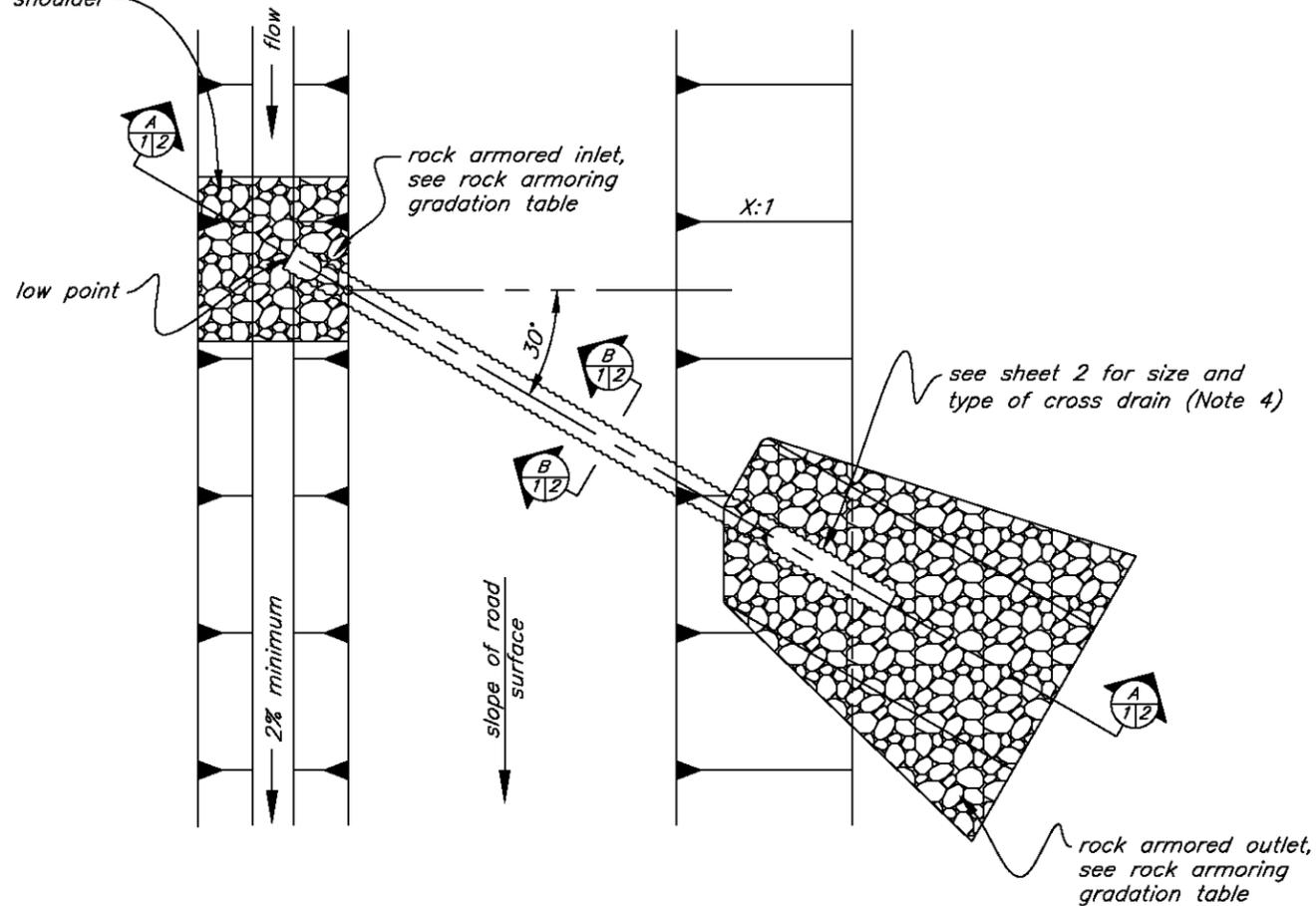


install a permanent ditch block armored with rock to direct flow into cross drain, top elevation of ditch block shall be lower than the road shoulder



PLAN VIEW

DESIGN CRITERIA

1. ROCK ARMORING GRADATION TABLE

Size of stone (inches)	Range D ₅₀ (inches)	Percent of total weight smaller than the given size
1.5 to 2.0 x D ₅₀	9 to 16	100
1.3 to 1.8 x D ₅₀	8 to 12	85
1.0 to 1.5 x D ₅₀	6 to 8	50
0.3 to 1.5 x D ₅₀	2 to 6	15

Cross Drain Diameter _____ (in)
 Cross Drain Length _____ (ft)
 Cross Drain Type _____ (i.e. HDPE, CMP, etc.)
 Road Side Slope (X:1) _____ (3:1 min.)

This drawing requires supporting technical documentation prior to use and must be adapted to the specific site.

NOTES:

1. The landowner is responsible for procuring and complying with all permits and easements, including all Federal, State and local requirements. The landowner is also responsible for insuring that all work done on access roads that join state or county roads shall be in compliance with the requirements for these roads.
2. Construction operations shall be carried out in such a manner that erosion, air and water pollution are held within the legal limits.
3. Spacing and size of cross drain shall be determined by a qualified NRCS Engineer.
4. A minimum of 12" cover shall be provided over cross drain. Design to be determined by qualified engineer or as required by manufacturer's specifications.
5. Pipe shall be installed according to manufacturer's specifications. Pipe shall meet AASHTO H-20 loading requirements.
6. The soil subgrade shall be made free of organics and deleterious materials. The trench shall be graded to the required elevation and a minimum of 12" of 1" minus crushed aggregate shall be placed and compacted.
7. Select backfill shall be used to fill the remainder of the trench around the pipe. Backfill shall be placed in appropriate lifts and compacted with a vibratory plate compactor.
8. For plastic pipe, maximum aggregate size shall be 1" within 1' of pipe, and 3" within 2' of pipe, excluding rock armoring protection.
9. Rock armoring shall provided at inlet and outlet. Rock shall be sized to withstand anticipated velocities at cross drain inlet and outlet. See Rock Armoring Table below. Rock shall be well-graded.
10. Cross drain outlet shall be directed away from wetlands and streams.
11. Inlet of cross drain shall be placed 1/2 pipe dia. below ditch bottom.
12. Drainage ditch shall be graded at a minimum 2% slope to insure adequate drainage.
13. Disturbed areas and slopes shall be seeded to grass upon completion. See Practice Standard 560 Operation & Maintenance for additional guidance.

Date _____
 Designed _____
 Drawn _____
 Checked _____
 Approved _____
 Title _____

ARMORED CROSS DRAIN (HEAVY USE ROADS)

PRACTICE STANDARD 560 - ACCESS ROADS



File Name
 access_roads.dwg
 Drawing No.

Drawing not to scale

Sheet _____ of _____