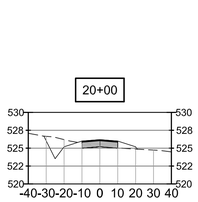

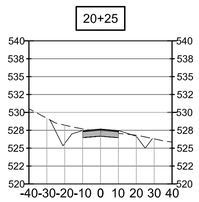

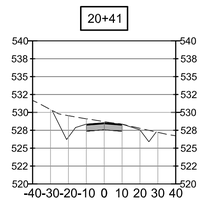

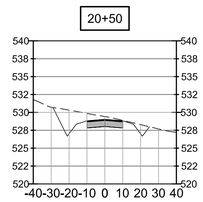

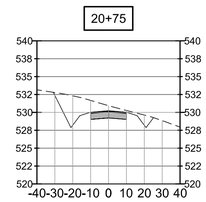

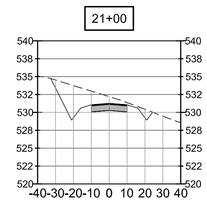

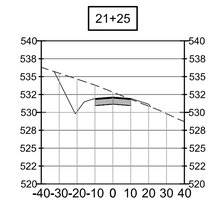

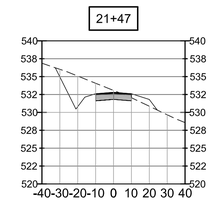

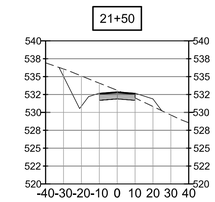

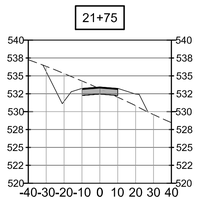

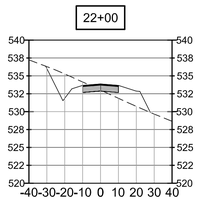

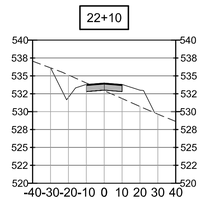

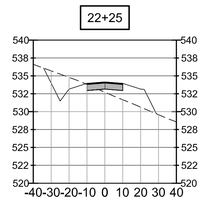

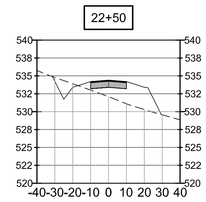

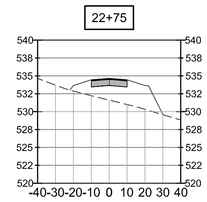

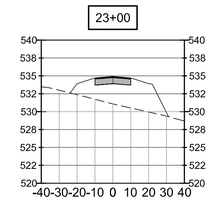

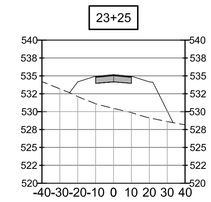

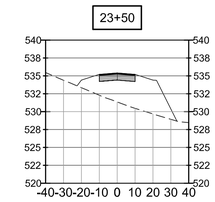

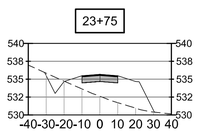

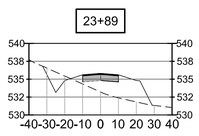

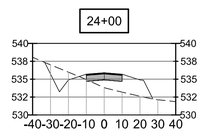

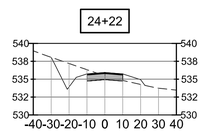

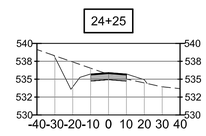

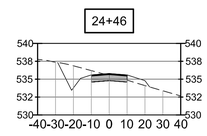

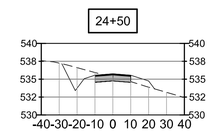

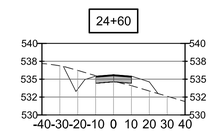

SCALE: 1 inch = 40 feet Horizontal
1 inch = 10 feet Vertical

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NORTH CAROLINA PROFESSIONAL SEAL 22547 ENGINEER WARREN D. MITCHELL
11/5/18

REVISIONS
1. 11/15/18 NCDOT comments

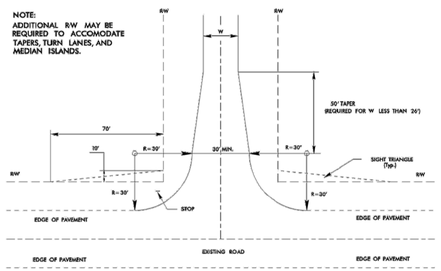
MORGAN RIDGE SUBDIVISION
Construction Drawings
Chatham County, North Carolina

August 20, 2018

As Noted

Road
X- Sections

C10



NOTE: Drainage easements may be required to accomodate drainage beyond the right-of-way.

FIGURE 4

RECOMMENDED ROAD CONNECTION

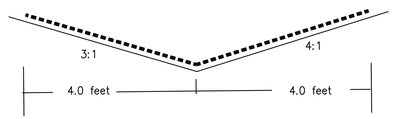
NEW RESIDENTIAL LOCAL ROAD OR RESIDENTIAL COLLECTOR ROAD AND EXISTING STATE MAINTAINED ROAD

STOP CONDITION

Morgan Ridge Construction Sequence

1) Submit a Land Disturbing Permit Application at least 30 days prior to any land disturbing activity occurring.
2) Survey, flag and stake construction limits and riparian buffer boundaries.
3) Organize onsite pre-construction meeting with Chatham County Environmental Quality Department Staff, Engineer, Owner and Contractor to review site plan prior to land disturbing activities. Land-Disturbing Permit and Approved Plans will be provided at this meeting. (919-542-8268).
4) Begin initial clearing and grading to install construction entrance.
5) Continue initial clearing to install perimeter silt fence and tree protection fence up to station 10+00.
6) Contact Chatham County Watershed Protection inspector for inspection of the site.
7) Once the inspector approves begin mass clearing and grading of the site up to Station 10+00 and
install all roadside swales and skimmer basin #1 and riser basin #2. Stabilize all roadside swales and install rock check dams. Bring roadway and shoulders as close to final grade as possible given site conditions and install temporary diversion swale across road to divert water from the stream crossing and into riser basin #2. Temporary diversion swale should be reinstalled at the end of each work day.
8) Contact Chatham County Watershed Protection inspector for inspection of the site prior to clearing for the stream crossing.
9) Once swales and skimmer basins are installed begin clearing the first side of the riparian buffer for the first stream crossing (Impact 1). See Sheet C14 for construction details related to Impact 1 (station 10+90).
10) After clearing the first side install all instream devices, coffer dams, and temporary stream crossing.
11) Begin clearing the second side of the riparian buffer.
12) Once clearing for Impact 1 has been completed begin installation of the culvert. Continue installation of Impact 1 until the crossing is at final grade and permanently stabilize the area immediately after completion.
13) Once Impact 1 is completed continue clearing and grading toward Impact 2 and install erosion control measures.
14) Follow steps 6-12 for Impact 2 (station 14+83). See Sheet C14 for construction details related to Impact 2.
15) Once Impact 2 has been completed continue clearing, grading, and installation of erosion control measures through station 25+00. Install all roadside swales, riser basin #3, and skimmer basin #4.
16) Once erosion control measures and basins are installed begin grading roadway and shoulders and the installation of culverts entering basins.
17) Complete the clearing and grading for Impact 3 following steps 6-12 above. See Sheet C14 for construction details related to Impact 3.
18) Once site is at final proposed grade begin permanent stabilization of entire site.
19) Contact Chatham County Watershed Protection inspector for inspection of final stabilization.
20) Obtain approval from Chatham County Watershed Protection prior to beginning the conversion of temporary skimmer basins into permanent stormwater basins.
21) Routine maintenance of stabilization and repairs of erosion shall continue until the site receives a Letter of Completion from Chatham County Watershed Protection.

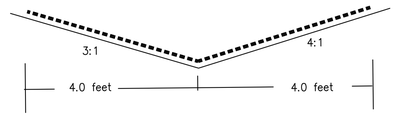
Construction Sequence



Permanent Lining Channel - roadway

N.T.S. North American Green SC250

- USE IN ROADSIDE DITCH STATION 16+00 TO 20+00 LEFT

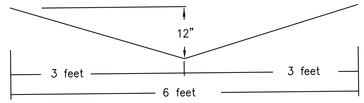


Grass Lined Channel - roadway

N.T.S. Grass-lined channel with excelsior matting

- USE IN ALL ROADWAY DITCHES UNLESS CALLING FOR NAG SC250

DITCH LINING DETAILS IN ROADWAY

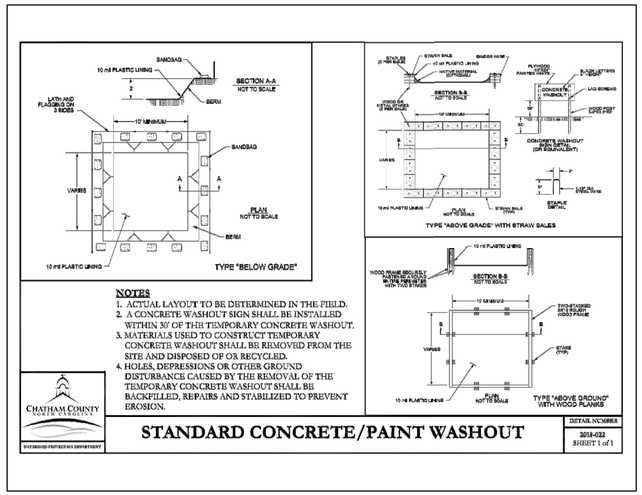


TDD - TEMPORARY DIVERSION DITCH

N.T.S.

Grass-lined channel
no additional lining

	SEDIMENT BASIN #1	RISER BASIN #2	RISER BASIN #3	SEDIMENT BASIN #4
SKIMMER SIZE	2 inch	2.0 inch	2.0 inch	2.0 inch
SKIMMER ORIFICE SIZE	1.25 inch	1.5 inch	1.5 inch	0.75 inch
SKIMMER ELEVATION (POND)	500.0 ft	503.0 ft	498.0 ft	527.0 ft



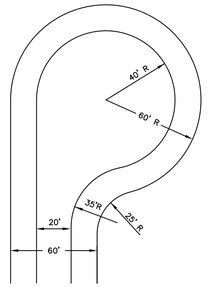
MMF Riparian Buffer Mix

Recommended application rate 20-25 lbs. per acre

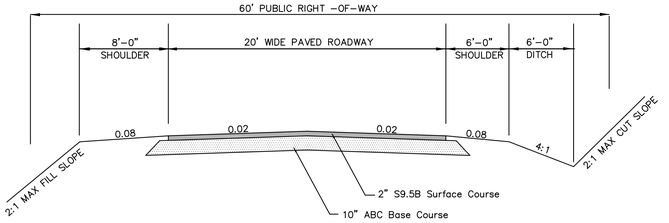
Species	Common Name	Percent
Agrostis perennans	Autumn bentgrass	15
Andropogon gerardii	Big bluestem	10
Coreopsis lanceolata	Lanceleaf coreopsis	10
Elymus virginicus	Virginia wild rye	20
Juncus effusus	Soft rush	5
Panicum virgatum	Switchgrass	15
Rudbeckia hirta	Black-eyed susan	10
Schizachyrium scoparium	Little bluestem	5
Sorghastrum nutans	Indian grass	5
Tripsacum dactyloides	Eastern gamagrass	5
		100

Riparian Buffer Seed Mix

seed mixture can be purchased from Mellow Marsh Farm in Siler City, NC



OFFSET CUL-DE-SAC



MORGAN RIDGE WAY (COLLECTOR ROAD)

Effective October 1, 2010, persons conducting land-disturbing activities larger than one acre must inspect their project after each phase of the project, and document the inspection in writing.

A Self-Inspection Report for Land Disturbing Activity as Required by NCGS 113A-54.1 is available for use. It can be completed by hand or completed as an Excel spreadsheet. An alternative is to make notations on the copy of the approved erosion and sedimentation control plan that is kept on the project site. Rule 15A NCAC 04B. 0131 states that "… documentation shall be accomplished by initialing and dating each measure or practice shown on a copy of the approved erosion and sedimentation control plan or by completing, dating and signing an inspection report that lists each measure, practice or device shown on the approved erosion and sedimentation control plan.

Who can conduct the inspection- The financially responsible party, landowner or their agent may conduct the inspection.

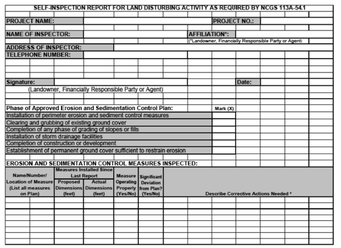
What has to be inspected - All of the erosion and sedimentation control measures, including sedimentation control basins, sedimentation traps, sedimentation ponds, rock dams, temporary diversions, temporary slope drains, rock check dams, sediment fence or barriers, all forms of inlet protection, storm drainage facilities, energy dissipaters, and stabilization methods of open channels must be inspected.

The need for ground cover should be checked. Temporary or permanent ground cover must be provided on exposed graded slopes and fills within 14 calendar days of the completion of a phase of grading.

Do newly installed sedimentation control basins have to be measured - Yes, the actual dimensions of the basins have to be checked, usually with a tape measure, and compared to the dimensions on the approved plan.

Do newly installed sedimentation control basins have to be measured by a Professional Land Surveyor - No. Generally the width and length of basins can be measured with a tape measure. A level and survey rod may be useful in checking the depth of a basin. Only relative elevations, comparing the bottom and top elevations are necessary.

SELF INSPECTION REPORTING GUIDELINES



SELF-INSPECTION REPORT FOR LAND DISTURBING ACTIVITY AS REQUIRED BY NCGS 113A-54.1

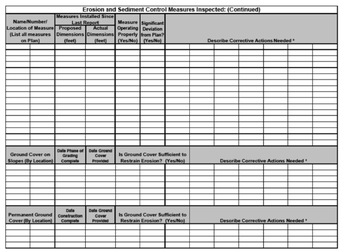
PROJECT NAME: PROJECT NO.:
NAME OF INSPECTOR: AFFILIATION*:
ADDRESS OF INSPECTOR: * (Landowner, Financially Responsible Party or Agent)
TELEPHONE NUMBER:
Signature: Date:
(Landowner, Financially Responsible Party or Agent)

Phase of Approved Erosion and Sedimentation Control Plan:	Mark (X)
Installation of perimeter erosion and sediment control measures	
Clearing and grubbing of existing ground cover	
Completion of any phase of grading of slopes or fills	
Installation of storm drainage facilities	
Completion of construction or development	
Establishment of permanent ground cover sufficient to restrain erosion	

EROSION AND SEDIMENTATION CONTROL MEASURES INSPECTED:

Name/Number/ Location of Measure (List all measures on Plan)	Measures Installed Since Last Report: Proposed Dimensions (feet)	Measures Installed Since Last Report: Actual Dimensions (feet)	Measure Operating Properly (Yes/No)	Significant Deviation from Plan? (Yes/No)	Describe Corrective Actions Needed *

* List actions taken to correct deviation or restore sediment damage on "Actions Taken Sheet" Page 1



Erosion and Sediment Control Measures Inspected: (Continued)

Name/Number/ Location of Measure (List all measures on Plan)	Measures Installed Since Last Report: Proposed Dimensions (feet)	Measures Installed Since Last Report: Actual Dimensions (feet)	Measure Operating Properly (Yes/No)	Significant Deviation from Plan? (Yes/No)	Describe Corrective Actions Needed *

Ground Cover on Slopes (By Location)	Date Phase of Grading Complete	Date Graded Cover Provided	Is Ground Cover Sufficient to Restrain Erosion? (Yes/No)	Describe Corrective Actions Needed *

Permanent Ground Cover (By Location)	Date Construction Complete	Date Ground Cover Provided	Is Ground Cover Sufficient to Restrain Erosion? (Yes/No)	Describe Corrective Actions Needed *

*List actions taken to correct deviation or restore sediment damage on "Actions Taken Sheet." Page 2

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NORTH CAROLINA PROFESSIONAL SEAL 22547 ENGINEER WARREN D. MITCHELL
3/4/19

REVISIONS
1. 11/15/18 NCDOT comments
2. 12/5/18 EC and Stormwater
3. 12/19/18 EC and Stormwater
4. 1/22/19 EC and NCDOT
5. 2/4/19 NCDOT Revisions
6. 3/4/19 Cul-de-soc Detail

MORGAN RIDGE SUBDIVISION Construction Drawings

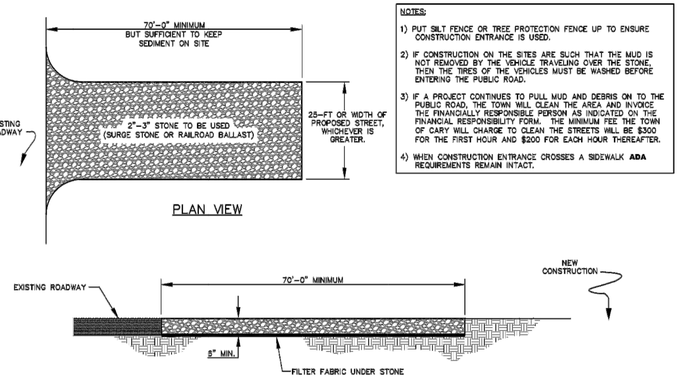
Chatham County, North Carolina

August 20, 2018

Scale: NTS

Details

C11



NOTES:

1) PUT SILT FENCE OR TREE PROTECTION FENCE UP TO ENSURE CONSTRUCTION ENTRANCE IS USED.
2) IF CONSTRUCTION ON THE SITES ARE SUCH THAT THE MUD IS NOT REMOVED BY THE VEHICLE TRAVELING OVER THE STONE, THEN THE TIRES OF THE VEHICLES MUST BE WASHED BEFORE ENTERING THE PUBLIC ROAD.
3) IF A PROJECT CONTINUES TO PULL MUD AND DEBRIS ON TO THE PUBLIC ROAD, THE TOWN WILL CLEAN THE AREA AND INVOICE THE FINANCIALLY RESPONSIBLE PERSON AS INDICATED ON THE FINANCIAL RESPONSIBILITY FORM. THE MINIMUM FEE THE TOWN OF CARY WILL CHARGE TO CLEAN THE STREETS WILL BE $300 FOR THE FIRST HOUR AND $200 FOR EACH HOUR THEREAFTER.
4) WHEN CONSTRUCTION ENTRANCE CROSSES A SIDEWALK **ADA** REQUIREMENTS REMAIN INTACT.

CHATHAM COUNTY NORTH CAROLINA — WATERSHED PROTECTION DIVISION

STANDARD GRAVEL CONSTRUCTION ENTRANCE

DETAIL NUMBER 2018-003 SHEET 1 of 1

Species	Rate (lb/acre)	Dates
Rye (grain)	120	January 1 - May 1
Annual lespedeza (Kobe)	50	
German millet	40	May 1 - August 15
Rye (grain)	120	August 15 - December 31

Soil Amendments
Follow recommendations of soil tests or apply 2,000 lb/acre ground agricultural limestone and 750 lb/acre 10-10-10 fertilizer.

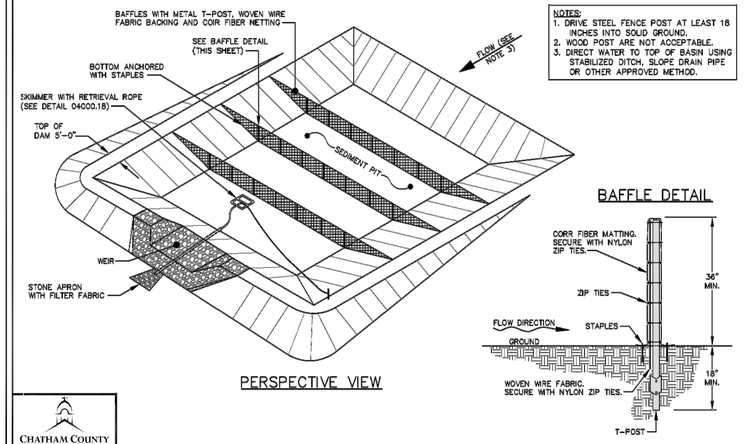
Mulch
Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool. A dist with blades set nearly straight can be used as a mulch anchoring tool.

Maintenance
Refertilize if growth is not fully adequate. Reseed, refertilize and mulch immediately following erosion or other damage.

CHATHAM COUNTY NORTH CAROLINA — WATERSHED PROTECTION DIVISION

TEMPORARY SEEDING/MULCHING SPECIFICATIONS

DETAIL NUMBER 2018-020 SHEET 1 of 1

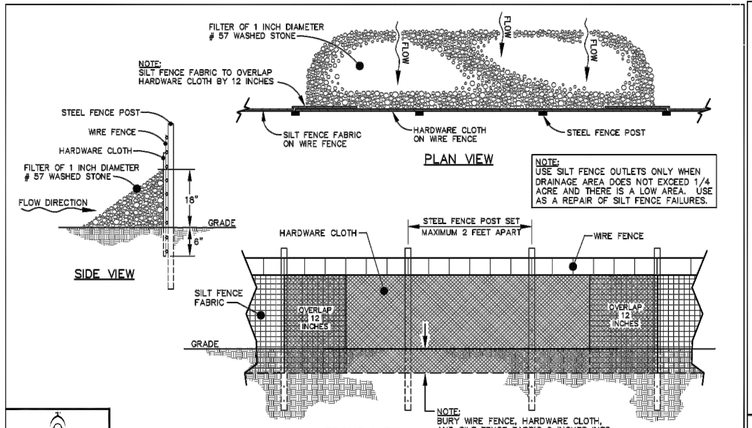


NOTES:
1. DRIVE STEEL FENCE POST AT LEAST 18 INCHES INTO SOLID GROUND.
2. WOOD POST ARE NOT ACCEPTABLE.
3. DIRECT WATER TO TOP OF BASIN USING STABILIZED DITCH, SLOPE DRAIN PIPE OR OTHER APPROVED METHOD.

CHATHAM COUNTY NORTH CAROLINA — WATERSHED PROTECTION DIVISION

STANDARD SKIMMER BASIN

DETAIL NUMBER 2018-015 SHEET 1 of 3



NOTE: USE SILT FENCE OUTLETS ONLY WHEN DRAINAGE AREA DOES NOT EXCEED 1/4 ACRE AND THERE IS A LOW AREA. USE AS A REPAIR OF SILT FENCE FAILURES.

CHATHAM COUNTY NORTH CAROLINA — WATERSHED PROTECTION DIVISION

STANDARD SILT FENCE OUTLET

DETAIL NUMBER 2018-014 SHEET 1 of 1

	ALL DISTURBED AREAS		
	March 1 - August 31		**September 10 - February 28**
50#	Tall Fescue	50#	Tall Fescue
10#	Centipede	10#	Centipede
25#	Bermudagrass (hulled)	35#	Bermudagrass (unhulled)
500#	Fertilizer	500#	Fertilizer
4000#	Limestone	4000#	Limestone

	WASTE AND BORROW AREAS		
	March 1 - August 31		**September 10 - February 28**
75#	Tall Fescue	75#	Tall Fescue
25#	Bermudagrass (hulled)	25#	Bermudagrass (unhulled)
500#	Fertilizer	500#	Fertilizer
4000#	Limestone	4000#	Limestone

Note: 50# of Bahiagrass may be substituted for either Centipede or Bermudagrass only upon request.

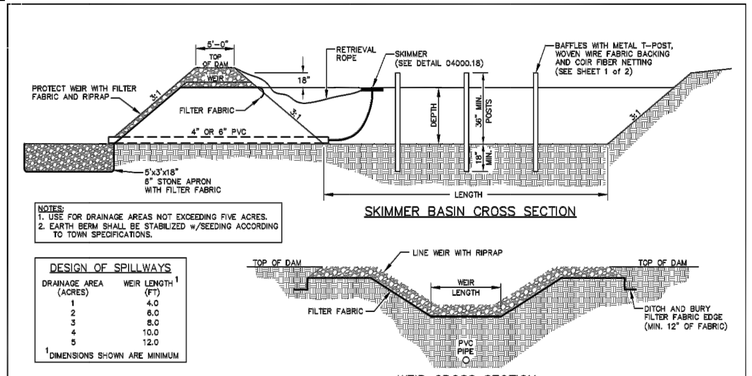
On cut and fill slopes 2:1 or steeper Centipede shall be applied at the rate of 5 lb/acre and add 20# of Sericea Lespedeza from January 1 - December 31.

Fertilizer shall be 10-20-20 analysis. 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 and as directed.

CHATHAM COUNTY NORTH CAROLINA — WATERSHED PROTECTION DIVISION

PERMANENT SEEDING/MULCHING SPECIFICATIONS

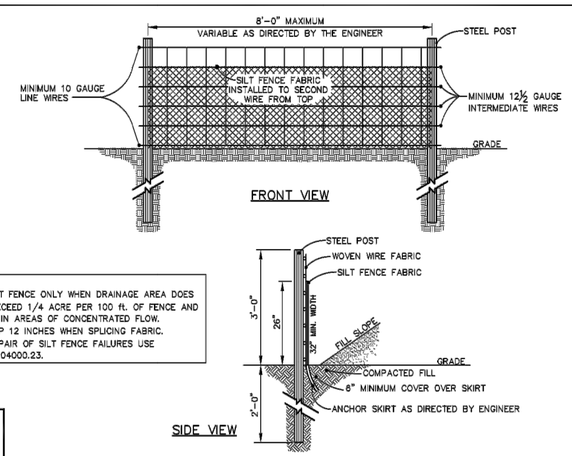
DETAIL NUMBER 2018-021 SHEET 1 of 1



CHATHAM COUNTY NORTH CAROLINA — WATERSHED PROTECTION DIVISION

STANDARD SKIMMER BASIN

DETAIL NUMBER 2018-016 SHEET 2 of 3

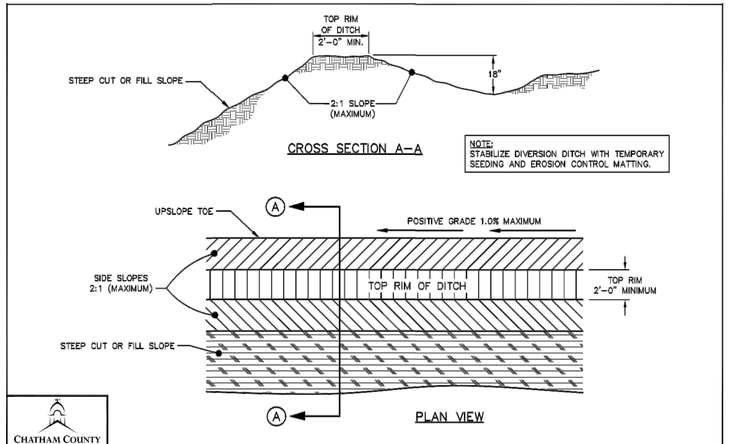


NOTES:
1) USE SILT FENCE ONLY WHEN DRAINAGE AREA DOES NOT EXCEED 1/4 ACRE PER 100 ft. OF FENCE AND NEVER IN AREAS OF CONCENTRATED FLOW.
2) OVERLAP 12 INCHES WHEN SPLICING FABRIC.
3) FOR REPAIR OF SILT FENCE FAILURES USE DETAIL 04000.23.

CHATHAM COUNTY NORTH CAROLINA — WATERSHED PROTECTION DIVISION

STANDARD SILT FENCE

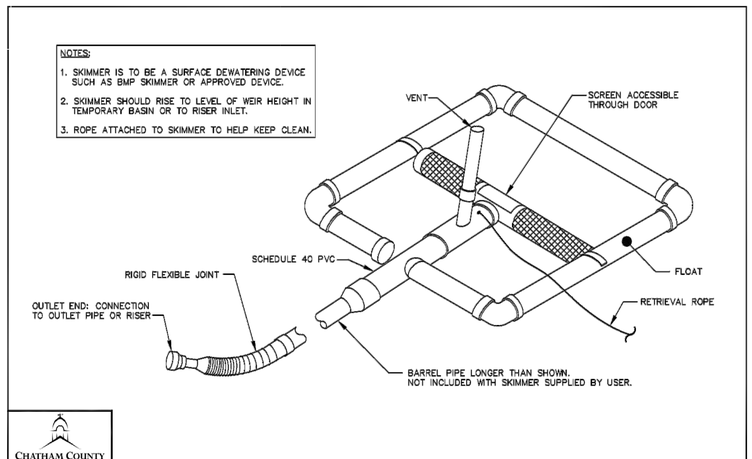
DETAIL NUMBER 2018-013 SHEET 1 of 1



CHATHAM COUNTY NORTH CAROLINA — WATERSHED PROTECTION DIVISION

STANDARD TEMPORARY DIVERSION DITCH

DETAIL NUMBER 2018-009 SHEET 1 of 1



CHATHAM COUNTY NORTH CAROLINA — WATERSHED PROTECTION DIVISION

STANDARD SKIMMER BASIN SKIMMER

DETAIL NUMBER 2018-017 SHEET 3 of 3

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NORTH CAROLINA PROFESSIONAL SEAL 22547 ENGINEER WARREN D. MITCHELL
8/20/18

REVISIONS

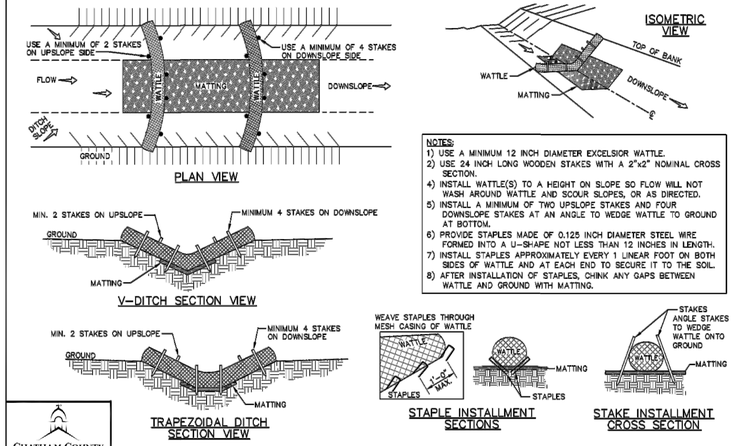
MORGAN RIDGE SUBDIVISION
Construction Drawings
Chatham County, North Carolina

August 20, 2018

Scale: NTS

Details

C12

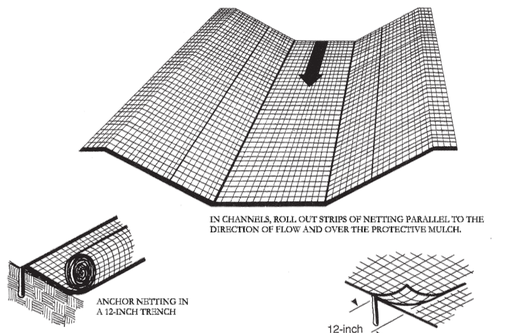


NOTES:
1) USE A MINIMUM 12 INCH DIAMETER EXCELSIOR WATTLE.
2) USE 24 INCH LONG WOODEN STAKES WITH A 2"x2" NOMINAL CROSS SECTION.
4) INSTALL WATTLE(S) TO A HEIGHT ON SLOPE SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR SLOPES, OR AS DIRECTED.
5) INSTALL A MINIMUM OF TWO UPSLOPE STAKES AND FOUR DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND AT BOTTOM.
6) PROVIDE STAPLES MADE OF 0.125 INCH DIAMETER STEEL WIRE FORMED INTO A U-SHAPE NOT LESS THAN 12 INCHES IN LENGTH.
7) INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
8) AFTER INSTALLATION OF STAPLES, CHINK ANY GAPS BETWEEN WATTLE AND GROUND WITH MATTING.

CHATHAM COUNTY NORTH CAROLINA
WATERSHED PROTECTION DEPARTMENT

STANDARD WATTLE

DETAIL NUMBER 2018-018 SHEET 1 of 1

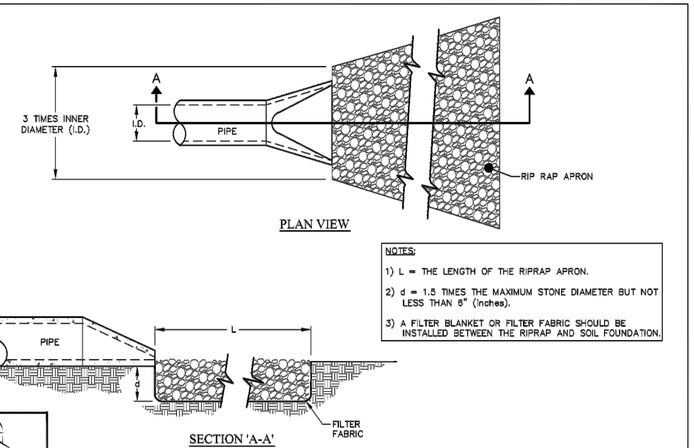


Use wood fiber matting (excelsior). Do not use straw matting for ditches.

CHATHAM COUNTY NORTH CAROLINA
WATERSHED PROTECTION DIVISION

STANDARD MATTING INSTALLATION

DETAIL NUMBER 2018-010 SHEET 1 of 1

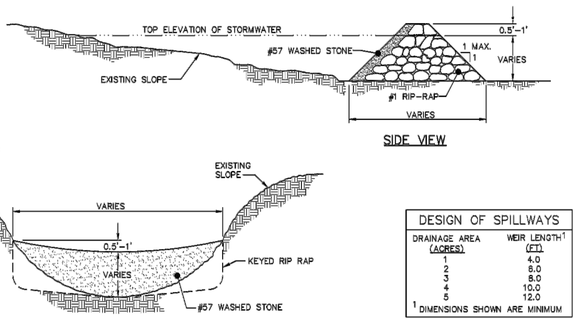


NOTES:
1) L = THE LENGTH OF THE RIPRAP APRON.
2) d = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6" (inches).
3) A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIPRAP AND SOIL FOUNDATION.

CHATHAM COUNTY NORTH CAROLINA
WATERSHED PROTECTION DEPARTMENT

STANDARD PIPE OUTLET (NO DEFINED CHANNEL)

DETAIL NUMBER 2018-006 SHEET 1 of 1



DESIGN OF SPILLWAYS	
DRAINAGE AREA (ACRES)	WEIR LENGTH[1] (FT)
1	4.0
2	8.0
3	8.0
4	10.0
5	12.0

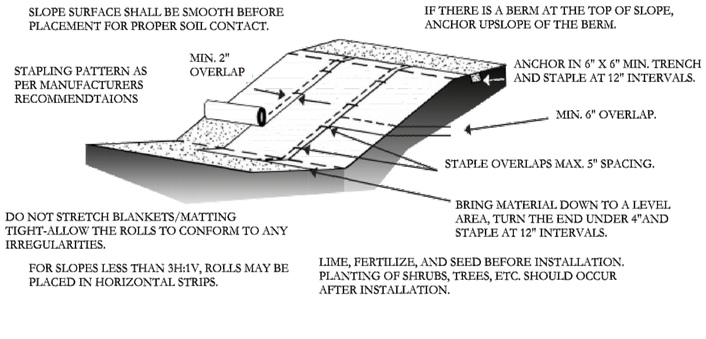
[1] DIMENSIONS SHOWN ARE MINIMUM

NOTES:
1. HEIGHT & WIDTH DETERMINED BY EXISTING TOPOGRAPHY AND SEDIMENT STORAGE REQUIRED.
2. KEY RIP RAP INTO THE DAM FOR STABILIZATION.

CHATHAM COUNTY NORTH CAROLINA
WATERSHED PROTECTION DIVISION

STANDARD ROCK CHECK DAM

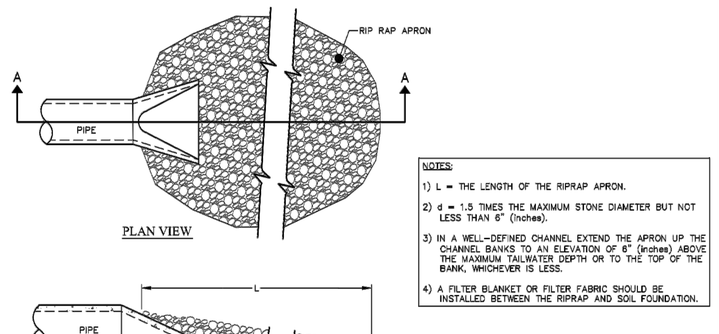
DETAIL NUMBER 2018-002 SHEET 1 of 1



CHATHAM COUNTY NORTH CAROLINA
WATERSHED PROTECTION DIVISION

STANDARD MATTING INSTALLATION (SLOPES)

DETAIL NUMBER 2018-010A SHEET 1 of 1

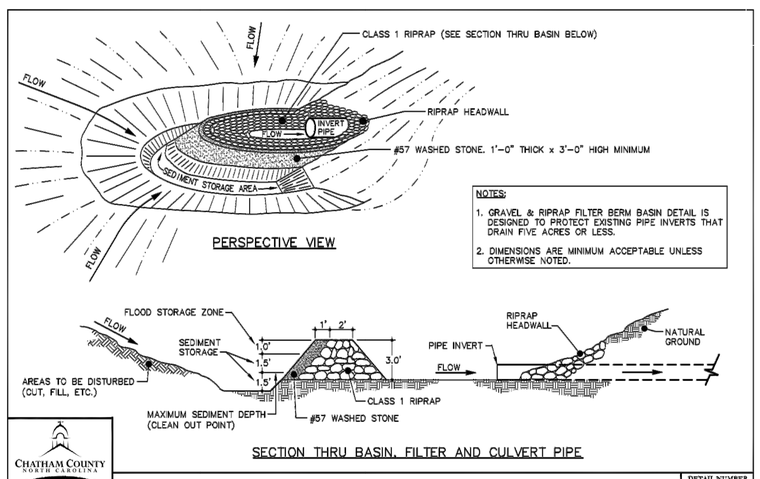


NOTES:
1) L = THE LENGTH OF THE RIPRAP APRON.
2) d = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6" (inches).
3) IN A WELL-DEFINED CHANNEL EXTEND THE APRON UP THE CHANNEL BANKS TO AN ELEVATION OF 6" (inches) ABOVE THE MAXIMUM TAILWATER DEPTH OR TO THE TOP OF THE BANK, WHICHEVER IS LESS.
4) A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIPRAP AND SOIL FOUNDATION.

CHATHAM COUNTY NORTH CAROLINA
WATERSHED PROTECTION DEPARTMENT

STANDARD PIPE OUTLET (DEFINED CHANNEL)

DETAIL NUMBER 2018-007 SHEET 1 of 1

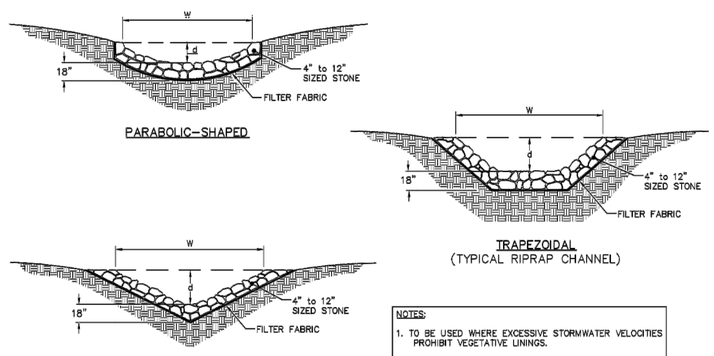


NOTES:
1. GRAVEL & RIPRAP FILTER BERM BASIN DETAIL IS DESIGNED TO PROTECT EXISTING PIPE INVERTS THAT DRAIN FIVE ACRES OR LESS.
2. DIMENSIONS ARE MINIMUM ACCEPTABLE UNLESS OTHERWISE NOTED.

CHATHAM COUNTY NORTH CAROLINA
WATERSHED PROTECTION DEPARTMENT

STANDARD ROCK FILTER BERM (PIPE INLETS)

DETAIL NUMBER 2018-005 SHEET 1 of 1

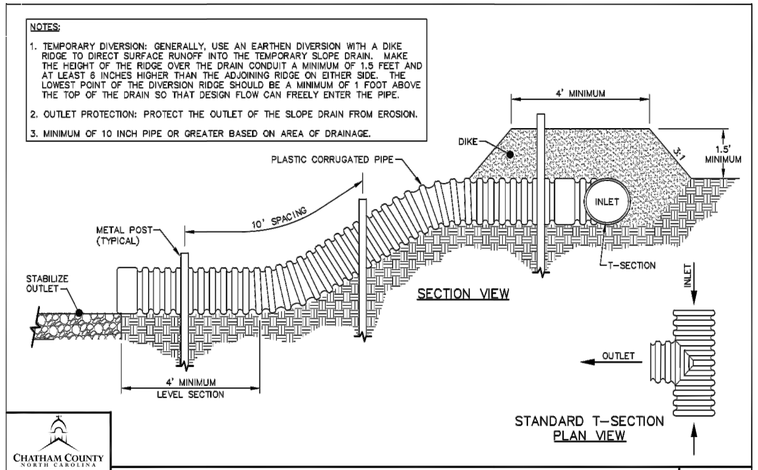


NOTES:
1. TO BE USED WHERE EXCESSIVE STORMWATER VELOCITIES PROHIBIT VEGETATIVE LININGS.
2. SIZE OF STONE MUST BE DETERMINED BY APPROPRIATE DESIGN PROCEDURE.
3. DIMENSIONS FOR d & W VARIES ACCORDING TO DESIGN.

CHATHAM COUNTY NORTH CAROLINA
WATERSHED PROTECTION DEPARTMENT

STANDARD RIPRAP DITCH LINER

DETAIL NUMBER 2018-008 SHEET 1 of 1



CHATHAM COUNTY NORTH CAROLINA
WATERSHED PROTECTION DIVISION

STANDARD SLOPE DRAIN

DETAIL NUMBER 2018-012 SHEET 1 of 1

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NORTH CAROLINA PROFESSIONAL SEAL 22547 ENGINEER WARREN D. MITCHELL 8/20/18

REVISIONS

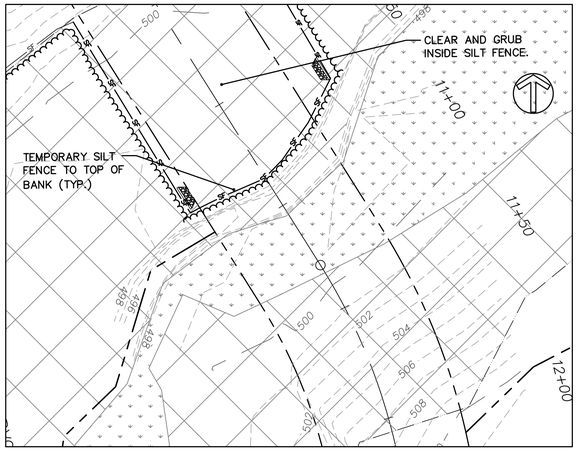
MORGAN RIDGE SUBDIVISION
Construction Drawings
Chatham County, North Carolina

August 20, 2018

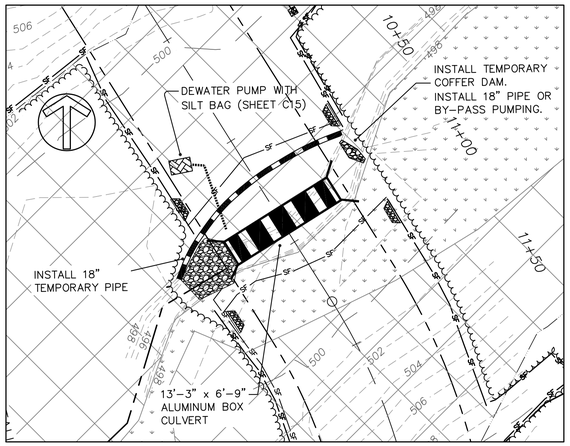
Scale: NTS

Details

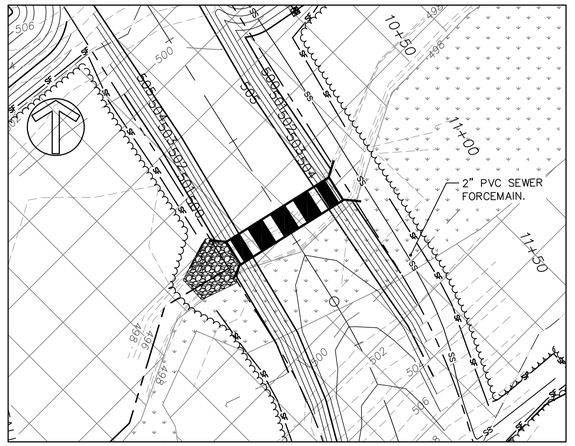
C13



Step #1 - Stream Crossing Station 10+90



Step #2 - Stream Crossing Station 10+90



Step #3 - Stream Crossing Station 10+90

Scale: 1"=40' horizontal

Construction Sequence
Stream Crossing Sta. 10+90

STEP 1

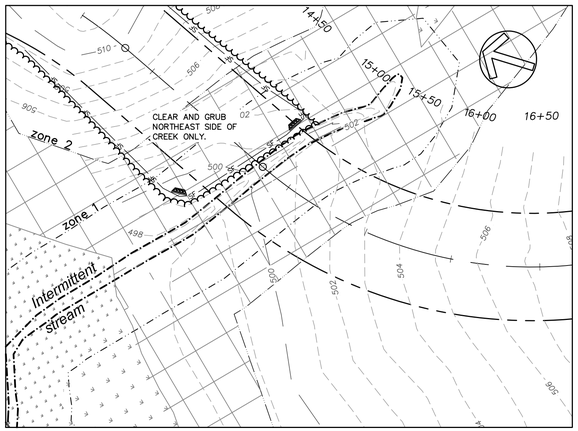
1. Install silt fence and silt fence outlets per plan.
2. Install tree protection fence at all silt fence locations within the stream buffer, wetlands and stream boundaries.
3. Contact Chatham County Watershed Protection staff to approve clearing limits within the buffer - North Side of Stream Only!
4. Clear and grub within the disturbed limits.

STEP 2

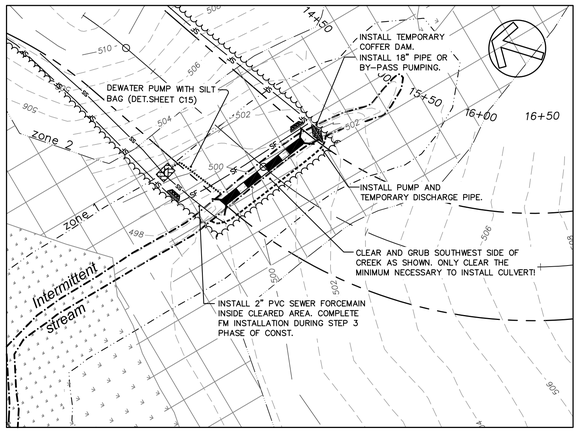
1. After clearing the north side of the stream buffer, Install Temporary Coffer Dam.
2. Install temporary diversion pipe or bypass pump around the construction site.
3. Install temporary stream crossing and clear south side of creek as shown. Clear only enough to install the culvert.
4. Once clearing for impact 1 has been completed, begin culvert construction.

STEP 3

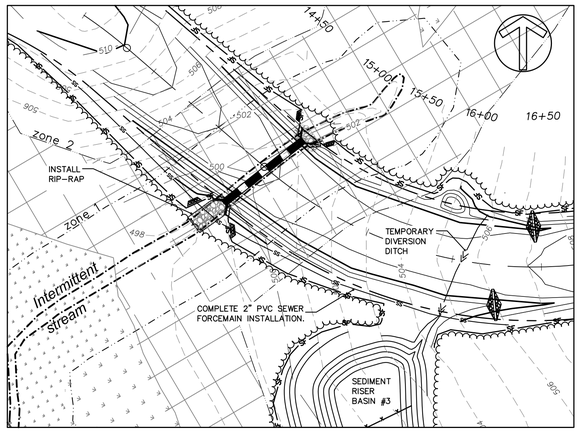
1. Construct the Culvert and install headwalls.
2. Install the 2" Sewer Forcemain per plans.
3. Backfill the culvert and headwalls to the top of the culvert minimum height.
4. Install the retaining walls and continue to raise grade to final elevation.
5. Install rip-rap below the culvert per plans.
6. Stabilize all completed areas.
7. While the coffer dam is being removed, grade the entrance to the culvert and stabilize with wood curlex matting. Seed and straw the culvert inlet and outlet.



Step #1 - Stream Crossing Station 14+83



Step #2 - Stream Crossing Station 14+83



Step #3 - Stream Crossing Station 14+83

Scale: 1"=40' horizontal

Construction Sequence
Stream Crossing Sta. 14+83

STEP 1

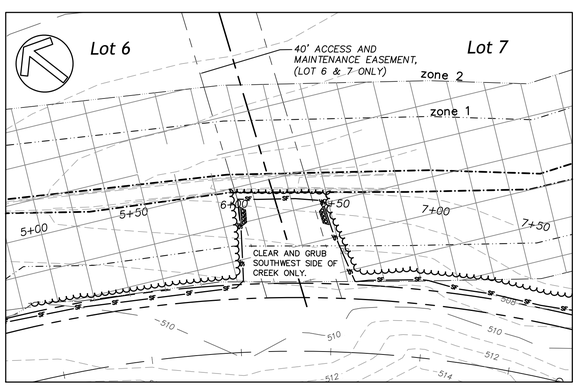
1. Install silt fence and silt fence outlets per plan.
2. Install tree protection fence at all silt fence locations within the stream buffer, wetlands and stream boundaries.
3. Contact Chatham County Watershed Protection staff to approve clearing limits within the buffer - Northeast Side of Stream Only!
4. Clear and grub within the disturbed limits.

STEP 2

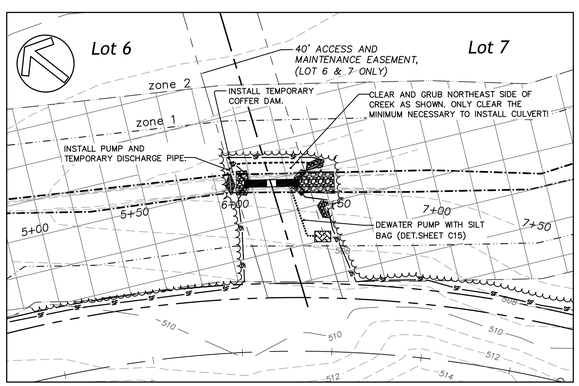
1. After clearing the northeast side of the stream buffer, Install Temporary Coffer Dam.
2. Install bypass pump around the construction site.
3. Install temporary stream crossing and clear south side of creek as shown. Clear only enough to install the culvert.
4. Once clearing for impact 2 has been completed, begin culvert construction.
5. Construct the Culvert and install headwalls. Backfill the culvert with several feet of cover to allow equipment to cross.

STEP 3

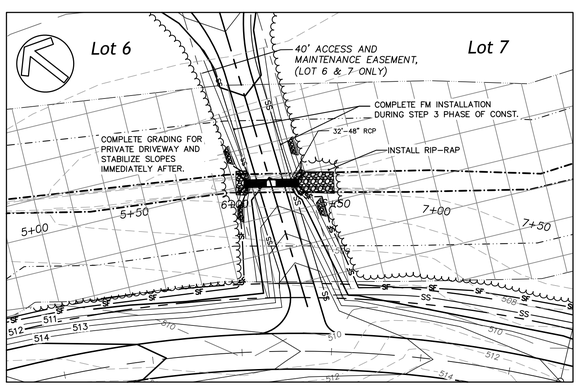
1. Install the 2" Sewer Forcemain per plans. Install forcemain AFTER culvert construction but BEFORE installation of rip-rap.
2. Install the rip-rap at culvert inlet and outlet and remove cofffer dam.
3. Install silt fence around Riser sediment basin #3.
4. Begin clearing for Riser sediment basin #3 and install the basin.
5. Install check dams, temporary diversion ditch and seed immediately.
6. Use soil from Riser basin #3 to complete road crossing over impact #22.
7. Permanently stabilize all areas immediately after completion.



Step #1 - Stream Crossing Station 6+40 Left



Step #2 - Stream Crossing Station 6+40 Left



Step #3 - Stream Crossing Station 6+40 Left

Scale: 1"=40' horizontal

Construction Sequence
Stream Crossing Sta. 6+40 Left

STEP 1

1. Install silt fence and silt fence outlets per plan.
2. Install tree protection fence at all silt fence locations within the stream buffer, wetlands and stream boundaries.
3. Contact Chatham County Watershed Protection staff to approve clearing limits within the buffer - West Side of Stream Only!
4. Clear and grub within the disturbed limits.

STEP 2

1. After clearing the west side of the stream buffer, Install Temporary Coffer Dam.
2. Install bypass pump around the construction site.
3. Install temporary stream crossing and clear east side of creek as shown.Clear only enough to install the culvert.
3. Once clearing for impact 3 has been completed, begin culvert construction.
4. Construct the Culvert and install headwalls. Backfill the culvert with several feet of cover to allow equipment to cross.

STEP 3

1. Install the rip-rap at culvert inlet and outlet and remove cofffer dam.
2. Bring the grade up to final elevation and permanently stabilize all areas immediately after completion.
3. Forcemain is installed in driveway shoulder and can be installed after roadbed is at final grade.

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NORTH CAROLINA PROFESSIONAL SEAL 22547 ENGINEER WARREN D. MITCHELL 12/19

REVISIONS
1. 12/19/18 EC and Stormwater
2. 1/22/19 EC and Stormwater

MORGAN RIDGE SUBDIVISION
Construction Drawings
Chatham County, North Carolina

December 5, 2018

Culvert Construction Details

C14