INLET SPACING: CURB-OPENING, GRATED AND SLOTTED PIPE INLETS

SECTION 1: PROJECT INFORMATION

COUNTY	**ROUTE**	**PROJECT #**	**DISTRICT #** Select	**ITEM #**

SECTION 2: INLET INFORMATION

1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**
Sta. Loc.	CA	Q	Qc	Qa	Sx	Sw/Sx	So	T/W	T	d	V	W/T	Eo	Se	Lt	L/Lt	Rf	1-Eo	Rs	E	Qi	Qc

ALL INLETS da= Ta= I= n= Wg= Lg= a= Li=

SAG INLETS Qsum= Cw= Co= h= do= A/2= P/2=

INLET SPACING: CURB-OPENING, GRATED AND SLOTTED PIPE INLETS

SECTION 3: INSTRUCTIONS

COLUMN	ITEM	INSTRUCTIONS
1	STA/LOC	Station and Location of Inlet
2	CA	C X A: Weighted Runoff Coefficient times Drainage Area to Inlet in Acres
3	Q	Rational Discharge = (2) x I (Intensity)
4	Qc	Carryover from Previous Inlet Upstream
5	Qa	Total Gutter Flow Available = (3) + (4)
6	Sx	Pavement Cross-Slope at Inlet; use minimum of 0.001 for inlet placed 50 feet back of flat spot in Superelevated Roadway.
7	Sw / Sx	Ratio of Gutter Cross Slope (Sw) to (6)
8	So	Longitudinal Slope; use minimum of 0.001 for inlet in Sag Vertical Curve.
9	T / W	Ratio of Top Width (Spread) to Gutter Width
10	T	Top Width Flow at Inlet (Spread)
11	d	Depth of Flow at Inlet
12	V	Velocity at Inlet = (3) / Area
13	W / T	Ratio of Gutter Width to Top Width
14	Eo	Ratio of Gutter Flow to Total Flow = Qw / (3) = $1-(1-W/T)^{2.67}$
15	Se	Equivalent Cross Slope at Depressed Inlets = Sx + Sw x Eo
16	Lt	Length of Curb Opening Inlet required for Total Interception = $0.6Q^{0.42}So^{0.3}(1/nSe)^{0.6}$
17	L / LT	Ratio of Length of Inlet to Curb Opening Length required for Total Interception
18	Rf	Ratio of Grate Frontal Flow intercepted to Total Frontal Flow = 1 - 0.09(V - Vo), where Vo = gutter velocity where grate splash-over first occurs (see HEC-12)
19	1-Eo	Ratio of Grate Side Slow, Qs, to Total Gutter Flow = Qs/Q = 1-Qw/W = 1-Eo
20	Rs	Ratio of Grate Side Flow intercepted to Total Side Flow = $1/[1+(0.15V^{1.8})/(SxLg^{2.3})]$, where Lg is length of grate
21	E	Efficiency of: Grate = RfEo + Rs(1-Eo); Curb Opening = $1 - (1 - L/Lt)^{1.8}$
22	Qi	Total Discharge intercepted by inlet, Qi = EQ
23	Qc	Carryover Discharge (not intercepted) to next inlet, Qc = Q - Qi
	da	Depth at Curb Face times Gutter Depression
	Ta	Top Width times Gutter Depression
	I	Rainfall Intensity
	n	Manning's Roughness Coefficient for Pavement
	Wg	Width of Grate
	Lg	Length of Grate
	a	Gutter Depression at Inlet in feet
	Li	Length of Curb Opening Inlet
	Qsum	Sum of Total Gutter Flow in Sag
	Cw	Weir Coefficient
	Co	Office Coefficient
	h	Height of curb opening
	do	Effective Head on Center of Orifice Throat of Curb Opening Inlet, do = d - (h/2)SinΘ, where h is height of curb opening orifice and $\Theta$is angle of orifice opening (see HEC-12)
	A/2	Area of Clear Grate Opening divided by 2
	P/2	Perimeter of Grate divided by 2