

Index 425-010 Structure Bottoms Type J and P

Design Criteria and Guidance

FDOT Design Manual (FDM); Drainage Manual (DM); Drainage Design Guide (DDG) Structures Manual (SM)

Design Assumptions and Limitations

Check structures with depths over 14' below the mean high-water table for flotation.

Type J Structure bottoms must have a minimum 6'0" wall height when possible, for maintenance access.

Require Class IV Concrete for special applications of structures located in extremely aggressive environments

MINIMUM STRUCTURE SIZES FOR SINGLE PIPE CONNECTION PER SIDE				
PIPE SIZE	RECTANGULAR		ROUND	
	Side Dimension (L)		Diameter (D)	
	Single Pipe Per Side	Note Number	Single Pipe or 6=180°	2 to 4 Pipes 6=90°
18"	3'-6"		3'-6"	4'-0"
24"	3'-6"		3'-6"	5'-0"
30"	3'-6"/4'-0"	2	4'-0"	6'-0"
36"	4'-0"/5'-0"	3	5'-0"	7'-0"
42"	5'-0"		6'-0"	7'-0"
48"	6'-0"		6'-0"	8'-0"
54"	6'-0"		7'-0"	10'-0"
60"	7'-0"		7'-0"	10'-0"
66"	7'-0"/8'-0"	4	8'-0"	12'-0"
72"	8'-0"		8'-0"	12'-0"
78"	9'-0"		10'-0"	12'-0"
84"	9'-0"		12'-0"	N/A

TABLE NOTES:

1. For Round Structures sizes with variable angles between pipes and variable pipe sizes, refer to the FDOT Storm Drain Handbook.
2. For 3'-6" Precast Square Structure Bottoms, 30" Pipes with similar invert elevations are not permitted in adjacent walls. Use 4'-0" Side Dimensions when 30" pipe openings are required on adjacent walls and the difference in flow lines is less than 3'-0".
3. For 4'-0" Precast Square Structure Bottoms, 36" Pipes with similar invert elevations are not permitted in adjacent walls. Use 5'-0" Side Dimensions when 36" pipe openings are required on adjacent walls and the difference in flow lines is less than 3'-0".
4. For 7'-0" Precast Square Structure Bottoms, 66" Pipes with similar invert elevations are not permitted in adjacent walls. Use 8'-0" Side Dimensions when 66" pipe openings are required on adjacent walls and the difference in flow lines is less than 4'-0".

Plan Content Requirements

Include Drainage Structure information in the Plans in accordance with the requirements of the Basis of Estimates Manual (BOE) and the FDM.

Specify Class IV Concrete were required for extremely aggressive environments, see Structures Manual (SM) 1.3.

Payment

Item number	Item Description	Unit Measure
425-1-AAB	Inlet – Drainage	EA
425-2-AAB	Manhole- Drainage	EA
425-3-AAB	Junction Boxes- Drainage	EA

See the **BOE** and **Specification 425** for additional information on payment, pay item use and compensation.