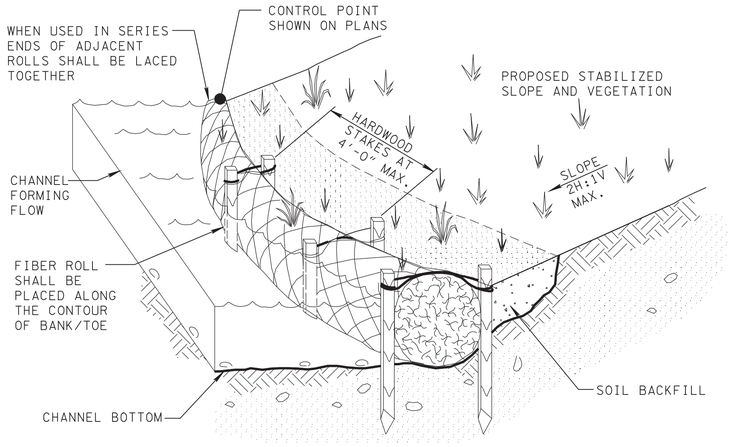
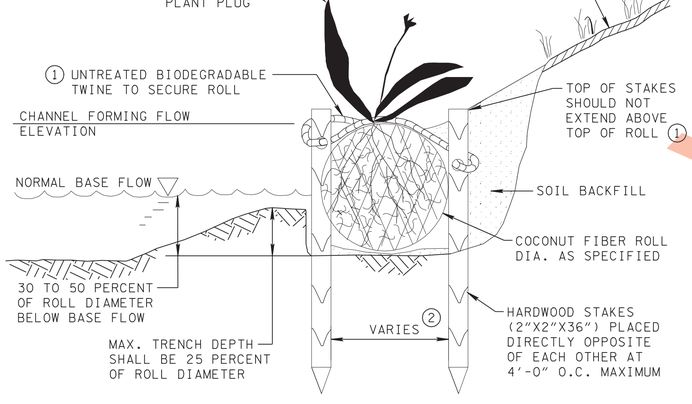
COCONUT FIBER ROLL



ISOMETRIC VIEW
COCONUT FIBER ROLL

FULL OR PARTIAL SUN REQUIRED FOR USE

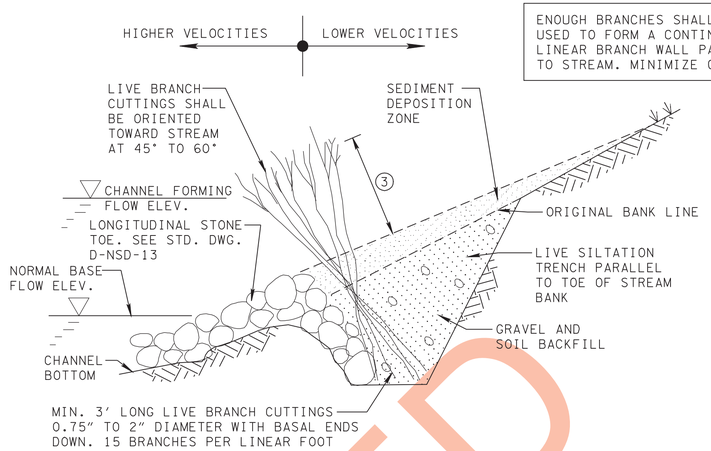


SECTION VIEW
COCONUT FIBER ROLL

NOTE (1) : DRIVE STAKES AS NEEDED SO TWINE IS SECURED AGAINST TOP OF ROLL.

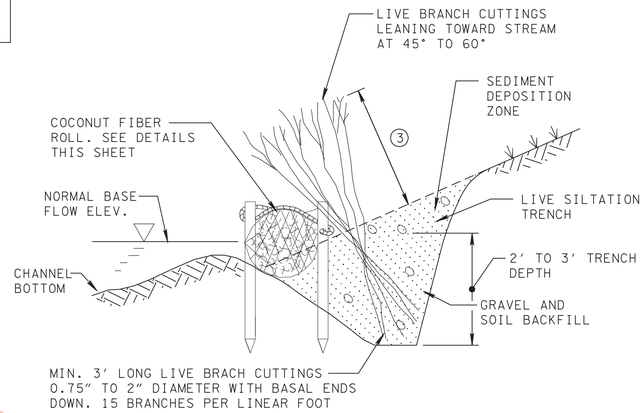
NOTE (2) : SPACING VARIES BASED ON ROLL DIAMETER 8, 12, 16, 18, 20-INCH (TYPICAL)

LIVE SILTATION



SECTION VIEW - LIVE SILTATION
WITH STONE TOE

NOTE (3) : 1/3 OF THE BRANCH LENGTH SHALL BE ABOVE TRENCH



SECTION VIEW - LIVE SILTATION
WITH COCONUT FIBER ROLL

NOTE (3) : 1/3 OF THE BRANCH LENGTH SHALL BE ABOVE TRENCH

COCONUT FIBER ROLL GENERAL NOTES

(A) COCONUT FIBER ROLLS ARE A FLEXIBLE BANK STABILIZATION MEASURE CONSISTING OF INTERWOVEN COCONUT HUSK FIBERS THAT CAN BE FITTED TO THE CURVATURE OF A STREAM BANK PROVIDING IMMEDIATE TOE PROTECTION AND BANK STABILIZATION. COCONUT FIBER ROLLS ARE USED TO ENHANCE THE ESTABLISHMENT AND GROWTH OF NATIVE VEGETATION ALONG THE STREAM BANK BY TRAPPING SEDIMENT BEHIND THE ROLL PROVIDING A SUBSTRATE FOR PLANT GROWTH. EFFECTIVE LIFE 2 TO 3 YEARS.

(B) COCONUT FIBER ROLLS ARE AN ACCEPTABLE MITIGATION PRACTICE FOR USE IN STREAMS AND ALONG THE SHORELINE OF PONDS AND WETLANDS.

(C) COCONUT FIBER ROLLS MAY BE USED IN COMBINATION WITH LONGITUDINAL STONE TOES, ROOT WADS, LIVE SILTATION, OR OTHER BANK STABILIZATION MEASURES.

(D) COCONUT FIBER ROLLS SHOULD NOT BE USED WHEN CHANNEL FLOW VELOCITY EXCEEDS 10 FEET PER SECOND, WHERE CHANNEL SHEAR STRESSES ARE MODERATE TO HIGH ALONG THE BANK, IN BEDROCK CHANNELS, IN CHANNELS WHERE SCOUR IS PRESENT OR EXPECTED, OR IN STREAMS WHERE SIGNIFICANT DEBRIS LOAD IS EXPECTED.

(E) COCONUT FIBER ROLLS SHOULD BE CONSTRUCTED AT THE TOE OF A STREAM BANK TO A HEIGHT EQUAL TO THE CHANNEL FORMING FLOW ELEVATION.

(F) COCONUT FIBER ROLLS SHALL BE SEATED IN A SHALLOW HAND-CUT TRENCH SLIGHTLY BELOW THE CHANNEL BOTTOM ELEVATION. COCONUT FIBER ROLL SHALL BE IN CONTACT WITH THE WATER, SUBMERGED FROM ONE-HALF TO TWO-THIRDS OF THE ROLL DIAMETER.

(G) ENDS OF COCONUT FIBER ROLLS SHALL BE TURNED IN AND BURIED WITHIN THE BANK TO PREVENT WATER FROM INTRUDING BEHIND THE ROLL.

(H) VEGETATION (SPECIES) USED FOR HERBACIOUS PLUGS TO BE INSTALLED IN THE TOP OF COCONUT FIBER ROLLS SHALL BE APPROVED BY THE ENVIRONMENTAL DIVISION. LIVE DORMANT STAKES MAY BE USED FOR PLUGS.

(I) COCONUT FIBER ROLLS SHALL BE KEPT DRY PRIOR TO INSTALLATION.

(J) COCONUT FIBER ROLLS SHALL BE PAID FOR UNDER THE FOLLOWING ITEM NUMBER:

209-03.31 STREAM MITIGATION - COCONUT FIBER ROLLS (SIZE) PER LINEAR FOOT

EROSION CONTROL BLANKETS SHALL BE PAID FOR ACCORDING TO THEIR RESPECTIVE ITEM NUMBERS.

PAYMENT FOR COCONUT FIBER ROLLS SHALL INCLUDE ALL MATERIALS AND LABOR NECESSARY FOR THE INSTALLATION OF THE COCONUT FIBER ROLL.

LIVE SILTATION GENERAL NOTES

(A) LIVE SILTATION IS A BANK STABILIZATION MEASURE THAT NATURALLY REBUILDS A STREAM BANK THAT HAS ERODED BY SLOWING THE FLOW VELOCITY RESULTING IN THE DEPOSITION OF SEDIMENT DURING HIGH FLOWS. LIVE SILTATION ALSO ENHANCES THE ESTABLISHMENT AND GROWTH OF NATIVE VEGETATION ALONG THE STREAM BANK BY TRAPPING SEED AND ORGANIC MATERIAL ALONG THE SHORE LINE.

(B) LIVE SILTATION SHOULD BE CONSTRUCTED AT THE TOE OF A STREAM BANK BEHIND ANY OTHER TOE OF SLOPE PROTECTION AND AT THE NORMAL BASE FLOW ELEVATION.

(C) LIVE SILTATION SHOULD BE USED IN COMBINATION WITH LONGITUDINAL STONE TOE, ROOT WADS, OR COCONUT FIBER ROLLS.

(D) ALLOWABLE VELOCITY OF FLOW FOR USING LIVE SILTATION SHALL BE 0.8 FT/SEC TO A MAXIMUM OF 6.6 FT/SEC WHEN USED WITH OTHER TOE STABILIZATION MEASURES, LIVE SILTATION MAY BE USED FOR FLOWS UP TO 12 FT/SEC MAXIMUM.

(E) LIVE SILTATION MAY BE USED AT THE INSIDE OF A MEANDER BEND, WITHIN A SIDE CHANNEL, IN AREAS WHERE BANK SCOUR HAS OCCURRED, OR AT LOCATIONS WHERE THE FORMATION OF A NEW BANK IS DESIRED.

(F) MULTIPLE ROWS OF LIVE SILTATION MAY BE USED PARALLEL TO THE STREAM BANK AND TO EACH OTHER. SPACING OF ROWS SHALL BE 5 TO 10 FEET.

(G) CONSTRUCTION OF LIVE SILTATION SHOULD BE PERFORMED DURING THE DORMANT SEASON AND DURING LOW FLOW CONDITIONS.

(H) LIVE SILTATION SHALL BE PAID FOR UNDER THE FOLLOWING ITEM NUMBER:

209-03.46 STREAM MITIGATION - LIVE SILTATION (SPECIES) PER CUBIC YARD

LONGITUDINAL STONE TOE SHALL BE PAID FOR ACCORDING TO ITS RESPECTIVE STANDARD DRAWING.

PAYMENT FOR LIVE SILTATION SHALL INCLUDE ALL MATERIALS AND LABOR NECESSARY FOR THE CONSTRUCTION OF THE LIVE SILTATION SYSTEM.

STREAM MITIGATION PLAN LEGEND: **ROLL**ROLL**ROLL** COCONUT FIBER ROLLS

STREAM MITIGATION PLAN LEGEND: ⇓⇓ LS⇓⇓ LS⇓⇓ LS⇓⇓ LIVE SILTATION

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

COCONUT FIBER ROLLS AND LIVE SILTATION

NOT TO SCALE | 8-01-11 | D-NSD-7