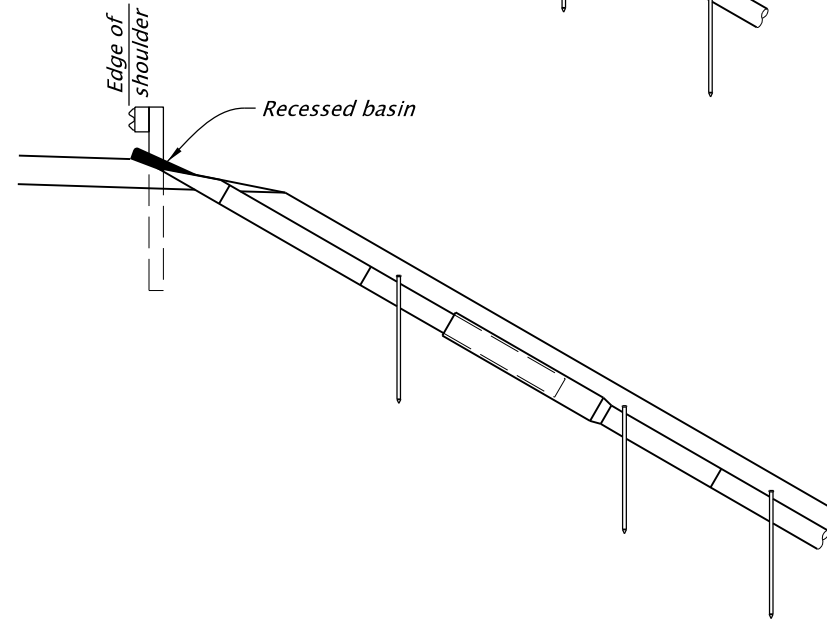
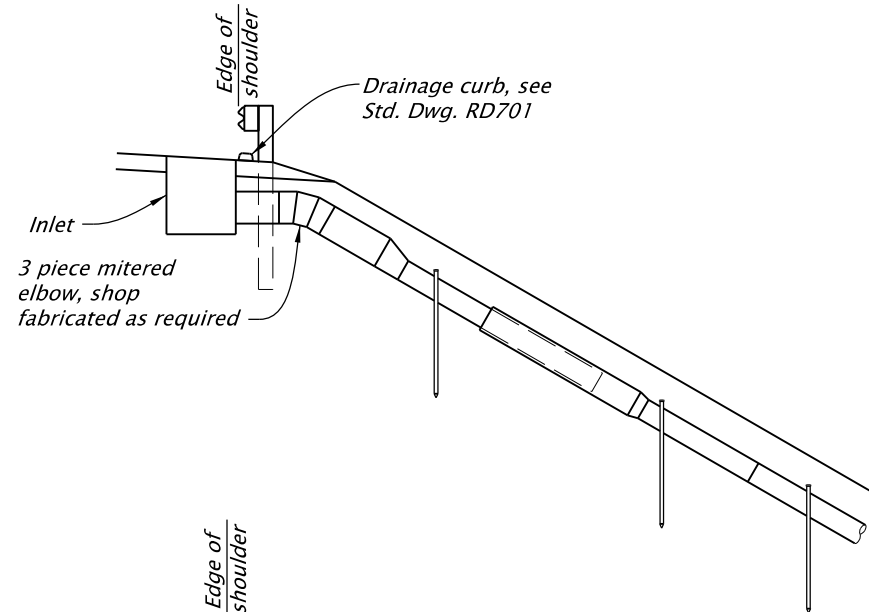
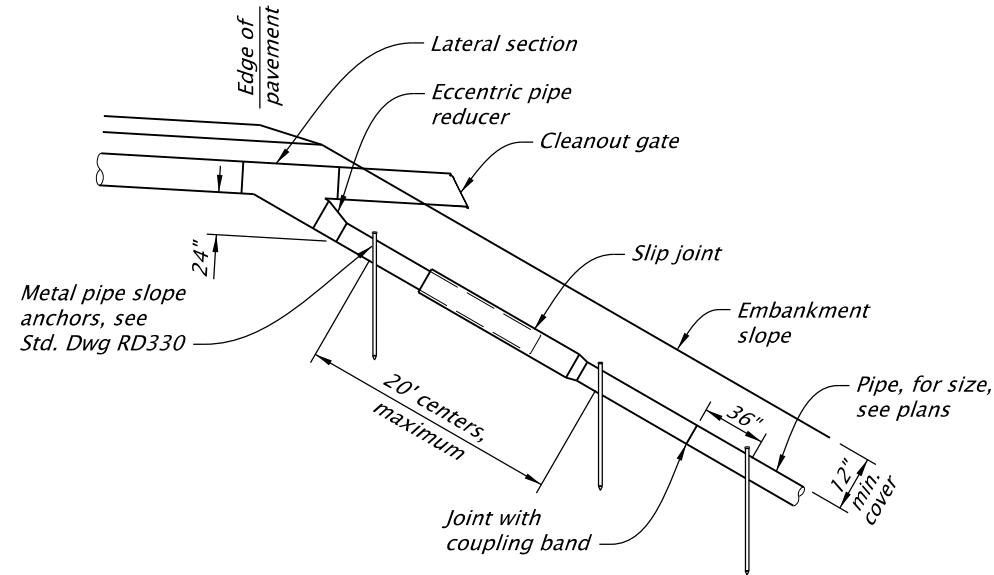
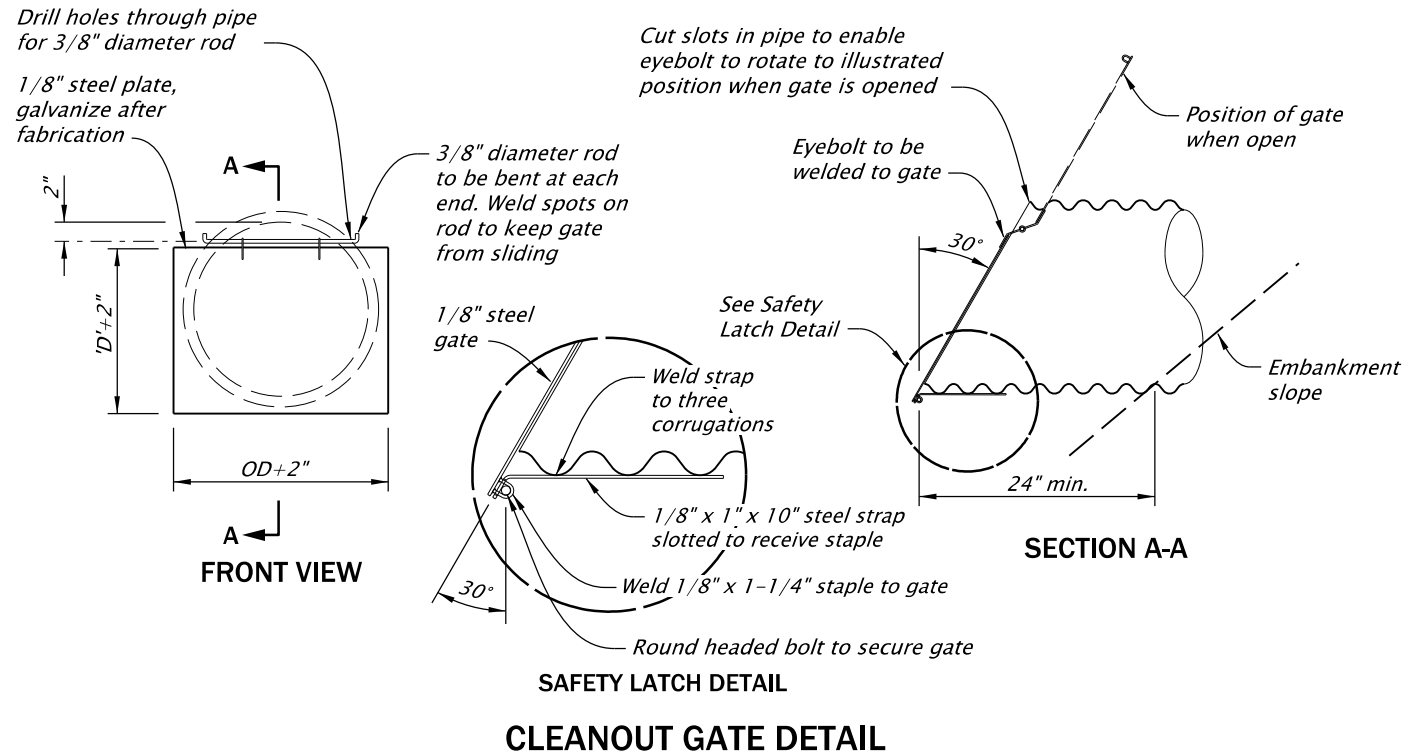


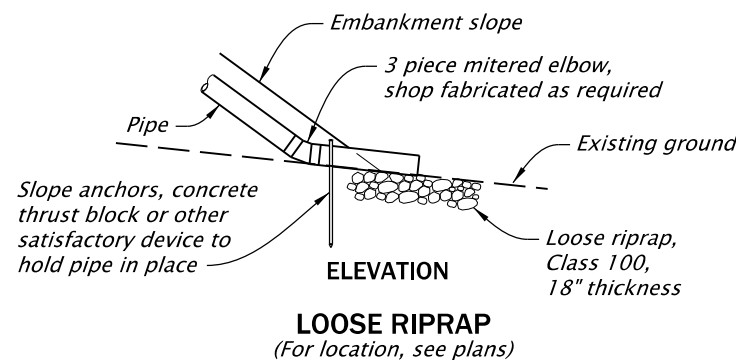
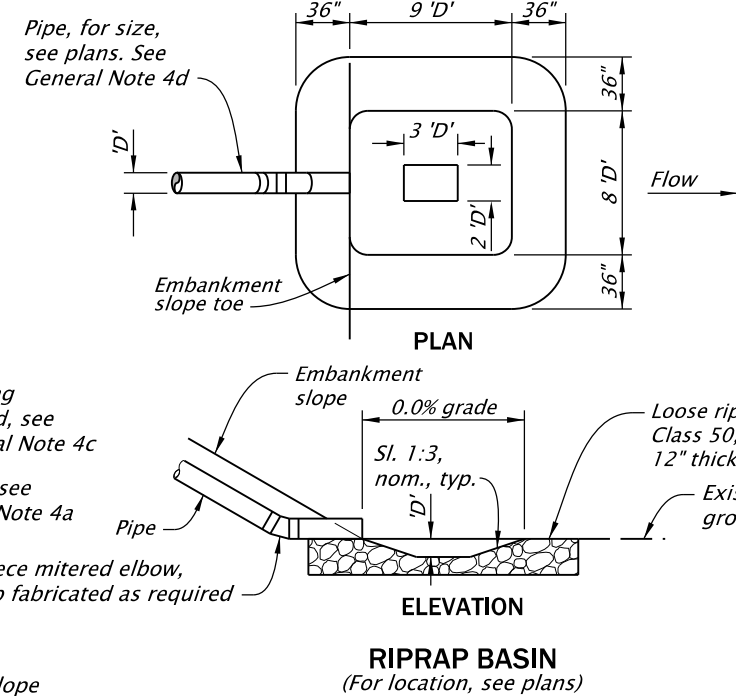
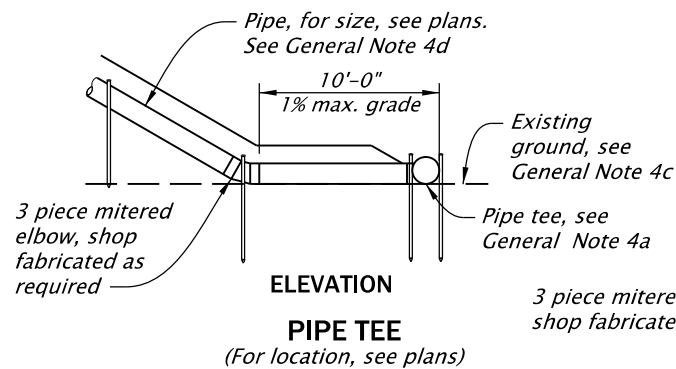
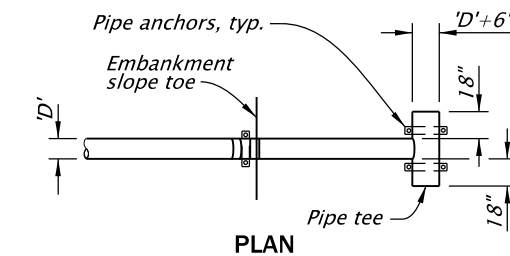


PIPE DOWN SLOPES

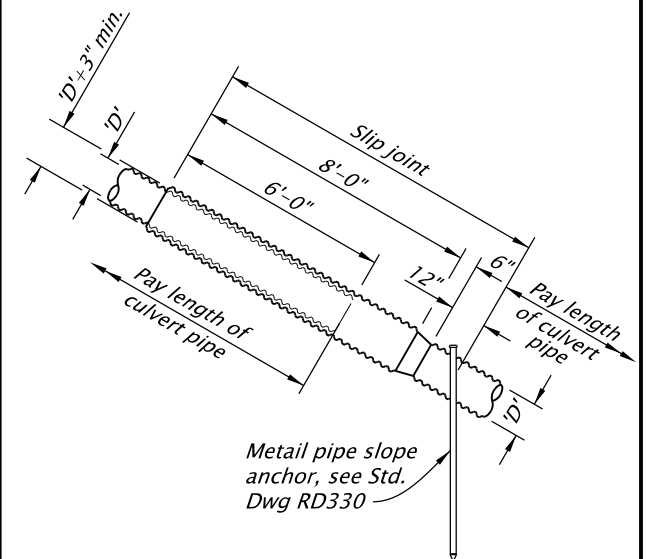


GENERAL NOTES FOR ALL DETAILS THIS SHEET:

1. Install cleanout when necessary for cross culvert.
2. Install slip joint when embankment movement is expected.
3. Install a recessed basin when the grade is four percent or more or when water bypass is unacceptable.
4. Pipe tee (energy dissipater):
 - a. Install end of pipe tee on a 0.00 percent grade.
 - b. Place the 10 foot section just upstream from the pipe tee on a one percent maximum grade.
 - c. Maximum grade of existing ground is one percent.
 - d. Maximum size of pipe down the slope is 12 inches.
 - e. If the above conditions can not be met, an alternate or special design is required.
5. Metal marking post by each installation.
6. 'D' = pipe diameter.



ENERGY DISSIPATERS



SLIP JOINT

The selection and use of this detail, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

OREGON DEPARTMENT OF TRANSPORTATION



ENGINEERING AND
TECHNICAL SERVICES BRANCH

SLOPE PIPES

DETAIL NO.

DET1342