

Instructional Memorandum  
June 24, 2005

To: City Staff and Consulting Engineers utilizing the Johnson City Public Works Department Standards in the preparation of site plans and subdivision plans

From: Allan Cantrell, City Engineer

Subject: The following is an outline of recent clarifications and amendments to the Johnson City Public Works Department Standards:

1. Technical Paper No. 40 will remain for the present as the source for rainfall depths used in stormwater designs until the new NOAA Atlas 14 is better understood. The Johnson City Public Works Department will take the new rainfall atlas under review and compare its information with the old TP-40. The atlas was released this past February 17, 2005, with draft documentation. The final documentation was released June 2, 2005. A few designers have discovered the new atlas and are beginning to use it. The main concerns that the Public Works Department engineering staff has with the new atlas is the rainfall information shows smaller depths of rainfall. For example using the 24 hour duration:

Central Washington County, Tennessee

Frequency	TP-40	NOAA Atlas 14	Difference
2 yr/24 hr	2.98"	2.46"	0.52"
5 yr/24 hr	3.96"	3.07"	0.89"
10 yr/24 hr	4.74"	3.47"	1.27"
25 yr/24 hr	5.22"	3.97"	1.25"
50 yr/24 hr	5.87"	4.32"	1.55"
100 yr/24 hr	6.30"	4.67"	1.67"

2. Text has been added under the heading 5-1 Storm Water Management Design, to establish general standards for designing storm water management facilities. The Tennessee Department of Transportation has released the latest edition of its Drainage Manual. The Johnson City Public Works Department will utilize this manual as a basic guide for designing storm water pipes, culverts, curb inlets, open channels and other storm water management facilities covered in the manual. Where storm frequency and duration limits differ from the frequency and duration limits given in the Johnson City Public Works Department Standards, the parameters given in the Johnson City Public Works Department Standards will supersede those given in the TDOT Design Division Drainage Manual. The manual can be downloaded from the TDOT web site at:

[http://www.tdot.state.tn.us/Chief\\_Engineer/assistant\\_engineer\\_design/design/Des\\_Resources.htm](http://www.tdot.state.tn.us/Chief_Engineer/assistant_engineer_design/design/Des_Resources.htm)

3. 5-1.1 Design Report Format has been expanded to include an outline of the minimum information to be included in the Storm Water Management Report.
4. A clarification sentence has been added to 5-1.2 Calculations and Determinations.
5. 5-1.4 Minor Drainage Systems, 24-hour duration has been added to the 25-year and 100-year storm frequencies.
6. Paragraph 5-1.5, E, has been added to provide minimum guidance for curb inlet design. It reflects some of the older regulations and refers to the TDOT Drainage Manual for additional design guidance.
7. Paragraph 5-1.5, F, has been added to provide a minimum length for storm water pipes that are located along common property lines of adjacent lots.
8. 5-1.7. Storm Water Detention / Retention, 24-hour duration has been added to the 2-year, 25-year and 100-year storm frequencies. “Head walls” has been changed to “End walls”, reference to the Tennessee Safe Dam Act is added, reference to older “Standards of Design” is removed, use of the detention area as a sediment basin during construction is allowed, “two-stage” outlet is changed to “multi-stage” outlet, and references to outlet flow standards removed from item 10 in recognition that outlet flow limits are covered in 5-1.7, B.
9. 5-2. Erosion and Sediment Control, minor text changes were made to remove references to an older proposed erosion and sediment control ordinance.