

**Grafton Subdivision Rules and Regulations and Regulations Governing Stormwater Management**  
**Stormwater Management Requirements and Comparisons Review**  
**April 27, 2018**

Issue/Design Standard	Subdivision Rules and Regulations (SR&R)		Regulations Governing Stormwater Management (RGSW)		Suggested Changes
	Section Number	Design Requirement	Section Number	Design Requirement	
Compliance with MassDEP Requirements	4.7.8	Compliance with MassDEP requirements regardless of a facility's proximity to areas regulated by the Wetland Protection Act	6.A, 7.A	Meet all standards of the MassDEP's Stormwater Management Standards and Handbook	None
Reference to MassDEP Stormwater Documents or Standards	4.7.8	NA	2, 6.A	NA	Revise narrative in SR&R 4.7.8 from "Stormwater Management Guidelines" to "Stormwater Handbook..." (the current document's title) "...as may be amended from time-to-time."
Conveyance design	4.7.8.1	Rational Method (a hydraulic method, not a hydrology analysis)	6.B.3.a	Rational Method	Combine required conveyance design method and design storm into the same section in SR&R.
Impoundment design	4.7.8.1	TR-55	6.3.a	TR-55 and/or TR-20	None (TR-20 or TR-55 are acceptable. TR-55 is a simplified version of TR-20)
Coveyance design storm	4.7.8.2	10-year frequency, minimum (using the Rational Method)	6.B.3.a	25-year storm event (using the Rational Method)	25-year Rational Method. Combine the required coveyance design method (Rational Method) and design storm into the same section in SR&R.
Impoundment design storm	4.7.8.2	100-year	6.A (by reference to MassDEP Stormwater Management Standards)	100-year storm event required by MassDEP Stormwater Standards	None
Impoundment design storms to analyze	3.3.3.19.b	2- year, 10-year and 100-year storm events (24-hour duration for each storm event)	6.A (by reference to MassDEP Stormwater Management Standards)	2- year, 10-year and 100-year storm events (24-hour duration for each storm event) required by MassDEP Stormwater Management Standards	Could add a 25-year storm event
Rainfall data for hydrology (TR-20 and TR-55) modeling.		None specified in SR&R (a common practice in many communities). Rainfall amounts from TP-40 (1961) are required by Appendix B in TR-55. Therefore, TP-40 applies.	6.B.3.b	NRCC Cornell Data	Make the requirements consistent. NRCC Cornell Data has more recent data (and therefore more data) than TP-40. Generally speaking, data for storms up to 10-year are consistent between the two rainfall data sources. The rainfall amounts vary with the less frequent storm events. E.g. 100-year storm: 6.50 inches per TP-40, 8.8 inches per NRCC. If using NRCC, specify data from 24-hour storm event, not a one-day storm event (precipitation station reporting time increments are different).
Maximum sheet flow length for calculating time of concentraion.	3.3.3.19.b	75 feet	6.B.3.h	50 feet	50 feet (current generally-accepted practice)
Definition of Impervious Surface	NA	NA	2	Includes gravel and compacted dirt-surface roads	None
Minimum time of concentration for street drainage.	NA	Not specified in SR&R. TR-20 and TR-55 allows for 0.1 hour (6 minute) minimum, Rational Method is 5 minutes per standard practices and intensity-frequency-duration rainfall data.	6.B.3.c	5 minutes	Clarify that RGSW applies to Rational Method.
Minimum and maximum water velocities	NA	maximum of 10 to 12 feet per second (generally-accepted practices)	6.B.3.d	2 to 10 feet per second in pipes	Revise SR&R early in Section 4 to require compliance with Mass Highway Department "Project Development & Design Guide" (the Guide). This will require the design engineer to comply with another design manual for any design criteria not addressed in SR&R. E.g. the Guide requires 10 per second maximum design velocity in pipes. The Guide is two volumes consisting of 18 chapters.