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| **SECTION 1: PROJECT INFORMATION** |
| **COUNTY**      | **ROUTE**      | **PROJECT #**      | **DISTRICT #** | **ITEM #**      |
| **SECTION 2: INLET INFORMATION** |
| **1** |

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| **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** | **14** | **15** | **16** | **17** | **18** | **19** | **20** | **21** |
| 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    |

 | **22** | **23** |
| Sta.Loc. | Qi    | Qc    |
|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
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| **ALL INLETS** | da=      | Ta=      | I=      | n=      | Wg=      | Lg=      | a=      | Li=      |
| **SAG INLETS** | Qsum=      | Cw=      | Co=      | h=      | do=      | A/2=      | P/2=      |  |

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| **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 = 0.6Q0.42So0.3(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+(0.15V1.8)/(SxLg2.3)], 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)Sinʘ, where h is height of curb opening orifice and ʘis 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 |

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