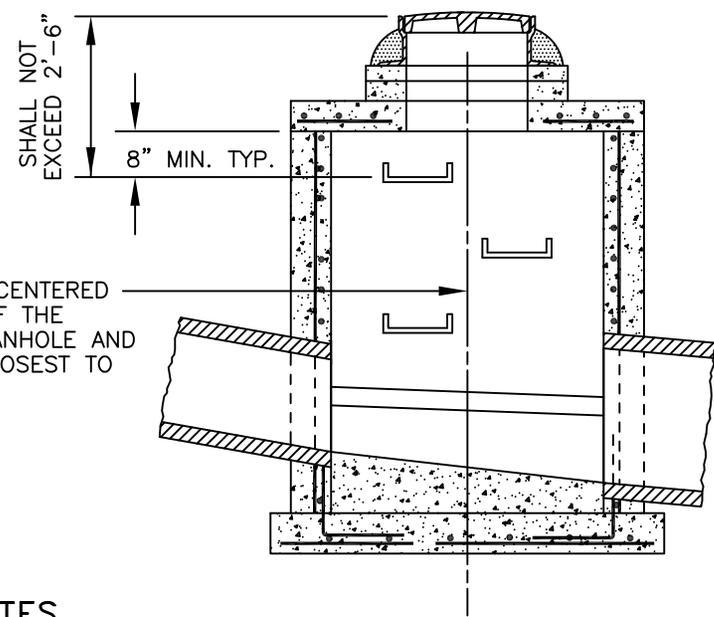


ALTHOUGH THIS DIMENSION CAN VARY ±3", LADDER RUNGS SHALL BE SPACED EQUALLY AND CONSISTENT.

THE STEPS SHALL BE CENTERED ON THE CENTERLINE OF THE STRUCTURE ACCESS/MANHOLE AND ON THE WALL FACE CLOSEST TO THE ACCESS/MANHOLE.



**NOTES**

1. LADDER RUNGS ARE INCIDENTAL TO ALL STORM DRAIN STRUCTURES WITH A DIFFERENCE IN ELEVATION OF 4'-0" OR MORE FROM THE FLOW CHANNEL INVERT TO THE GRATE FINISH GRADE OR RIM FINISH GRADE. INSTALL AS SHOWN CENTERED ON THE ACCESS CENTERLINE.
2. THE LOWEST LADDER RUNG SHALL BE BETWEEN 1'-0" MIN. ABOVE THE FLOW CHANNEL BENCH AND 2'-0" MAX. ABOVE THE FLOW CHANNEL BENCH.
3. FOR CAST IN PLACE CONCRETE AND PRECAST CONCRETE STRUCTURES USE MD DEPT. OF TRANSPORTATION S.H.A. STANDARD NO. MD-383.91 TYPE 1 SOLID ALUMINUM ALLOY RUNGS. REFER TO THIS S.H.A. STANDARD FOR ALL OTHER INFORMATION.
4. FOR BRICK STRUCTURES USE MD DEPT. OF TRANSPORTATION S.H.A. STANDARD NO. MD-383.92 TYPE C 1/2" STEEL REINFORCEMENT BAR WITH COPOLYMER POLYPROPYLENE ENCAPSULATION RUNGS. REFER TO THIS S.H.A. STANDARD FOR ALL OTHER INFORMATION.
5. FOR STRUCTURES BUILT OVER BRICK ARCH DRAINS CONTINUE THE LADDER RUNGS DOWN THE BRICK ARCH WALLS. THE LOWEST RUNG SHALL BE 2'-0" ABOVE THE WALL/FLOOR INTERSECTION.
6. FOR BOX CULVERTS CONTINUE THE LADDER RUNGS DOWN THE CULVERT WALL SUCH THAT THE LOWEST RUNG SHALL BE 2'-0" ABOVE THE WALL/FLOOR INTERSECTION.



CITY OF HAGERSTOWN, MARYLAND – ENGINEERING AND INSPECTIONS DEPARTMENT

**STORM DRAIN STANDARD DETAIL**  
**STORM DRAIN STRUCTURES**  
**LADDER RUNGS**

ISSUE DATE: 01-01-03	
REVISIONS	

**Plate SD-012**