

ROUTE: DES. NO.: PROJECT NO.: PROJECT DESCRIPTION:		STATION: SHEET OF		CULVERT DESIGN FORM – TAPERED INLET DESIGNER: DATE: REVIEWER: DATE:													
DESIGN DATA: Q = m ³ /s; EL. _{hl} (m) EL. Throat Invert (m) EL. Stream Bed at Face (m) FALL: (m); TAPER :1 (4H:1V to 6H:1V) STREAM SLOPE, S _c = (m/m) SLOPE OF BARREL, S = (m/m) S _r :1 (2H:1V to 3H:1V) Barrel Shape and Material: N = ; B = ; D = Inlet Edge Description:																	
				COMMENTS:													
Q (m ³ /s)	EL. _{hl}	EL. Throat Invert	EL. Face Invert (1)	HW _f (2)	HW _f E (3)	Q B _f (4)	Min. B _f (5)	Sel- Ected B _f	SLOPE-TAPERED ONLY					L ₁ (11)	SIDE-TAPERED w/ FALL		
									Min. L ₃ (6)	L ₂ (7)	Check L ₂ (8)	Adj. L ₃ (9)	Adj. Taper (10)		EL. Crest Invert	HW _c (12)	Min. W (13)
TECHNICAL FOOTNOTES: (1) Slope-Tapered: EL. Face Invert = EL. Stream Bed at Face Side-Tapered: EL. Face Invert = EL. Throat Invert + 0.3 m (approx.) (2) HW _f = EL. _{hl} – EL. Face Invert (3) 1.1D ≥ E ≥ D (4) From Design Charts (5) Min. B _f = Q / (Q/B _f) (6) Min. L ₃ = 0.5NB (7) L ₂ = S _r (EL. Face Invert – EL. Throat Invert) (8) Check L ₂ = 0.5(B _r – NB)Taper – L ₃								(9) If (8) > (7), Adj. L ₃ = 0.5(B _r – NB)Taper – L ₃ (10) If (7) ≤ (8), Adj. Taper = $\frac{L_2 + L_3}{0.5(B_r - NB)}$ (11) Slope-Tapered: L ₁ = L ₂ + L ₃ Side-Tapered: L = 0.5(B _r – NB)Taper (12) HW _c = EL. _{hl} – EL. Crest Invert (13) Min. W = $\frac{0.634Q}{HW_c}$					SELECTED DESIGN: B _f = L ₁ = L ₂ = L ₃ = Bevels Angle = ° b = d = Taper = :1V S _r = :1V				