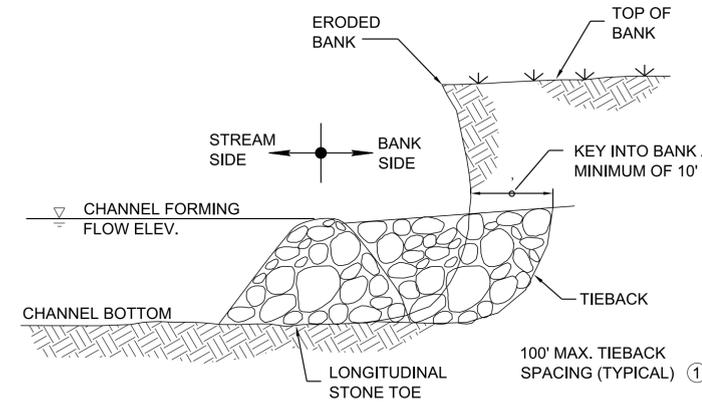
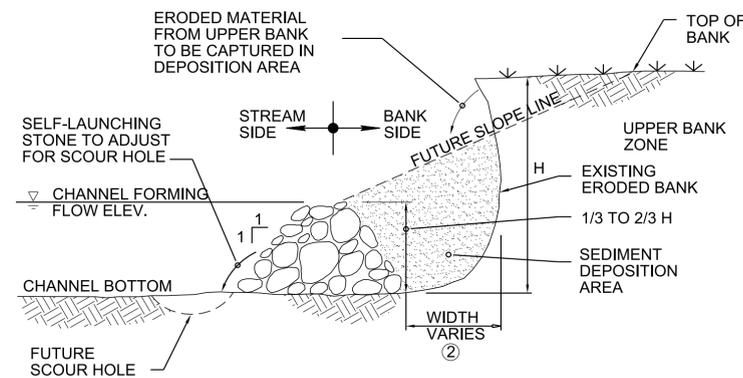


PLAN VIEW



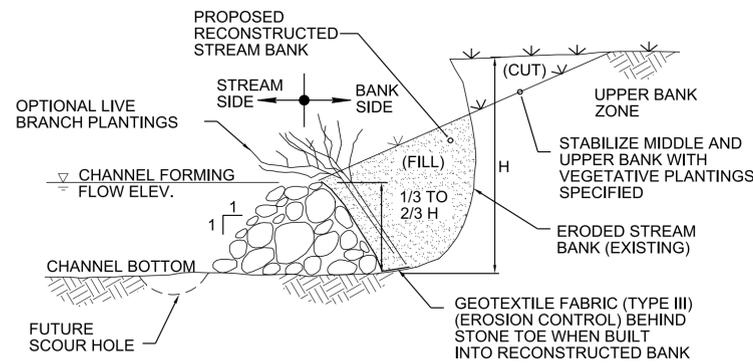
TIEBACK DETAIL



SECTION A-A

STONE TOE IN FRONT OF BANK

(SEDIMENT DEPOSITION AREA FILLS NATURALLY OVER TIME)



SECTION A-A

STONE TOE BUILT INTO RECONSTRUCTED BANK

(SEDIMENT DEPOSITION AREA FILLED DURING CONSTRUCTION)

FOOTNOTES	
①	FOR LARGER STREAMS OR RIVERS, TIEBACKS SHALL BE SPACED AT 2X THE CHANNEL FORMING FLOW WIDTH (W)
②	BANKSIDE WIDTH VARIES TO PROVIDE SMOOTH ALIGNMENT THROUGH THE CHANNEL BEND

LONGITUDINAL STONE TOE NOTES	
(A)	LONGITUDINAL STONE TOE IS A LOWER BANK STABILIZATION MEASURE THAT IS PLACED AT THE TOE OF AN ERODING BANK, OR STREAM SIDE OF THE TOE, TO PROVIDE HARD ARMORING AGAINST FURTHER EROSION, PROVIDE AN AREA FOR SEDIMENT DEPOSITION AND NATURAL RECONSTRUCTION OF THE TOE, AND ENCOURAGE THE GROWTH OF ADDITIONAL VEGETATION AS THE BANK SLOPE STABILIZES.
(B)	LONGITUDINAL STONE TOE IS ACCEPTABLE FOR USE IN STABLE ALLUVIAL CHANNELS WHERE THE LOWER BANK IS FAILING BUT THE MID AND UPPER SLOPES ARE FAIRLY STABLE.
(C)	USE OF THIS IN-STREAM MEASURE SHALL NOT ADVERSELY AFFECT THE HYDRAULIC CAPACITY OF THE CHANNEL.
(D)	LONGITUDINAL STONE TOE SHOULD NOT BE USED IN BEDROCK CHANNELS.
(E)	LONGITUDINAL STONE TOE MAY BE USED IN COMBINATION WITH OTHER HYDRAULIC CONTROL STRUCTURES (J-HOOKS, VANES, ETC.), AND MOST OTHER BANK STABILIZATION MEASURES.
(F)	MACHINED RIPRAP CLASS SELECTED FOR CONSTRUCTING LONGITUDINAL STONE TOE SHALL BE SELECTED BASED ON CRITERIA IN SECTION 11.04.6 OF THE DRAINAGE MANUAL.
(G)	WHEN THE STONE TOE IS BUILT INTO A RECONSTRUCTED BANK, GEOTEXTILE (TYPE III) (EROSION CONTROL) SHALL BE PLACED BEHIND THE ROCK TO PREVENT SOIL MIGRATION THROUGH THE STRUCTURE.
(H)	THE TOP ELEVATION OF THE STRUCTURE SHALL BE NO LOWER THAN THE CHANNEL FORMING FLOW ELEVATION OF THE STREAM.
(I)	ACCESS TO THE STREAMBANK AREA SHALL BE PROVIDED FOR HEAVY EQUIPMENT, MONITORING, AND MAINTENANCE.
(J)	ONLY GEOTEXTILE FABRIC (TYPE III) LISTED ON THE QUALIFIED PRODUCTS LIST SHALL BE USED.
(K)	LONGITUDINAL STONE TOE SHALL BE PAID FOR UNDER THE FOLLOWING ITEM NUMBERS:  209-03.47 STREAM MITIGATION - LONGITUDINAL STONE TOE (DESCRIPTION) PER CUBIC YARD.  740-10.03 GEOTEXTILE (TYPE III) (EROSION CONTROL) PER SQUARE YARD
(L)	LIVE BRANCH PLANTINGS SHALL BE PAID FOR ACCORDING TO THEIR RESPECTIVE ITEM NUMBERS.
(M)	PAYMENT FOR LONGITUDINAL STONE TOE SHALL INCLUDE ALL MATERIALS AND LABOR NECESSARY FOR THE CONSTRUCTION OF THE TOE PROTECTION SYSTEM.

MATERIAL SHOWN ARE ONLY A GRAPHICAL REPRESENTATION AND DO NOT DEPICT THE ACTUAL DEPTH OR QUANTITY OF MATERIALS TO APPROPRIATELY CONSTRUCT OR STABILIZE THE CHANNEL.

NOT TO SCALE

STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

LONGITUDINAL  
STONE TOE