

Country	Colombia	Route	RA	Service	3.00	RD	100.12	Shore	Crook
Station	972-01.07	Station			972-01.73			Shore & Star	30

User Input	
gfs	Abrasion Level
7.6	0.0

Constants and Calculated Values			
gfs	Sediment/Rise	End of Service Life GA	Service life Required
7.6	0	0	75

[illegible]

Concrete Curb Durability Results						
Material	**706.01 Non-reinforced Concrete Concrete Pipe	**706.02 Reinforced Concrete Circular Pipe	**706.03 Reinforced Concrete Plan, Edge/Curb	**706.04 Reinforced Concrete Elliptical Culvert, Storm Drain, and Sewer Pipe	**706.05 Precast Reinforced Concrete Box Sections	706.06 Clay/Stone Tile
Curb Use and Shape	Culvert or Storm Sewer - Round	Culvert or Storm Sewer - Round	Culvert or Storm Sewer - Round or Elliptical	Culvert or Storm Sewer - Elliptical	Culvert or Storm Sewer - Box	Culvert or Storm Sewer - Round

Material	Plastic Conduit Durability Results													
	707.33 Corrugated Polyethylene Smooth Linet Pipe	707.34 Polyethylene Plastic Pipes Based on Outside Diameter [202]	707.35 Polyethylene Profile Wall Pipe	707.42 Polypropylene Corrugated Smooth Interior Pipe	707.43 Polypropylene Chloride Profile Wall Pipe	707.45 Polypropylene Chloride Wall Pipe	707.46 Polypropylene Chloride Drain Waste and Vent Pipe	707.47 ABS and Polypropylene Chloride Composite Pipe	707.48 Polypropylene Chloride Large Diameter Schedule 40 Riser	707.65 Polypropylene Extruded Double Wall Pipe	707.68 Polypropylene Triple Wall Pipe	707.75 Glass-Reinforced Polymer Mortar Pipe	748.02 Polymethyl Methacrylate (PVC) Pipes, Joints, and Fittings	903B8 Steel Reinforced Thermoplastic Ribbed Pipe
Conduit Use and Shape	Culvert, Storm Sewer, or Storm Sewer - Round	Culvert, Storm Sewer, or Storm Sewer - Round	Culvert, Storm Sewer, or Storm Sewer - Round	Storm Sewer or Storm Pipe - Round	Storm Sewer or Storm Pipe - Round	Storm Sewer - Round	Storm Sewer - Round	Storm Sewer - Round	Storm Sewer - Round	Culvert or Storm Sewer - Round	Culvert or Storm Sewer - Round	Culvert, Storm Sewer, or Storm Pipe - Round	Storm Sewer - Round	Culvert or Storm Pipe - Round

Notes:

Many metal options are eliminated when abrasion level equals 4 or greater
Aluminum is only available between pH levels: ranging from 5.0 to less than 9.0
Aluminum protective coating is 0 years when pH levels are outside of allowable for Aluminum
Polymeric coated is only available for pH ranges greater than 5.0 and less than 9.0
Options were eliminated when the HCSA online Service Life Calculator did not recommend option; typically due to abrasive conditions or pH limitations
Epoxy is required on all concrete surfaces when pH<5
**Smooth finish conduit
***Minimum gages set per industry comments; see Reference Data
Provide concrete field paving on corrugated metal conduits 60" or larger where the invert is always submerged due to tail water conditions from a body of water

Constants	
Protective Coating Constants-Initial Service Life (years)	
Concrete Inert Pigment	20
Aluminized	35
Aluminized Spiral Rib	35
Polymeric	50
Stainless steel of return, paved inverts	10
Stainless steel lined	25
Galvanized	0