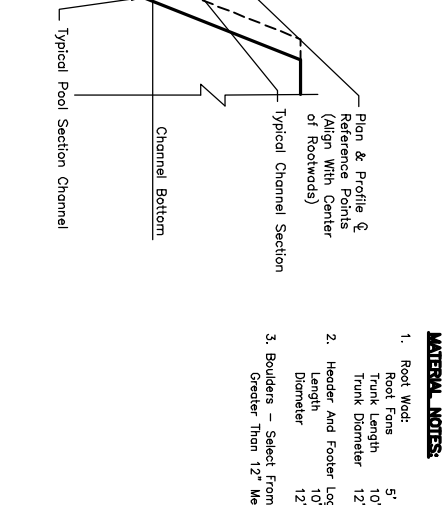
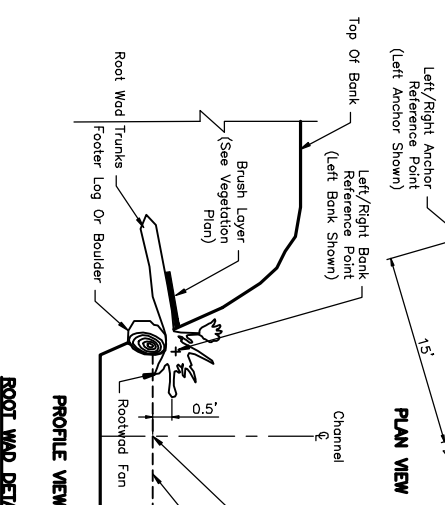
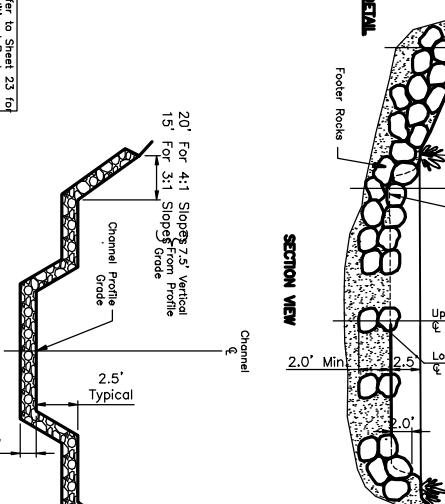
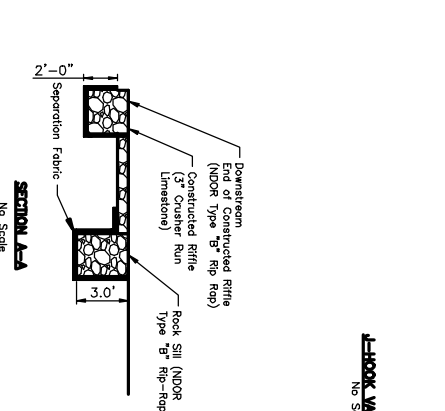
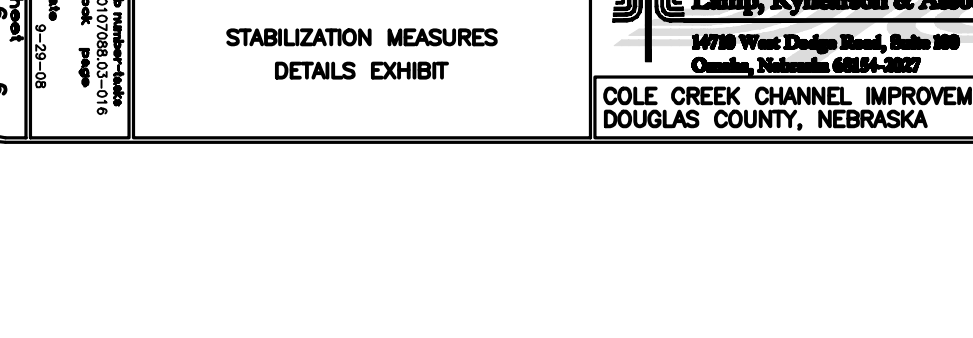
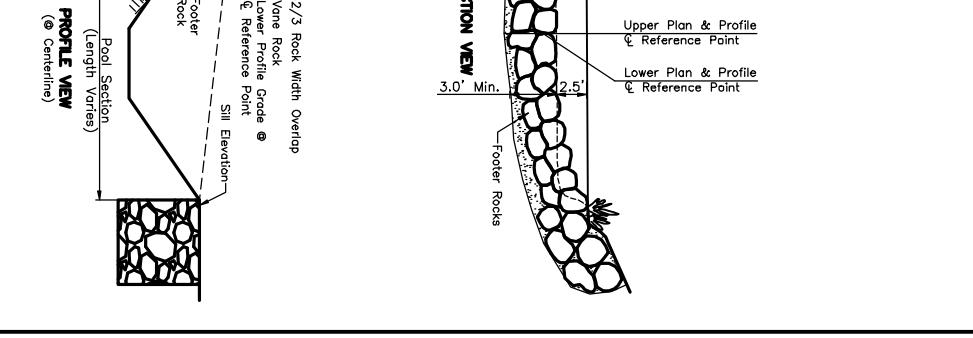
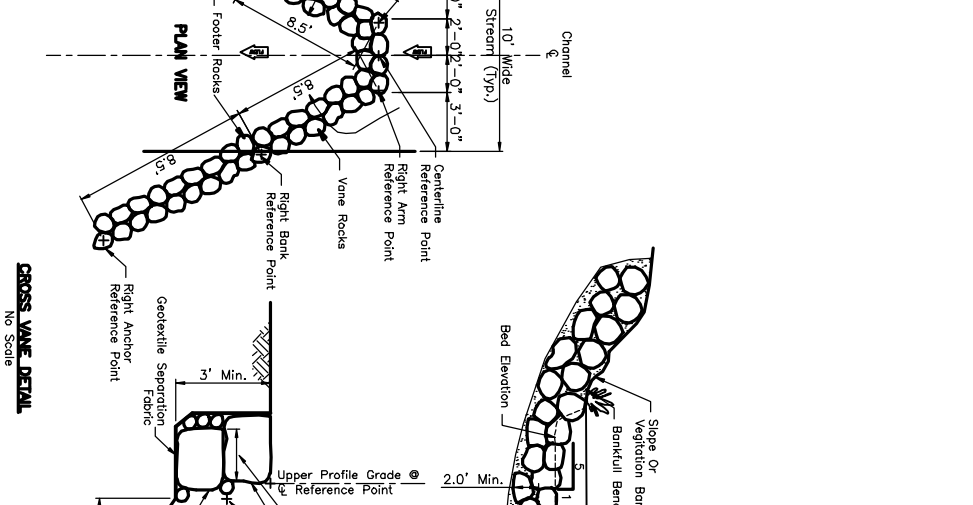
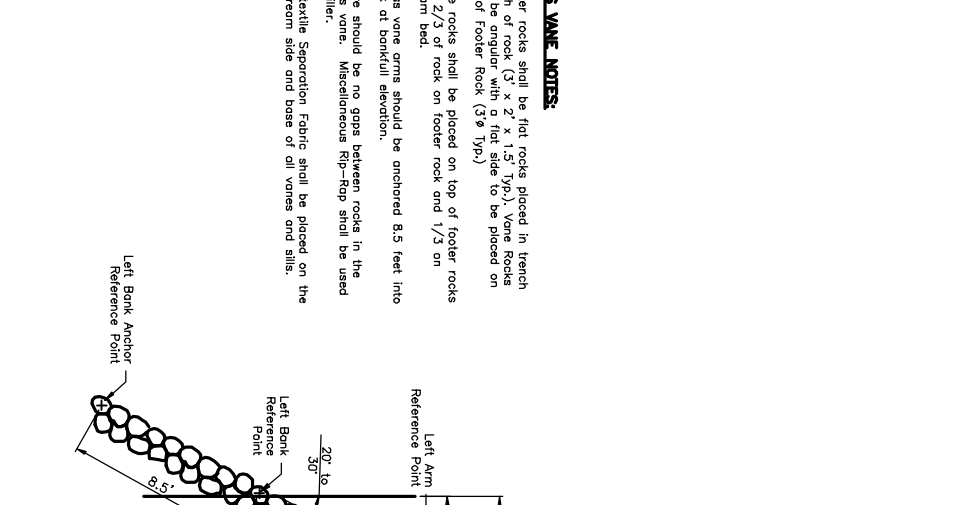
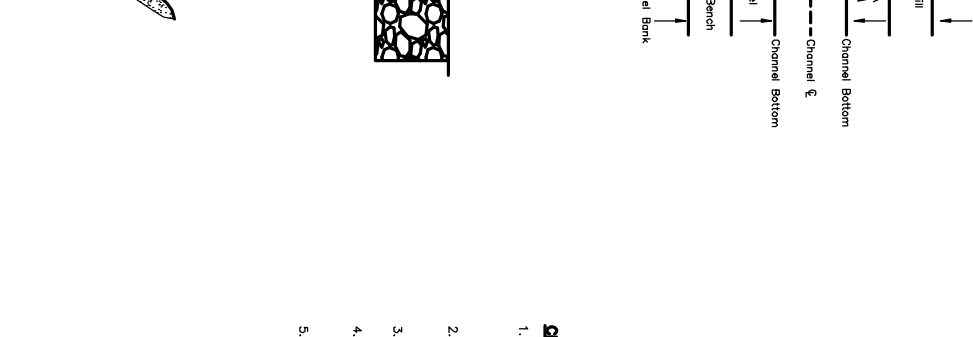
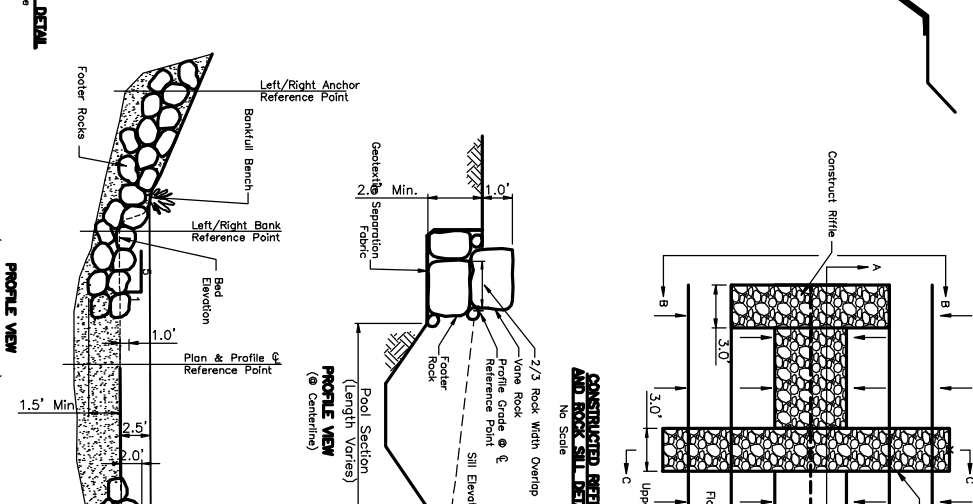
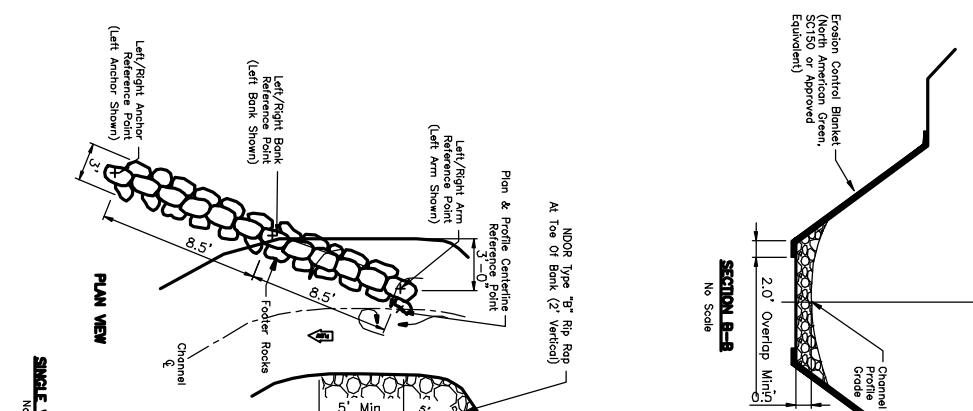


- LOOK AND SINGLE VANE NOTES**
- Vanes should be anchored 8.5 feet into bank of bank full elevation.
 - Footer rocks shall be 1 to 2 TN flat limestone rocks (3' x 2' x 1.5' Typ). Vane rocks can be angular with a flat side to be placed on top of Footer Rock (3.5' Typ).
 - Rocks in vane are not spaced. Rocks in "r" section are spaced 1/2 rock width.
 - There should be no gaps between rocks in the arm of the Single and J-hook Vane. Miscellaneous Geotextile Separation Fabric shall be placed on the upstream side and base of all vanes and sills.



- ROOT WAD NOTES**
- Root Wad: Root Form 5'-10" Trunk Length 10'-15" Trunk Diameter 12"-24"
 - Header And Footer Legs: Length 10'-20" (Depending On Spacing Of Root Wads) Diameter 12-24"
 - Boulders - Select From NDOR Type "C" Rip-Rap Greater Than 12" Mean Diameter



- GROSS VANE NOTES**
- Footer rocks shall be flat rocks placed in trench depth of rock (3' x 2' x 1.5' Typ). Vane rocks can be angular with a flat side to be placed on top of Footer Rock (3.5' Typ).
 - Vane rocks shall be placed on top of footer rocks from stream bed.
 3. Cross vane should be anchored 8.5 feet into bank at bankfull elevation.
 4. There should be no gaps between rocks in the cross vane. Miscellaneous Rip-rap shall be used as filler.
 5. Geotextile Separation Fabric shall be placed on the upstream side and base of all vanes and sills.

- ROOTWAD NOTES:**
- INSTALLATION NOTES:**
- Install the protection (Rock or Footer Log).
 - Overlap footer logs and use boulders to secure them into position.
 - Backfill behind and within gaps of the protection.
 - Position root wad approximately 30' from bank.
 - Root wad fan should be snug with bank on the upstream side.
 - Tip of trunk may be shortened to push into the bank. If this can't be done a trench may be excavated and the trunk backfilled and compacted.
 - Install 1 TN or larger Boulder on top of and behind root wad.
 - Boulders shall be placed at the base of the trunk to secure the root wad in place and soil packed around the rocks.
 - Place header logs above footer logs with joints behind the root wads.
 - If installed by Trenching Method, a footer log shall be installed beneath root wad.

Drawn by	Checked by	Reviewed by	Approved by
DESIGNED	DESIGNED	DESIGNED	DESIGNED
DATE	DATE	DATE	DATE
03/14/14	03/14/14	03/14/14	03/14/14
03/14/14	03/14/14	03/14/14	03/14/14

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STABILIZATION MEASURES DETAILS EXHIBIT

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