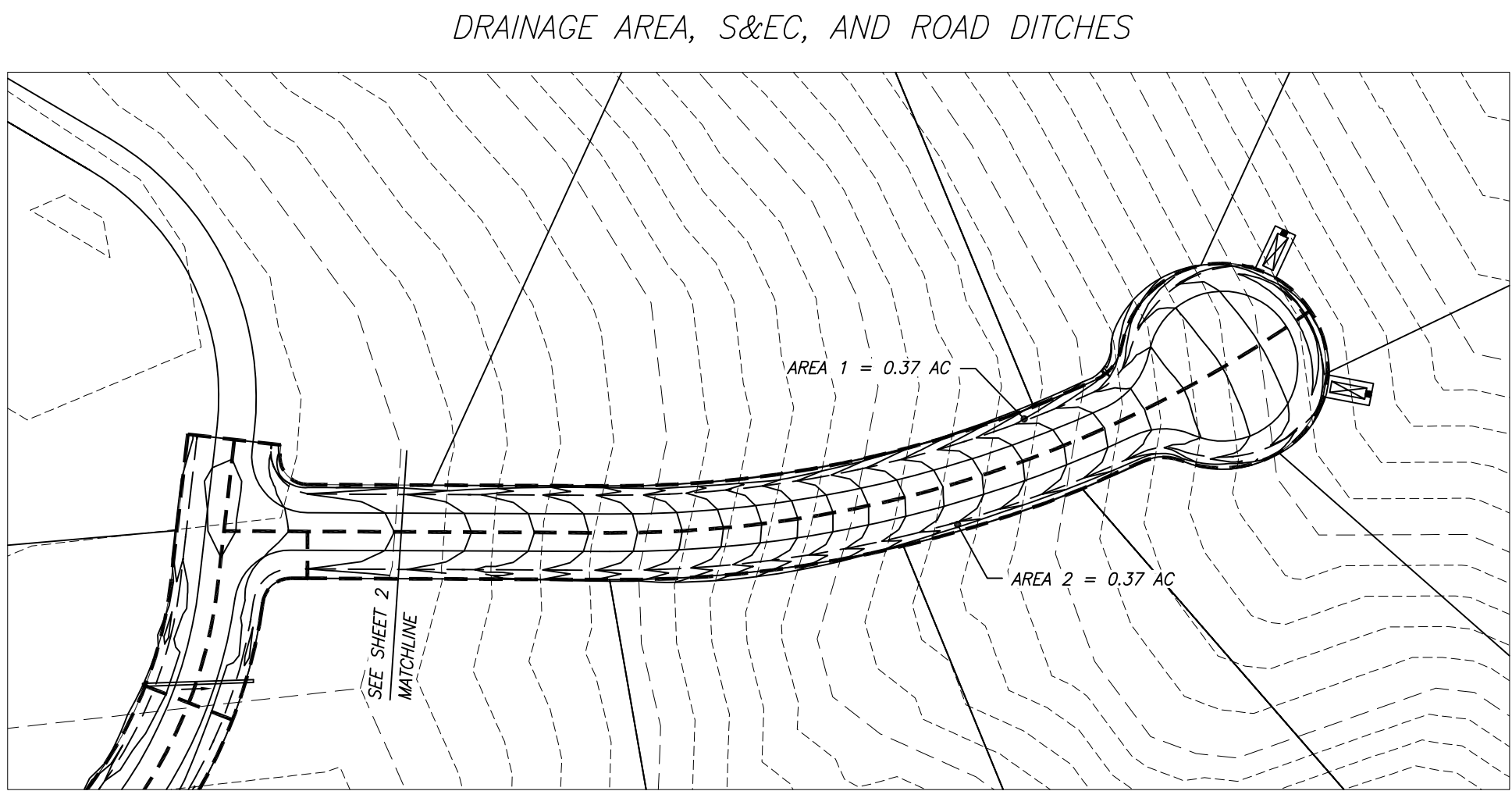
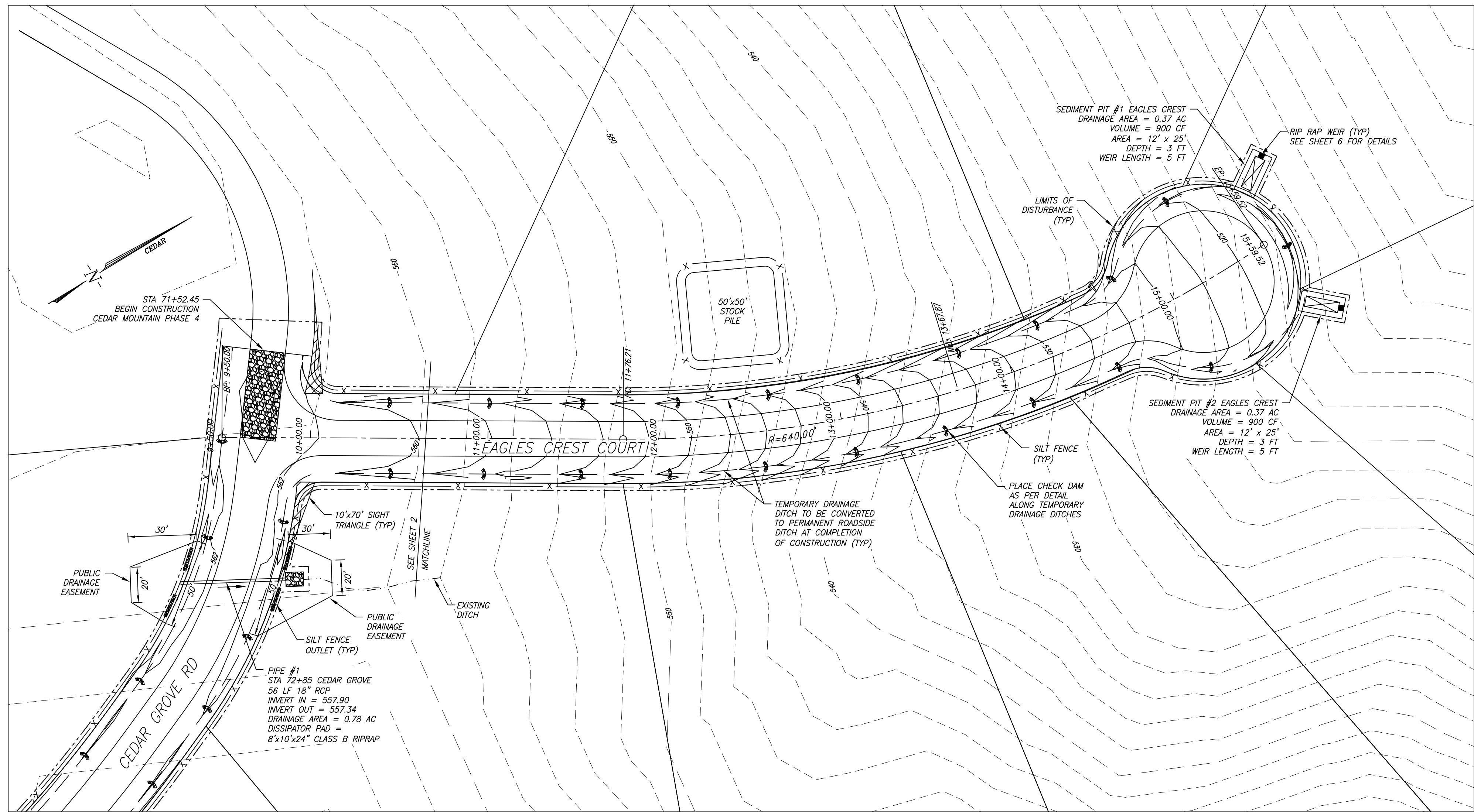
PROJECT: LEWIS METTY DEVELOPMENT COMPANY, LLC
CEDAR MOUNTAIN SUBDIVISION PHASE 3A
NORTH CAROLINA
BALDWIN TOWNSHIP
CHATHAM COUNTY
ROADWAY CONSTRUCTION, EROSION & SEDIMENT CONTROL PLAN

NO.	DATE	DESCRIPTION	BY	CHKD	DATE	DESCRIPTION	BY	CHKD
1	5/2/2016	RESPONSE TO CHATHAM COUNTY REVIEW COMMENTS	SWB	SWB	5/2/2016	RESPONSE TO CHATHAM COUNTY REVIEW COMMENTS	SWB	SWB
2	5/2/2016	RESPONSE TO NC DOT REVIEW COMMENTS	SWB	SWB	5/2/2016	RESPONSE TO NC DOT REVIEW COMMENTS	SWB	SWB

DATE: 01.09.16 SCALE: AS NOTED
DESIGNED: SWB CHECKED: SWB
DRAWN: SWH APPROVED: LMDC LLC
SHEET: 1 OF 6
CAD FILE: CEDAR
PROJECT NO: 2015.01



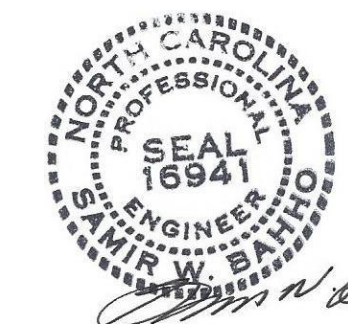
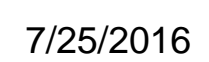
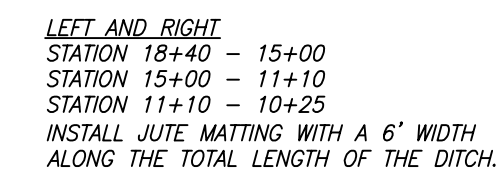
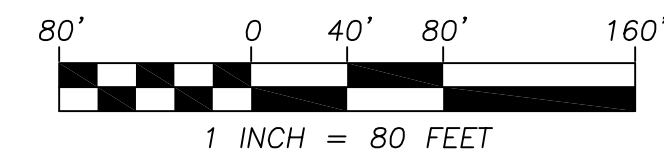
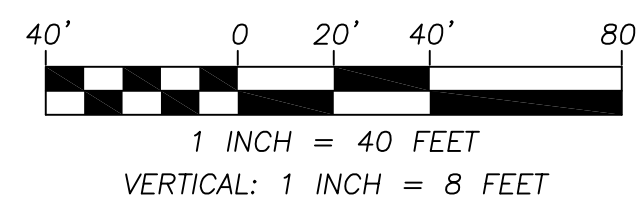
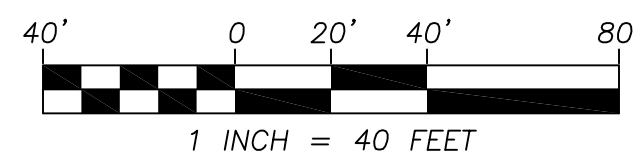
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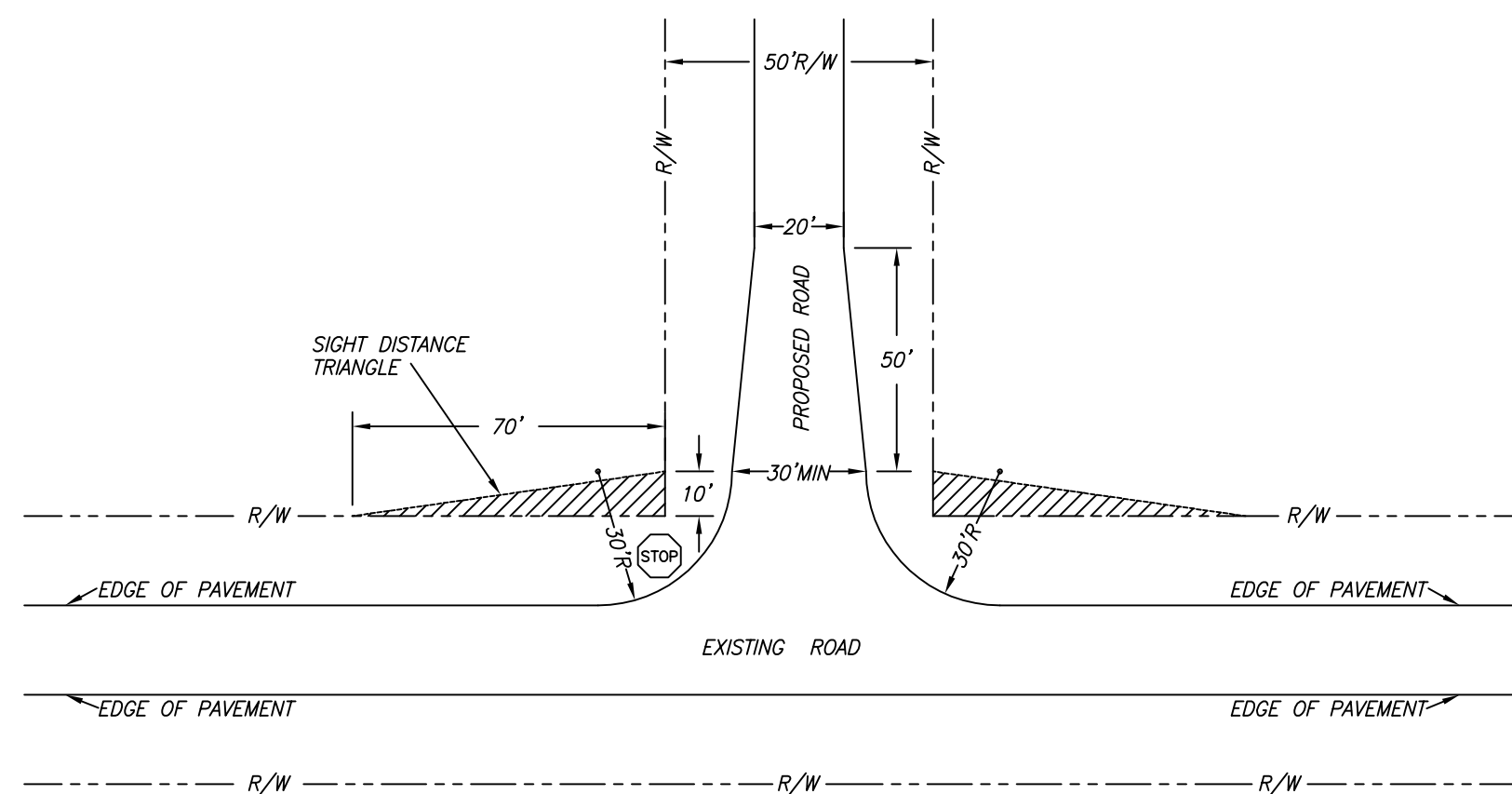
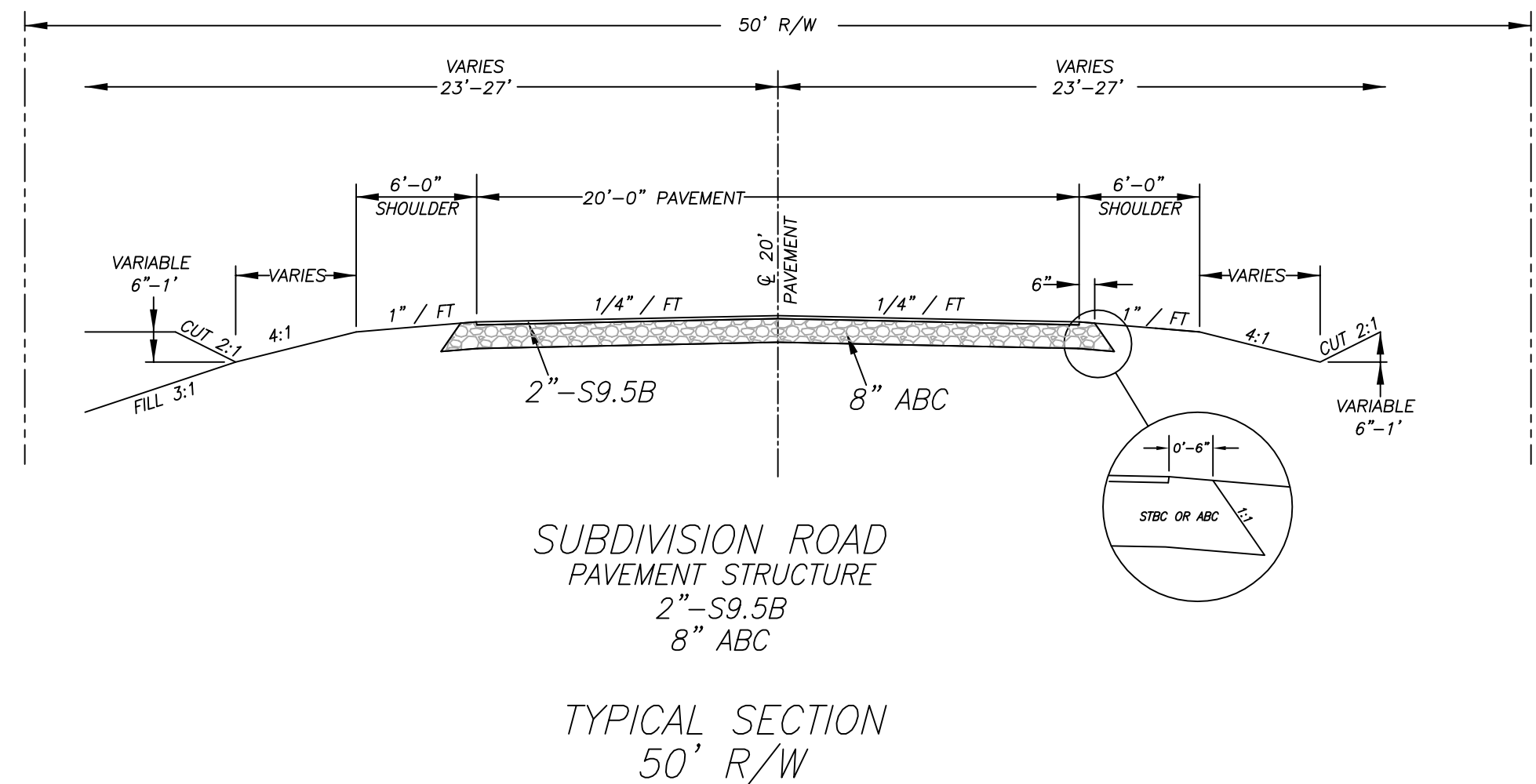


SAMIR W. BAHHO, PE
CIVIL & STRUCTURAL ENGINEERING SERVICES, PLLC.
4612 KAPLAN DRIVE
RALEIGH, NC 27606
TEL: (919) 881-1642
BUSINESS LICENSE P-0537

LEWIS METTY DEVELOPMENT COMPANY, LLC
CEDAR MOUNTAIN SUBDIVISION PHASE 3A
BALDWIN TOWNSHIP
ROADWAY CONSTRUCTION, EROSION & SEDIMENT CONTROL PLAN
CLATAM COUNTY
NORTH CAROLINA

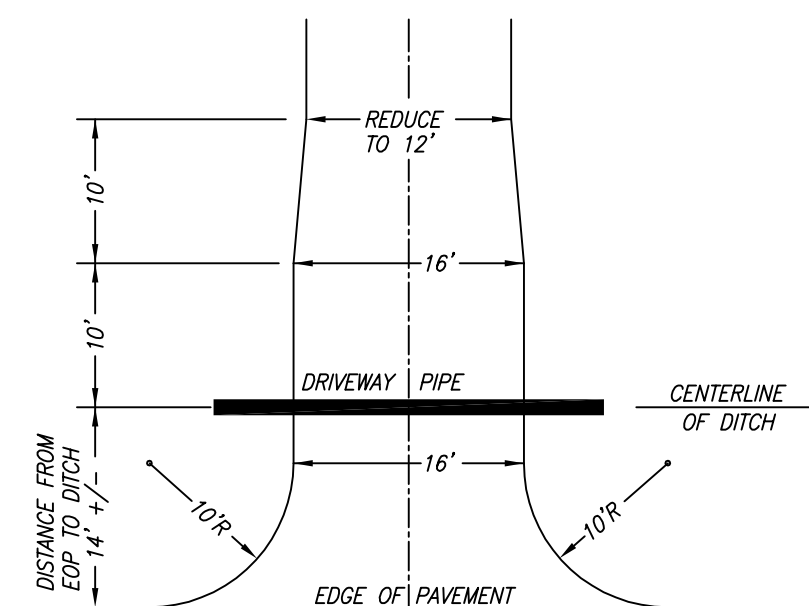
REVISIONS				BY:
NO.	DATE	DESCRIPTION	RESPONSE TO CHANDLER COUNTY REVIEW COMMENTS	DATE
1	2/22/16	1	RESPONSE TO CHANDLER COUNTY REVIEW COMMENTS	2/22/16
2	4/20/16	2	RESPONSE TO NC DOT REVIEW COMMENTS	4/20/16
DATE: 01.09.16		SCALE: 1"=40'		
DESIGNED: SWB		CHECKED: SWB		
DRAWN: SWH		APPROVED: LMDC LLC		
SHEET: 4 OF 6				
CAD FILE: CEDAR				
PROJECT NO: 2015.01				





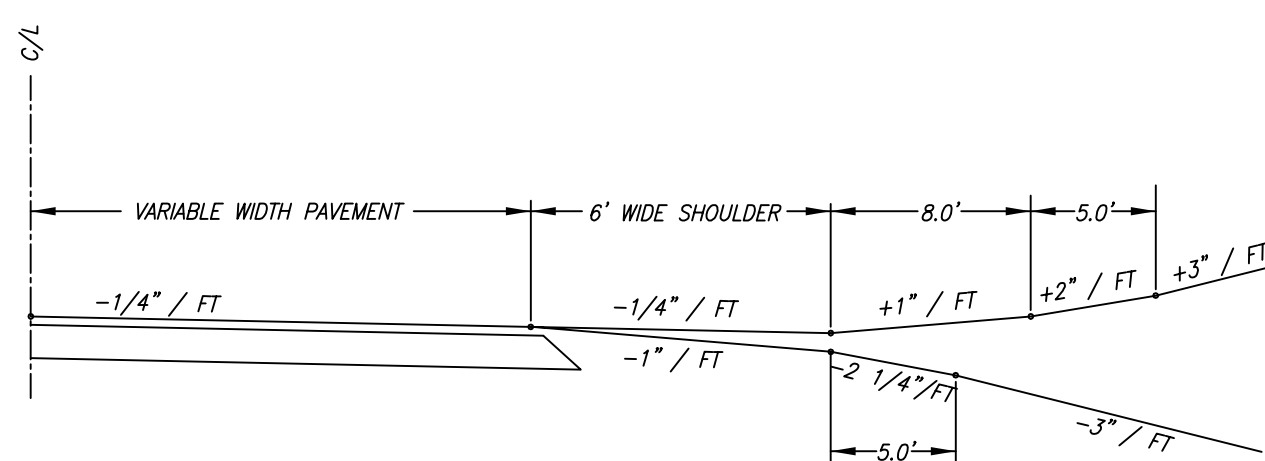
NEW LOCAL RESIDENTIAL ROAD OR COLLECTOR ROAD
AND EXISTING STATE MAINTAINED ROAD
WITHOUT CURB AND GUTTER

STOP CONDITION

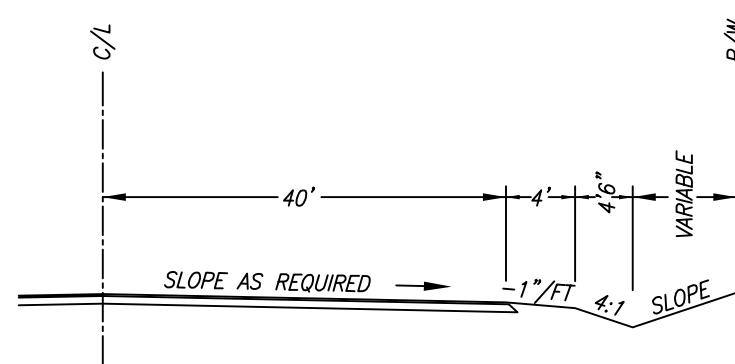


NOTE:
1. MINIMUM SIZE TO BE DETERMINED BY ENGINEER WITH NO LESS THAN 15" IS ALLOWED.
2. MINIMUM PIPE LENGTH IS 26 LINEAR FEET.
3. MINIMUM PIPE COVER IS 12".

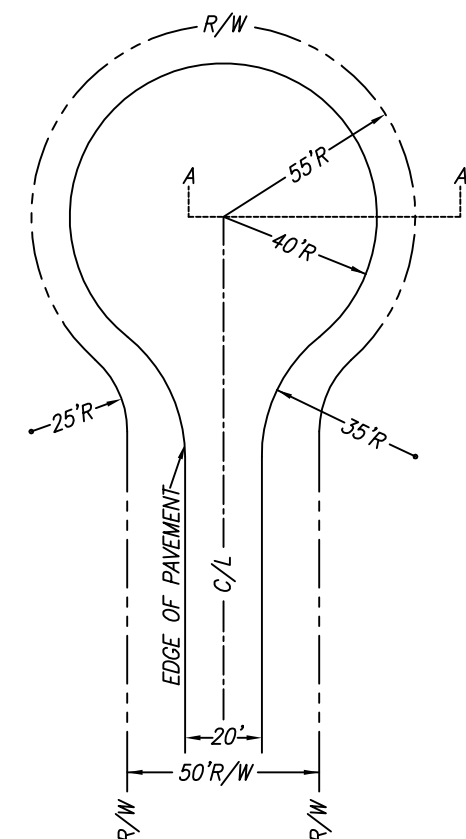
DRIVEWAY CONSTRUCTION DETAIL
ACROSS ROADWAY DITCH



SHOULDER SECTION
DRIVEWAY TURNOUT GRADES

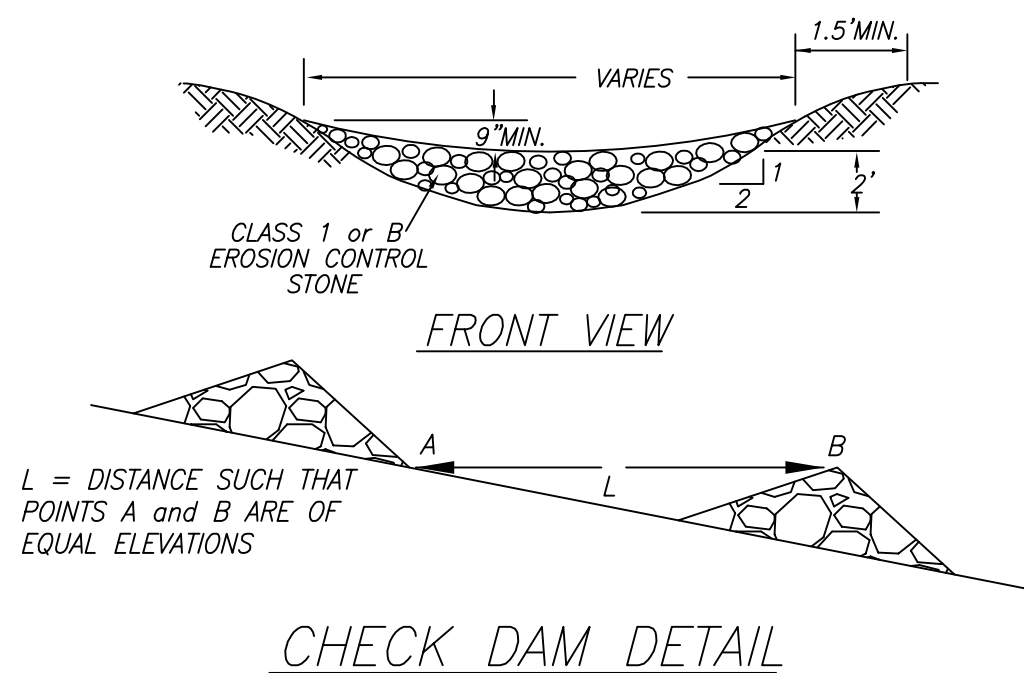


SECTION AA
ALL CUL-DE-SAC ROADS

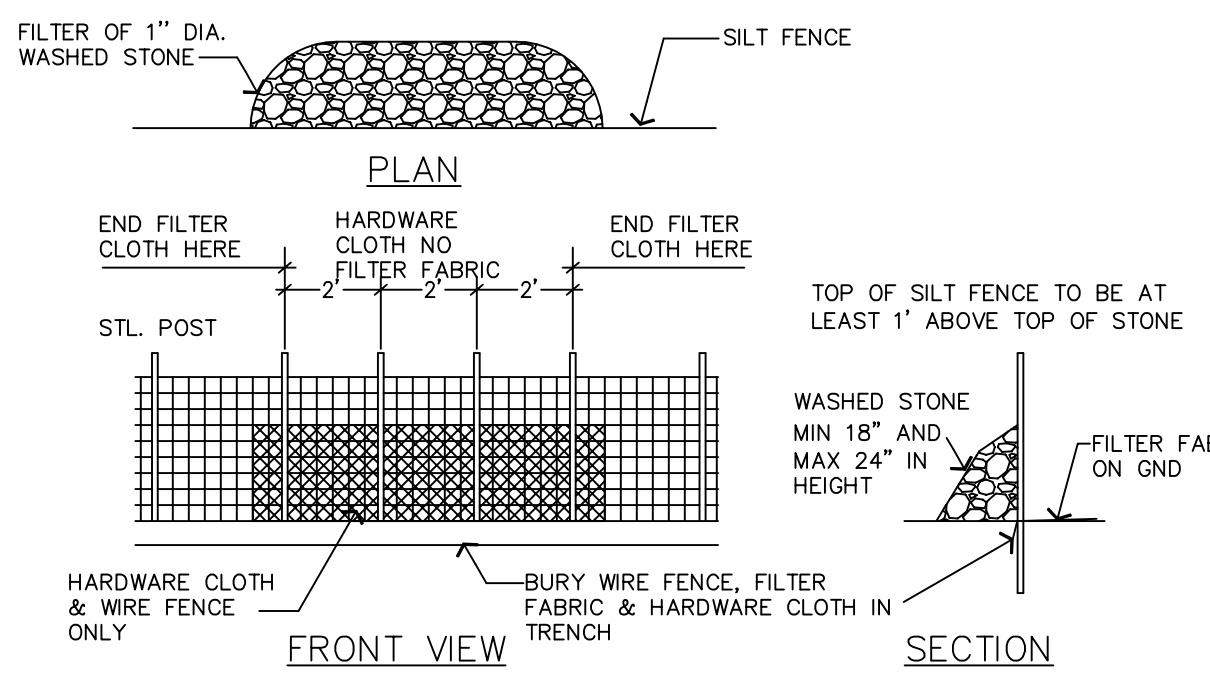


NOTE:
CENTERLINE OF ASPHALT IS SHIFTED 2.0' LEFT
OF CENTERLINE RIGHT OF WAY.

PLAN VIEW
ALL CUL-DE-SAC ROADS



1. PLACE STONE TO THE LINES AND DIMENSIONS SHOWN ON THE PLAN ON A FILTER FABRIC FOUNDATION.
2. KEEP THE CENTER STONE SECTION AT LEAST 9 INCHES BELOW NATURAL GROUND WHERE THE DAM ABUTS THE CHANNEL BANKS.
3. EXTEND STONE AT LEAST 1.5 FEET BEYOND THE DITCH BANK TO KEEP WATER FROM CUTTING AROUND THE ENDS OF THE CHECK DAM.
4. SET SPACING BETWEEN DAMS TO ASSURE THAT THE ELEVATION AT THE TOP OF THE LOWER DAM IS THE SAME AS THE ELEVATION OF THE TOE OF THE UPPER DAM.
5. PROTECT THE CHANNEL AFTER THE LOWEST CHECK DAM FROM HEAVY FLOW THAT COULD CAUSE EROSION.
6. MAKE SURE THAT THE CHANNEL REACH ABOVE THE MOST UPSTREAM DAM IS STABLE.
7. ENSURE THAT OTHER AREAS OF THE CHANNEL, SUCH AS CULVERT ENTRANCES BELOW THE CHECKS DAMS, ARE NOT SUBJECT TO BLOCKAGE FROM DISPLACED STONES.



SOIL AMENDMENTS
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE.

MULCH
APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.
MAINTENANCE
* RE-FERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RE-SEED, RE-FERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.
** REPAIR AND RE-FERTILIZE DAMAGED AREAS IMMEDIATELY. TOP-DRESS WITH 50 LB/ACRE OF NITROGEN IN MARCH IF IT IS NECESSARY TO EXTEND TEMPORARY COVER BEYOND JUNE 15. OVER SEED WITH 50 LB/ACRE OF KOBÉ IN LATE FEBRUARY OR EARLY MARCH.

D:\Projects\Cedar Mountain\provided info\EC DETAIL.jpg

PERMANENT SEEDING SCHEDULE

SEEDING DATES	SPECIES	RATE
AUGUST 15-NOV 1	TALL FESCUE	300 LB/ACRE
NOV 1-MARCH 1	TALL FESCUE AND ABRUZZE RYE	50 LB/ACRE
NOV 1-MARCH 1	TALL FESCUE	300 LB/ACRE
MARCH 1-APRIL 15	TALL FESCUE	300 LB/ACRE
APRIL 15-JUNE 30	HULLED COMMON BERMUDAGRASS	25 LB/ACRE
JULY 1-AUGUST 15	TALL FESCUE	120 LB/ACRE
JULY 1-AUGUST 15	BROWN TOP BILLET	35 LB/ACRE

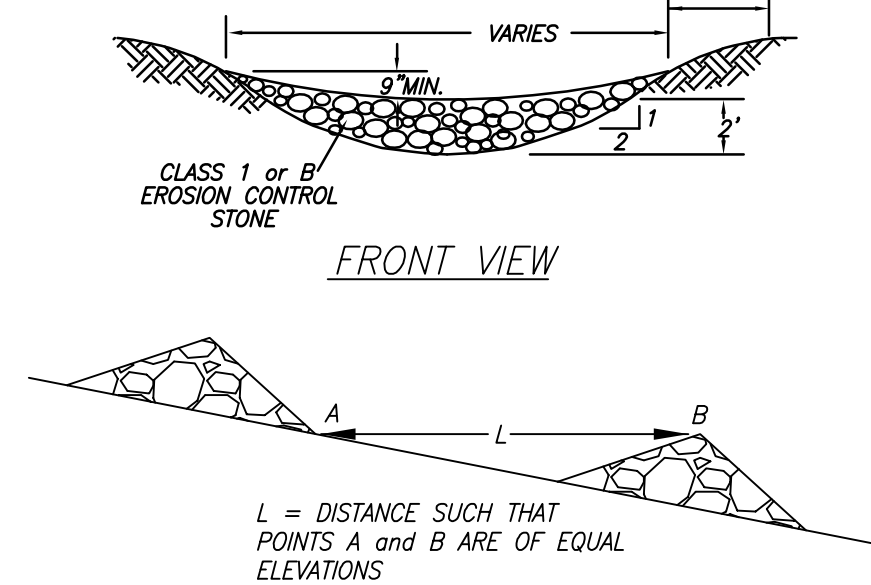
SEEDING DATES	SPECIES	RATE
MARCH 1-JUNE 1	SERICEA LESPEDEZA AND SCARIFY AND ADD TALL FESCUE OR ADD WEEPING LOVE GRASS	50 LB/ACRE
MARCH 1-JUNE 30	TALL FESCUE AND BROWN TOP MILLET	120 LB/ACRE
JUNE 1-SEPT 1	TALL FESCUE AND BROWN TOP MILLET	35 LB/ACRE
JUNE 1-SEPT 1	SERICEA LESPEDEZA AND TALL FESCUE	70 LB/ACRE
SEPT 1-MARCH 1	SERICEA LESPEDEZA AND TALL FESCUE	120 LB/ACRE
NOV 1-MARCH 1	ADD ABRUZZE RYE	25 LB/ACRE

TEMPORARY SEEDING SCHEDULE

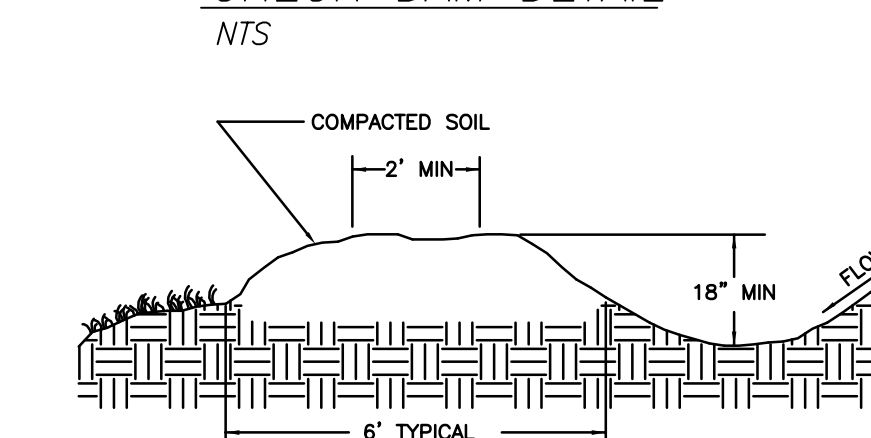
SEEDING DATES	SPECIES	RATE	FERTILIZER
JAN 1-MAY 1	RYE *	120 LB/ACRE	750 LB/ACRE 10-10-10
MAY 1-AUGUST 15	ANNUAL LESPEDEZA (KOBÉ) *	50 LB/ACRE	750 LB/ACRE 10-10-10
AUGUST 15-DEC 31	GERMAN MILLET *	40 LB/ACRE	750 LB/ACRE 10-10-10
	RYE (GRIN) **	120 LB/ACRE	1,000 LB/ACRE 10-10-10

OMIT ANNUAL LESPEDEZA WHEN DURATION OF TEMPORARY COVER IS NOT TO EXTEND BEYOND JUNE.

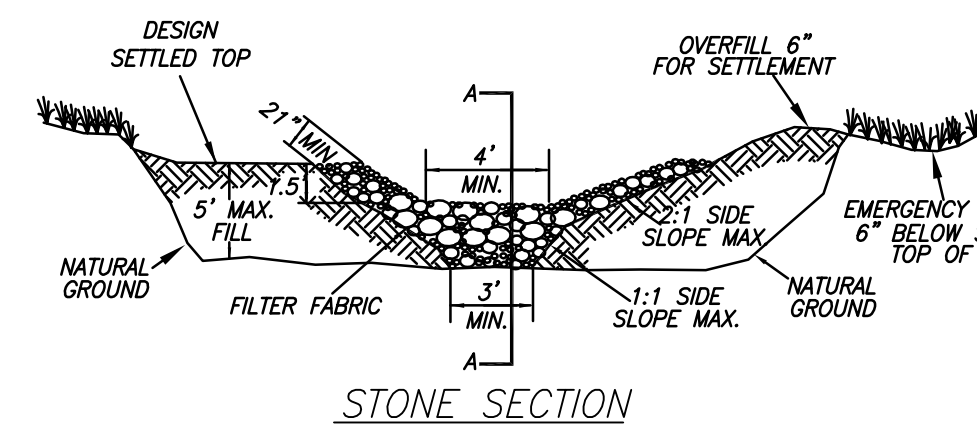
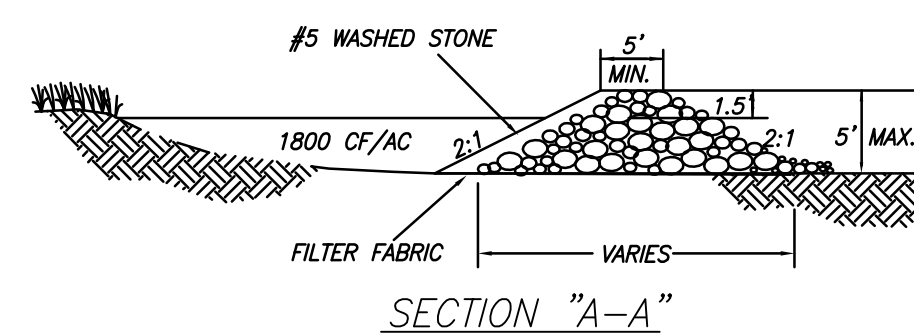
1. PLACE STONE TO THE LINES AND DIMENSIONS SHOWN ON THE PLAN ON A FILTER FABRIC FOUNDATION.
2. KEEP THE CENTER STONE SECTION AT LEAST 9 INCHES BELOW NATURAL GROUND WHERE THE DAM ABUTS THE CHANNEL BANKS.
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CHECK DAM DETAIL

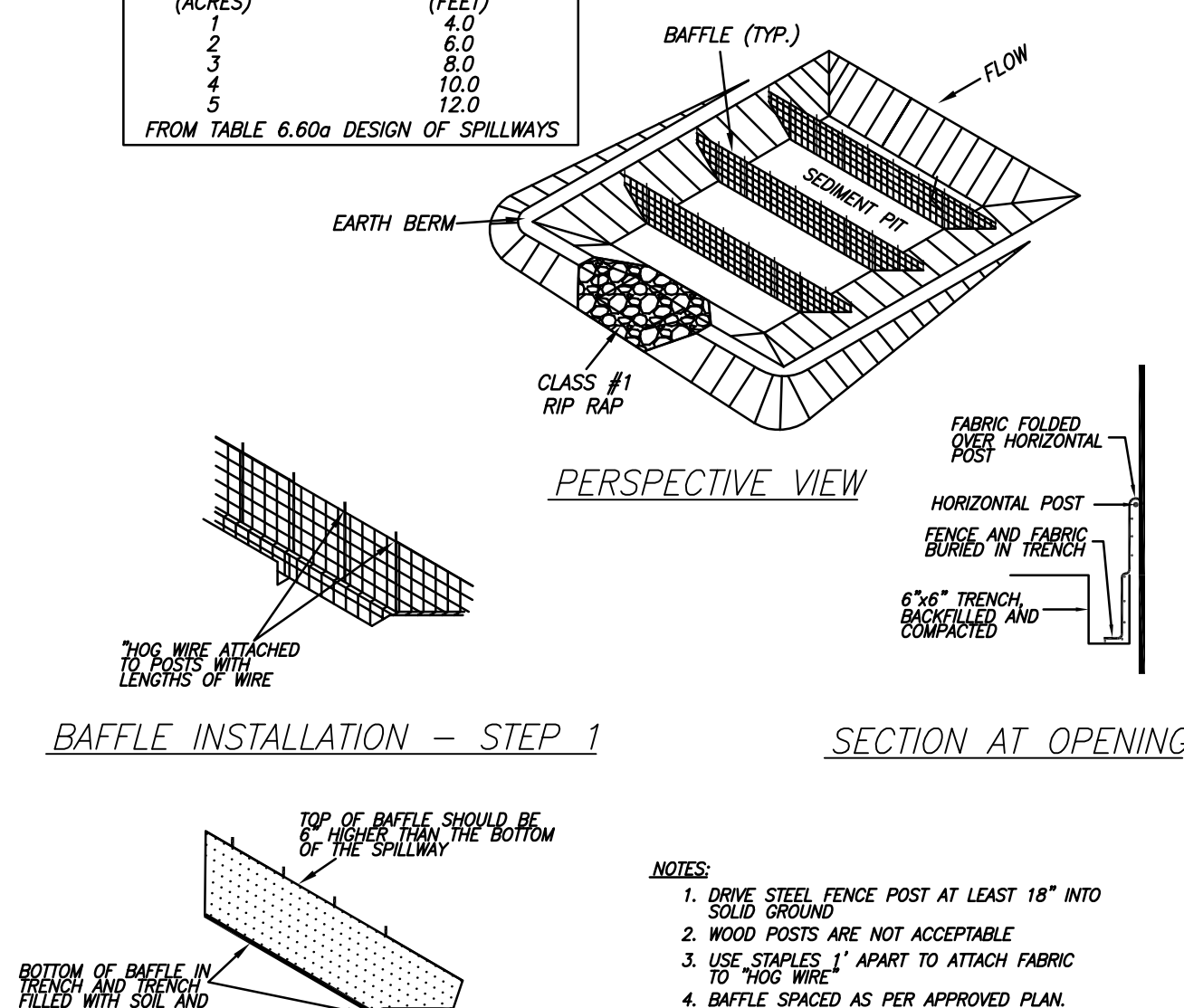


NOTE: MAXIMUM SIDESLOPE OF TDD SHALL BE 2:1
NTS

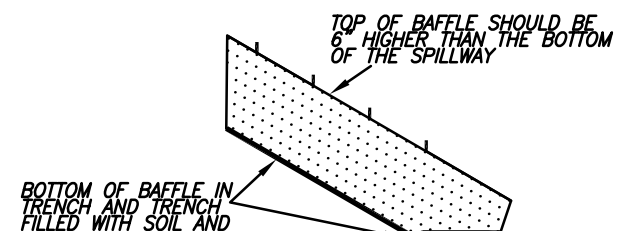


DRAINAGE AREA (ACRES)	MINIMUM WEIR LENGTH (FEET)
1	4.0
2	6.0
3	8.0
4	10.0
5	12.0

FROM TABLE 6.60a DESIGN OF SPILLWAYS

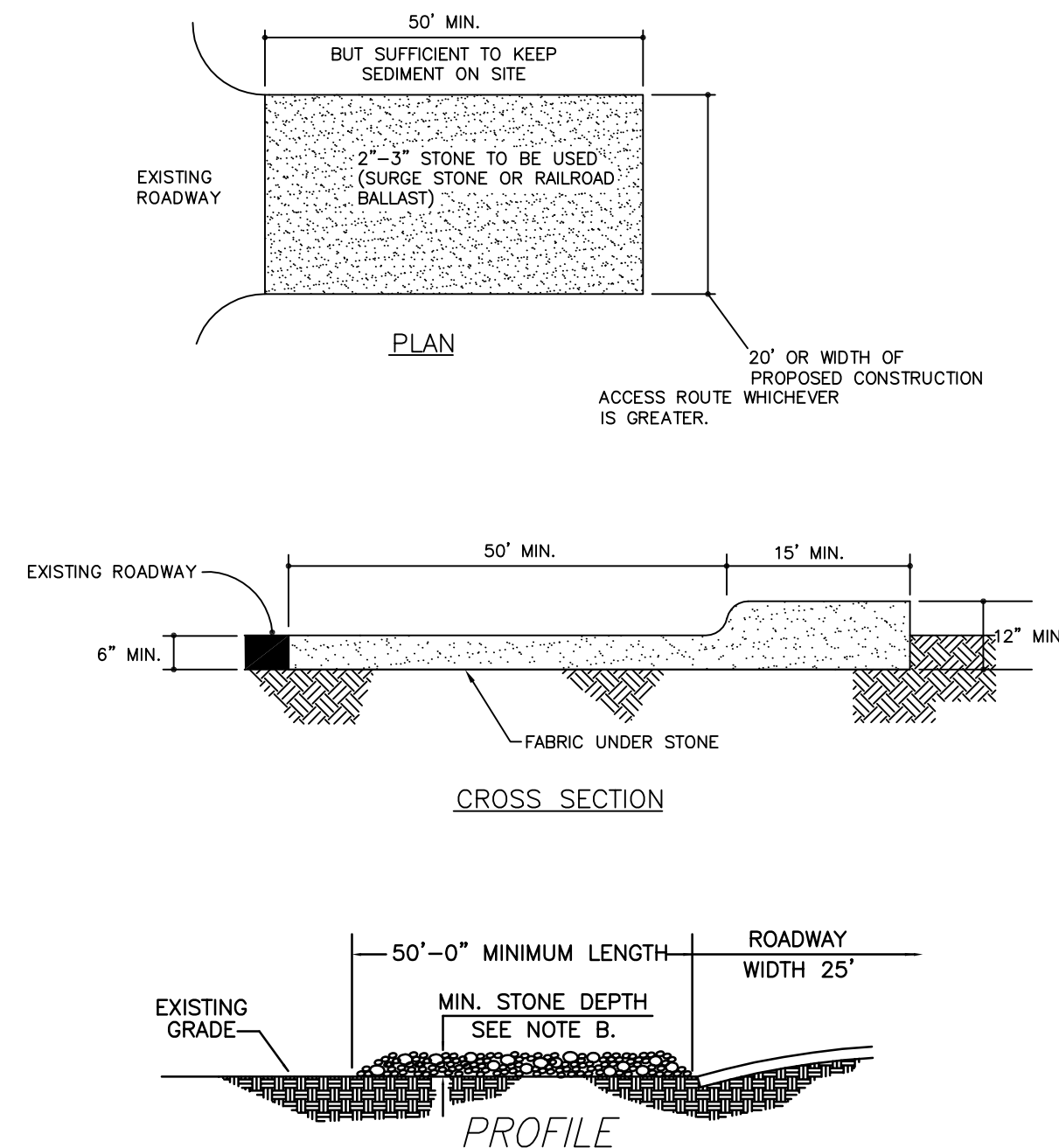


BAFFLE INSTALLATION - STEP 1



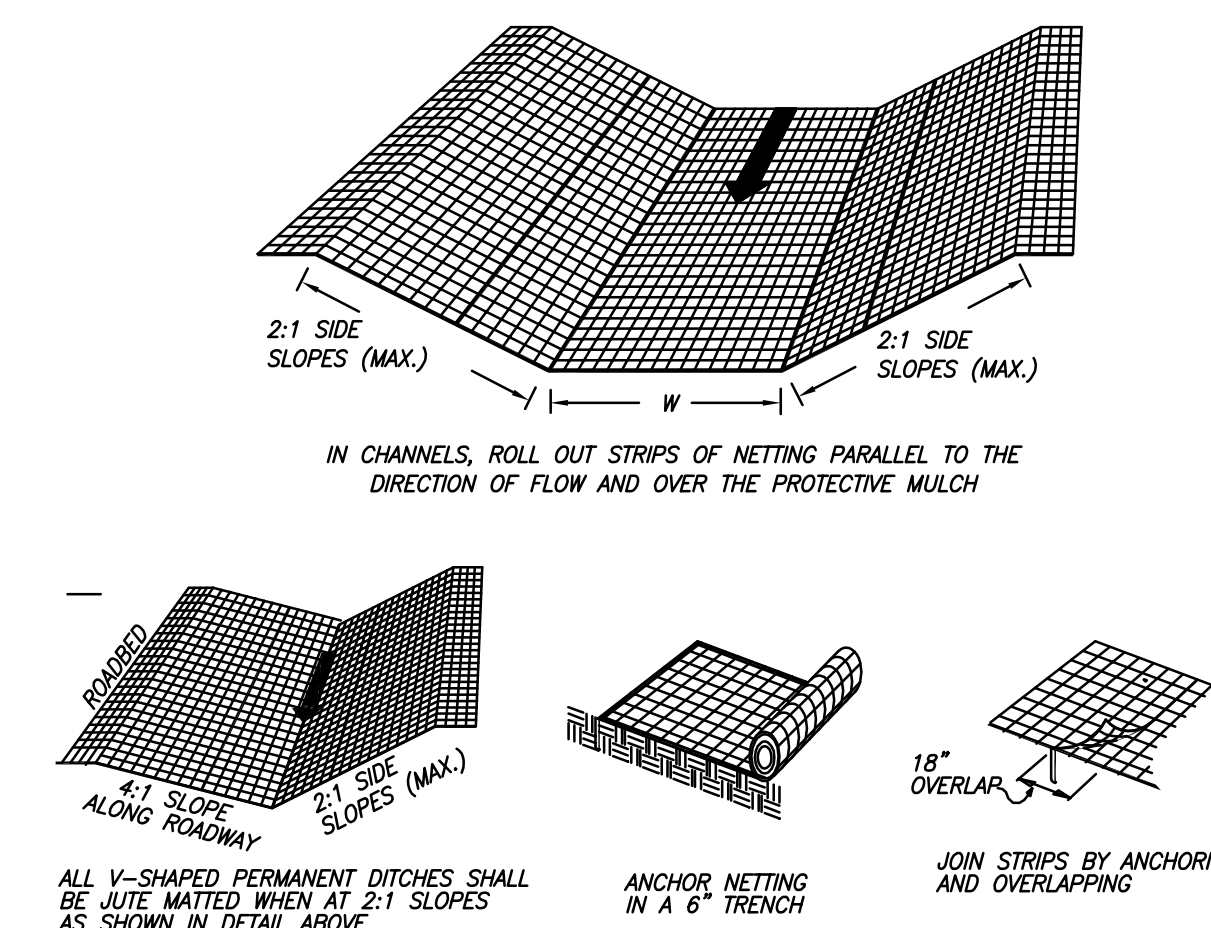
BAFFLE INSTALLATION - STEP 2

GRAVEL AND RIP-RAP SEDIMENT TRAP
NTS

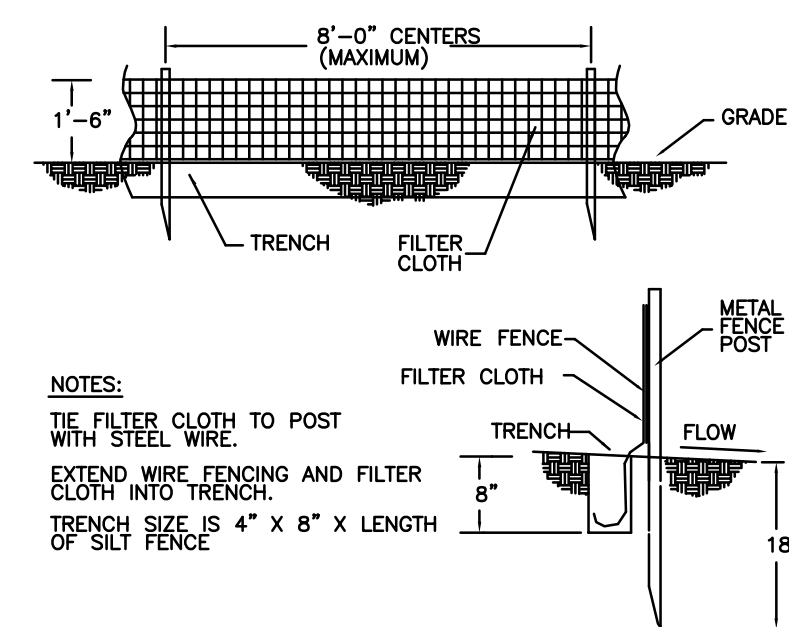


- NOTES:
A) MINIMUM WIDTH OF CONSTRUCTION ENTRANCE PAD SHALL BE 20 FT. SEE PLANS FOR LOCATION, ACTUAL WIDTH AND CONFIGURATION.
B) STONE SHALL BE CRUSHED AGGREGATE BASE.
C) THE ENTRANCE SHALL BE MAINTAINED TO PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO ROADWAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.

TYPICAL CONSTRUCTION ENTRANCE PAD
NTS

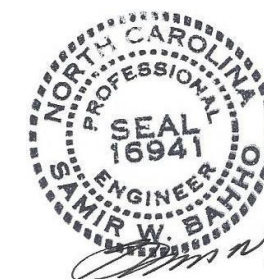


TYPICAL JUTE MESH LINED DITCH
NTS



- NOTES:
1. THE FILTER CLOTH TO POST
2. EXTEND WIRE FENCING AND FILTER CLOTH INTO TRENCH.
3. TRENCH SIZE IS 4" X 8" X LENGTH OF SILT FENCE

TYPICAL SILT FENCE DETAIL
NTS



5/02/2016

SAMIR W. BAHHO, PE
CIVIL & STRUCTURAL ENGINEERING SERVICES, PLLC.

LEWIS METTY DEVELOPMENT COMPANY, LLC
CEDAR MOUNTAIN SUBDIVISION PHASE 3A

ROADWAY CONSTRUCTION, EROSION & SEDIMENT CONTROL PLAN

PROJECT:

DATE:

SCALE:

DESIGNED:

CHECKED:

DRAWN:

APPROVED:

SHEET:

CAD FILE:

PROJECT NO:

2015.01