

| | STATE | STATE | PROJECT REPERENCE NO. | SHEET NO. | TOTAL SHEETS |
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| | N.C. | | 11C.095102 | EC-1 | 19 |
| | 5741 | TE PROJ. NO. | F.A.PROLNO. | DESCRIPT | |
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| EKQS | ION A | ND SEDI | MENT CONTRO | JL MEAS | URES |
| <u>Std.</u> | Descri | iption | 1 | Symbo | ત્રે |
| 1630.03 |) Lemp S Temp | orary Silt Di | tch — | | |
| 1605.01 | L Temp | orary Silt Fe | nce — | | |
| 1606.01 | L Specia | al Sediment (| Control Fence Z | $\sim\sim\sim$ | \sim |
| 1622.01 | l Temp | orary Berms | and Slope Drains | T | |
| 1630.02 | s Silt B T | Dasin Type E | S:lk Cha-L Т -* | - 🖅 📥 | ~~~ |
| 1099701 | . Iemp T | orary Rock | SHUCHECK I YPE"AL. | 🔀 ::4h | *** |
| | 1 emp Matti | ing and Poly | acrylamide (PAM) | | , www. |
| 1633.02 | t Temp | orary Rock | Silt Check Type-B | ·> (* | $\overline{}$ |
| | Watt | le∥Coir Fib | er Wattle |) |) <u> </u> |
| | Wattl with | le / Coir Fib Polyacevlami | er Wattle de (PAM) | | \bigcirc |
| 1634.01 | l Temm | orary Rock | Sediment Dam Type- | A | |
| 1634.02 | ? Temp | orary Rock | Sediment Dam Type- | B 🖪 🗋 | 2023 |
| 1635.01 | Rock | Pipe Inlet S | ediment Trap Type-A | |) |
| 1635.02 1630 04 | Kock | Pipe Inlet S | ediment Trap Type-B | ∪ _ | 7 |
| 1630.06 | Specia | al Stilling Ba | | | |
| | Rock | Inlet Sedim | ent Trap: | | |
| 1632.01 | l ' | Туре А | | A | |
| 1639.09 | , , | Tuna B | | | |
| 1002.02 | , | I ype D | | В | |
| 1632.03 | , . | Туре С | | C | |
| | Skim | mer Basin | | | - |
| | Tiere | d Skimmer I | Basin | | |
| |]]]_filt | ration Basin | | | |
| 10 CORMO II GATSON | // | _ | | | |
| CALLE BEAL | <u>60+00</u> | | THIS PROJECT | CONTAIN | IS |
| | (B.O.P. | | EROSION CONT | 'ROL PLAI | NS |
| | | | GRUBBING P | HASE OF | |
| | | | CONSTRUC | CTION. | |
| TERRY R NELSON | ١ | | | | |
| 235/6/4 /49/486 | | | | | |
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| Roadway Standard Drawinde | | | | | |
| The following manual Drawings | stan J 1 | anno: "n | admar Standard D · · | " D L. D | orida |
| The following roadway english Unit – N. C. Department of Tra | scandards as insportation | appear in "Ro – Raleigh, N. (| auway Standard Drawings C., dated January 2012 an | s – коаdway D d the latest | esign |
| revison thereto are applicable these plans. | to this proj | ect and by refe | rence hereby are consider | ed a part of | |
| - 604.01 Railroad Erosion Con | trol Detail | 163 | 2.01 Rock Inlet Sedimen | t Trap Type A | |
| 605.01 Temporary Silt Fence 606.01 Special Sediment Cont | trol Fener | 163 | 2.02 Rock Inlet Sedimen | t Trap Type 3 | |
| 607.01 Gravel Construction E | Intrance | . 163 | 3.01 Temporary Rock Si | It Check Type C | A |
| 622.01 Temporary Berms and 630.01 Riser Basin | Slope Drai | ins 163 163 | 3.02 Temporary Rock Si 4.01 Temporary Rock Sci | lt Check Type | 3 Evne A |
| 630.02 Silt Jasin Type J 630.03 Temporary Silt Dist | | 163 | 4.02 Temporary Rock Se | ediment Dam | Type 3 |
| 630.04 Stilling Jasin | | 163 163 | 5.01 Kock Pipe Inlet Se 5.02 Rock Pipe Inlet Se | aiment Trap Ty diment Trap Ty | /ре А /ре З |
| 630.05 Temporary Diversion 630.06 Special Stilling Jasin | | 164 164 | 0.01 Coir Fiber Jaffle 5.01 Temporary Stream | Crossing | |

1630.06 Special Stilling Jasin 1631.01 Matting Installation

EROSION CONTROL & PIPE INSTALLATION SCHEDULE TROUT BUFFER ZONE SEQUENCE GENERAL E&SC NOTES GROUND STABILIZATION CHART

Erosion Control Schedule and Notes

- 1. Generally, the order of installation of the erosion control measures will be as follows:
 - A. Temporary silt basins shall be installed before clearing and grubbing begins.
 - B. Silt fences and temporary silt ditches shall be installed after clearing and before grading.
 - C. Temporary stone ditch checks with PAM or wattles with PAM shall be installed in all disturbed areas as soon as the disturbance begins.
 - D. Final stone ditch checks or wattles shall be installed as soon as ditch line is established.
 - E. Pipe outlet and inlet protection will be done as soon as the pipe is installed.
 - F. Other permanent erosion control measures are to be implemented as soon as practical.
- 2. Temporary rock silt checks, type B will be spaced by percent grade as shown in the erosion control plan.
- 3. No. 5 stone, or equivalent, will be used in conjunction with the temporary rock silt checks in locations where water is leaving the project or entering a pipe.
- 4. All devices are to be cleaned out when half full.
- 5. Establish permanent vegetation per ground stabilization chart.

Notes:

For silt basin size see the attached erosion control plans.

PAM is to be placed on all Type A checks and wattles in the erosion control chain except for the final device in HWQ and Trout projects.

Wet Pipe Installation Schedule and Notes

- 1. Prior to installing any E&SC measures identify permit conditions and impact area limits.
- 2. Install erosion control devices.
- 3. Manage the water course. The pipe must be placed in the dry. Install dewatering measures.
- 4. Remove material and existing pipe while limiting, material and sediment from entering stream and escaping the project.
- 5. Excavation of stream channel shall not exceed 10' on either side of new pipe or culvert unless indicated on permit.
- 6. Per permit conditions for Corps of Engineers and the Wildlife Resources Commission, all pipes in streams 48" or greater must be buried 12" below streambed elevation. Pipes less than 48" must be buried with 20% of the diameter below streambed elevation.
- 7. Place the new pipe and compact backfill.
- 8. Install slope protection on the outlet and inlet ends of the pipe. Also complete installation of erosion control measures and perform maintenance as needed on existing measures.
- 9. Establish permanent vegetation per ground stabilization chart.
- 10. More information on wet pipe installation can be found in the BMP manual section 4.2 "Pipe & Culvert installation"

GROUND STABILIZATION CHART

| Site Area Description | Stabilization Time Frame | Stabilization Time Frame Exceptions |
|---|--------------------------|--|
| Perimeter dikes, swales, ditches and slopes | 7 days | None |
| High Quality Water Zones | 7 days | None |
| Slopes steeper than 3:1 | 7 days | If slopes are 10 ft. 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' in lenght |
| All other areas flatter than 4:1 | 14 days | None (except for perimeters and HQW zones) |

General Erosion Projects in Trou

- 1. Prior to insta permit condit trout buffer v any special p
- 2. All materials is commence
- 3. Install EC de
- 4. Work within to minimize t are exposed. the area from be phased so including pro
- 5. Graded slope within 7 caler grading be pl or permanent to restrain ero
- 6. Graded slope road shoulder product, bonc seeding.

Notes:

Silt fence backe shall be used ins Special sedimer bedrock is enco of fabric, and in to allow for con

The disturbed a to native vegeta the extent pract

Flyrock protection blasting in close p

PAM is to be placed on all Type A checks and wattles in the erosion control chain except for the final device in HWQ and Trout projects.

| PROJECT REFERENCE NO. SHEET NO. IIC.095/02 /A |
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| n Control Sequence & Notes for NC DOT at Buffer Zones |
| lling any E&SC measures identify tions and impact area limits. Review variance approval conditions for rovisions. |
| should be on the hand before work d. |
| vices |
| the buffer zone should be sequenced the length of time that disturbed areas Stream bank stabilization, which includes the edge of water to the top of bank, should that each day's work is a completed work, ovision of adequate ground cover. |
| es and fills within the trout buffer zone will ndar days of completion of any phase of anted or otherwise provided with temporary t ground cover, devices, or structures sufficient osion. |
| es and fills within the trout buffer zone (excluding rs) shall be protected with rolled erosion control ded fiber matrix, or flexible growth medium after |
| ed by woven wire, with a post spacing of 6 feet, stead of standard silt fence in trout buffer zone. Int control fence shall be used in areas where ountered which prohibits the proper anchoring n low points of the silt fence in 3-foot sections incentrated flows. |
| reas within the stream buffer shall be restored tion characteristic of an undisturbed buffer to ical upon completion of construction. |
| ion such as blast mats should be provided for e proximity to streams. |



E1 PROP. APPROX. 6" AGGREGATE BASE COURSE.

D1 PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.

C1 PROP. ASPHALT SURFACE TREATMENT (TRIPLE SEAL).





| PROJECT REFERENCE NO | D. SHEET NO. | |
|----------------------------|------------------------|--|
| 11C.095102 | EC-2D | |
| R/W SHEET N | NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER | |

CLEAR STONE OR OTHER OBSTRUCTION TO CREATE A SEAL BETWEEN

PLACE GEOTEXTILE IN LOCATIONS SHOWN OR AS DIRECTED. PLACE DOUBLE FACED CONCRETE BARRIER ON TOP OF GEOTEXTILE WITH A

WRAP GEOTEXTILE AROUND CONRETE BARRIER AND SECURE THE ENDS WITH A WIRE TIE OR OTHER APPROVED FASTENER.

ADD STONE FOR EROSION CONTROL AT JUNCTION OF TEMPORARY CONCRETE BARRIER REINFORCED SILT FENCE AND SPECIAL SEDIMENT CONTROL FENCE TO KEEP RUNOFF FROM PASSING DIRECTLY THROUGH

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROLPERMANENT SOIL REINFORCEMENT MAT

| CONST SHEET NO. | LINE | F ROM ST AT ION | TO STATION | SIDE | ESTIMATE (SY) | CONST SHEET NO. | LINE | FROM STATION | TO STATION | SIDE | ESTIMATE (SY) |
|--------------------|-------------------------|--------------------|---------------|----------|---------------|--------------------|-------|-----------------|---------------|----------|---------------|
| 9 | -1- | 36+93 | 43+01 | LT | 445 | 5 | -レ- | 10+00 | 15+42 | RT | 395 |
| 9 | -1- | 40+25 | 42+00 | RT | 130 | 6 | - レ - | 15+42 | 24+00 | RT | 625 |
| 10 | -1- | 43+50 | 52+12 | LT | δ5 | 7 | - レ - | 24+00 | 32+93 | LT | 650 |
| 11 | - L - | 52+01 | 55+28 | Rſ | 240 | 7 | -レ- | 29+49 | 31+50 | RT | 150 |
| 11 | - L - | 55+28 | 60+00 | Rſ | 345 | 8 | - レ - | 32+93 | 36+93 | LT | 295 |
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| | | | | | | | | | 5UI | BTOTAL | 2115 |
| | | | | | | | | ADDITIONAL | PSRM TO BE I | NSTALLED | |
| | | | SUB | STOTAL | 1245 | | | | | TOTAL | 2115 |
| MISCELLANE | OUS MATTING TO BE INSTA | LED AS DIRE | cted by the | engineer | | | | | | SAY | 2115 |
| | | | | TOTAL | 1245 | | | | | | |
| | | | | SAY | 1245 | | | | | | |
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| PROJECT REFERENCE NO |) . | SHEET NO. |
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| 11C . 095102 | | EC-3 |
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| ROADWAY DESIGN ENGINEER | | HYDRAULICS ENGINEER |

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

| SITE DESCRIPTION | STABILIZATION TIME | T / A |
|---|--------------------|-----------------------|
| 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 NOT STEE |
| SLOPES 3: OR FLATTER | 14 DAYS | 7 DAYS F LENGTH. |
| ALL OTHER AREAS WITH SLOPES FLATTER THAN 4: | 14 DAYS | NONE, EXC |

| PROJECT REFERENCE NO | PROJECT REFERENCE NO. | | | | | |
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| <i>IIC.095102</i> | | EC-3B | | | | |
| | | | | | | |
| ROADWAY DESIGN ENGINEER | | HYDRAULICS ENGINEER | | | | |

MEFRAME EXCEPTIONS

S ARE IO' OR LESS IN LENGTH AND ARE EPER THAN 2:1, 14 DAYS ARE ALLOWED. OR SLOPES GREATER THAN 50' IN

CEPT FOR PERIMETERS AND HOW ZONES.



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| | 2F DI ANTEN 2 ET TV |) 5 FT | ROADWAY DESIGN | | HYDRAULICS |
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| 3 E | 8 FT. ON CENTER, | · | | | |
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| LC | CONFORM TO THE FOLLO | WING: | | | |
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| | 3LACK WILLOW | 2 ft = 3 ft | LIVE STAKES | | |
| | JEANNIN THELOT | | | | |
| | SILKY DOGWOOD | 2 ft - 3 ft | LIVE STAKES | | |
| | | | | | |
| | | | | | |
| 1 | THE POPLAR | 12 in _ 18 | in 3R | | |
| * | IULII IUILAN | 12 III = 10 | | | |
| | SYCAMORE | 12 in 18 | in 3R | | |
| | JI UNIVIU | 12 m = 10 | | | |
| | SLACK CHERRY | 12 in = 18 | in 3R | | |
| | | 12 m = 10 | m _m | | |
| | RIVER 3IRCH | 12 in _ 18 | in 3R | | |
| | | 1. III - 10 | | | |
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N.C.D.O.T. - ROADSIDE ENVIRONMENTAL UNIT



| 3/12/9 HE | APUTED BY: <u>1. EII</u> CKED BY: <u>J. Co</u> | inott ombs | DATE: 01042022 DATE: 01042022 | | | | | | | | | | | ST | ATE DIV | OF NORT ISION OF | H CA HIGH | AROLIN WAYS | NA | | | | | | | | PROJECT REFERENCE NO. IIC.095102 | SHEET NO. |
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| ┢ | | | | | L | | OF | र । | PIPES | . E 7 | NT |)W/ | 4 <i>1.</i> | LS | . E ' | TC. (FO | R | PIPE | <u> </u> | 8" ह | א ו | INDER | ?) | | | | | |
| ┢ | | | | ТҮГ | PE B C | | PIPE | | 11 20 | | | | | | , | | | | | | <u> </u> | | | | | | | |
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| | | | | | NEV | W PIPES | | | | | | EXISTIN | IG PI | PES | | | | | | | | | | | | | | |
| | SIZE | T, OR CL) | | 12″ 15″ | 18″ 2 | 4″ 30″ 30 | 5″ 42″ | 48″ | | 10 | ″ 15″ | 18″ 24 | 1″ 30″ | 36″ | 42″ 48′ | | | | | | | | N.FT. | | .37 | | | |
| | | ON (LT,R | | | | | | | | | | | | | | | | | | | | | MOVAL LI | . 840.31 | STD. 840 | | | |
| | STATION | LOCATI | | | | | | | | | | | | | | | | | | | | | PIPE RE | J.B STD | F&G | | REMARKS | |
| | -L- 12 + 09 | RT | | 30′ | | | | | | | | | | | | | | | | | | | | | | | ADD DRIVE PIPE | |
| | -L- 14+77 | CL | | | | | | | | 124 | 4′ | | | | | | | | | | | | _ | | | DO NO | DISTURB 10" HDPE WET PIP | E |
| | -L- 15+19 | RT | | 30′ | | | | | | | | | | | | | | | | | | | | | | | ADD DRIVE PIPE | |
| | -L- 15 + 42 | CL | | | | | | | | | | 3 | 5′ | | | | | | | | | | | | | DO | NOT DISTURB WET PIPE | |
| ⊢ | -L- 16+31 | RI Ol | | 30′ | | | | | | | | | | | | | | | | | | | | | | | | |
| | _L_ 27+65 | | | 30′ | | | | | | | | | | | | | | | | | | | _ | | | | | |
| | _L_ 30 + 48 | | | 30 | | | | | | 15 | , | | | | | | | | | | | | 15' | | | | | |
| C.dgn | -L- 30+74 | RT | | 30' | | | | | | | | | | | | | | | | | | | | | | | ADD DRIVE PIPE | |
| eet_3 | -L- 32+97 | CL | | | 50′ | | | | | | | 45′ | | | | | | | | | | | 45' | | | | REPLACE PIPE | |
| ta Sh | -L- 36+81 | CL | | | 50′ | | | | | | | | | | | | | | | | | | | | | | ADD PIPE | |
| pe Da | -L- 36+95 | LT | | | | | | | | | | 30′ | | | | | | | | | | | 30' | | | | REMOVE DRAIN PIPE | |
| -hp | -L- 43+17 | CL | | | | | | | | | | | | | | | | | | | | | | | | DC | NOT DISTURB WET PIPE | |
| 26B_F | -L- 51+52 | LT | | 30′ | | | | | | | | 30′ | | | | | | | | | | | 30' | | | | REPLACE DRIVE PIPE | |
| \SRIE | -L- 52+15 | CL | | | | | | | | | | | | | | | | | | | | | | | | DC | NOT DISTURB WET PIPE | |
| Sheets | -L- 53+30 | CL | | | 45′ | | | | | | | 35′ | | | | | | | | | | | 35' | | | | REPLACE PIPE | |
| lan S | -L- 60+09 | CL | | | | | | | | | | | | | | | | | | | | | | | | DC | NOT DISTURB WET PIPE | |
| tion | | | | | | | | | | | _ | | _ | | | | | | | | | | _ | | | | | |
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| , franci, | JILLI IUTALS | | | 180 | 140 | + | | | | | <u> </u> | | | | | | | | | | | | 100 | | | | | |
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| | PROJECT REFERENCE NO. | SHEET NO |
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| / | R/W SHEET NO. | 10 |
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