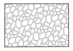


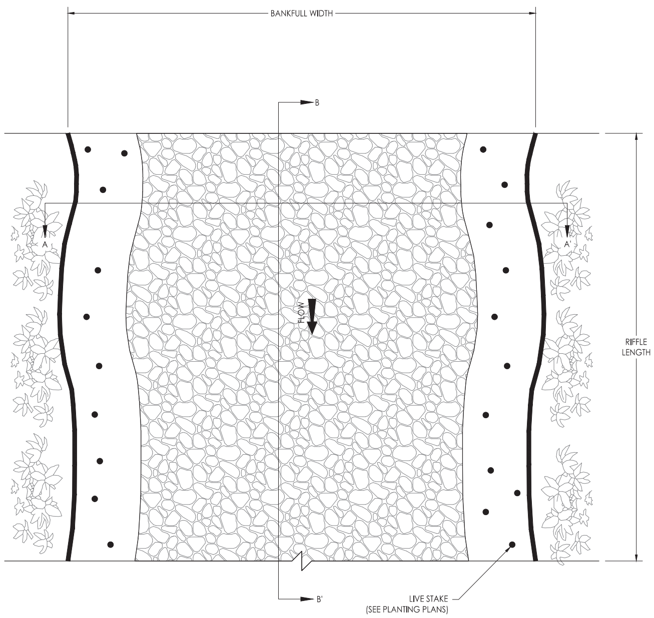
PLAN - SYMBOL

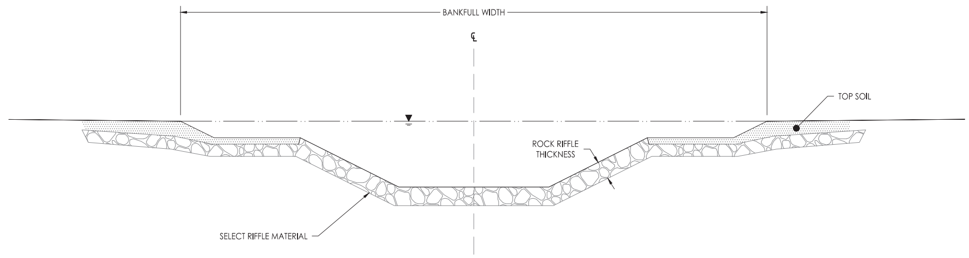
NOTES:

1. EXCAVATE FOR RIFFLE PLACEMENT AND EXTEND RIFFLE ARMOR OUT TO BANKFULL WIDTH. FEATHER BANK MATERIAL BACK ONTO EDGE OF RIFFLE MATERIAL, DOWN TO HALF BANKFULL.
2. LOW POINT (THALWEG) SHALL BE IN THE CENTER OF CHANNEL.
3. COMPACT RIFFLE MATERIAL BY PUSHING ROCK WITH EXCAVATOR INTO BED OF THE CHANNEL.
4. BEYOND THE LOW FLOW CHANNEL, RIFFLE SUBPAVEMENT SHALL BE BURIED BELOW FINISH GRADE.
5. RIFFLES ARE SHOWN ON THE PLANS AND PROFILE AS EXTENDING FROM PT TO PC. ACTUAL LENGTH OF ROCK IN RIFFLES MAY VARY.
6. REFER TO TABLE FOR RIFFLE MATERIAL GRADATIONS.
7. REFER TO EROSION CONTROL BLANKET DETAIL.
8. TOPSOIL SHALL BE A MINIMUM OF 6" WHERE SHOWN.
9. REFER TO TABLE FOR ROCK RIFFLE DIMENSIONS.
10. REFER TO TYPICAL CROSS SECTIONS FOR CHANNEL DIMENSIONS.

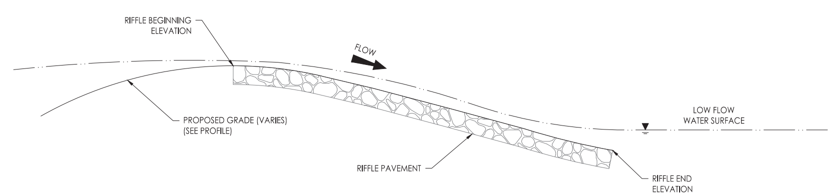
LEGEND

- RIFFLE PAVEMENT (SELECT RIFFLE MATERIAL)
- TOPSOIL





SECTION A-A'



PROFILE B-B'

1/44 DETAIL - ROCK RIFFLE
NOT TO SCALE

MNDNR

Figure 7. Diagram of a Rock Riffle structure.

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Client/Project
MINNESOTA DEPARTMENT OF NATURAL RESOURCES
KNOWLTON CREEK STREAM RESTORATION PROJECT FINAL DESIGN PLANS
DULUTH, MINNESOTA
Title
DETAILS (7)

Permit-Seal

Project Number: 175654030
File Name: 54030N-DETAILS.dwg

TSL	MFA	MAS	15.05.21
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Drawing No. DETAILS-7
Revision 0
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