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| **COUNTY**      | **ROUTE**      | **PROJECT #**      | **ITEM #**      |  |
| **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** | **14** | **15** | **16** |
| **Inlet/****MH**(ID) | **Station** | **Area, A** | **“C”** | **CA** | **Σ CA** | **T**(min) | **Σ T**(min) | **I \_\_**(in/hr) | **Q**(cfs) | **Pipe Length**(LF) | **Pipe****Slope**(ft/ft) | **Pipe****Size**(in) | **Mean****Vel**(fps) | **Full****Flow**(cfs) | **Cap**(%) |
|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
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| **INSTRUCTIONS**

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| **COL #** | **ITEM** | **DESCRIPTION** |
| 1. | End of Pipe ID | Inlet, manhole or junction number of symbol |
| 2. | Station | Roadway station or end of pipe location |
| 3. | Drainage area, A | Contributing drainage area at inlet or manhole |
| 4. | Runoff coefficient, C | Representative runoff coefficient of drainage area  |
| 5. | CA | Intermediate runoff calculation |
| 6. | ∑CA | Summation of CAs to this point |
| 7. | Pipe travel time, T | Pipe length (col. 11)/Mean Velocity (col. 14) |
| 8. | Total travel time | Travel time to inlet (col. 8) + pipe travel time (col. 7) |
| 9. | Rainfall intensity, I | Compute based on total travel time (col. 8) |
| 10. | Flow, Q | Rational discharge = CA (col. 6) x I (col. 9) |
| 11. | Pipe Length, L | Place pipe entries between inlets, manholes, or junctions |
| 12. | Pipe Slope, So | Slope of pipe in ft/ft |
| 13. | Pipe diameter, D | Determine from nomograph or other means (n=0.012) |
| 14. | Mean pipe velocity, V | Determine from nomograph or other means |
| 15. | Full pipe flow | Determine from nomograph or other means |
| 16. | Capacity (%) | Design capacity = Flow (col. 10)/Full pipe flow (col. 15); If design flow produces pressure flow, resize pipe. |

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