



UNCLASSIFIED LETDOWN
STRUCTURE SINGLE ELBOW ④

\bar{E} is \bar{C} of roadway, dike, survey, or other as detailed on the plans.

Skew angle is the angle which one end of the pipe is ahead (by stationing) of a line perpendicular to the \bar{E} . (Example: skew Rt. ahead 30 degrees)

Standard type joint couplings are required. See **Materials I.M. 441**.

When the concrete option is used, use connected joints (**DR-121**) for the outer three joints.

- ① Refer to the following:
DR-201 for circular concrete.
DR-202 for low clearance concrete.
DR-203 for circular metal.
DR-204 for arch metal (metal pipe only).
DR-205 for circular concrete with end wall.
DR-206 for low clearance concrete with end wall.
- ② Type "A" Diaphragm, see **DR-501**. If more than one diaphragm is specified, install them 15 feet apart or as specified.
- ③ Bend may be accomplished by use of metal elbow, Pipe Adapter (**DR-122**), Type "D" Section, or Concrete Elbow (**DR-141**) as specified. Bend is considered incidental to the Length of pipe.

Possible Tabulation:
104-3

IOWA DOT	REVISION	
	1	04-18-17
STANDARD ROAD PLAN		DR-652
		SHEET 1 of 1
REVISIONS: Modified note 1 to include references to additional apron types.		
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APPROVED BY DESIGN METHODS ENGINEER		
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