

## NINE MILE CREEK WATERSHED DISTRICT

### Memorandum Supporting and Providing Explanation of Proposed Revisions of the Nine Mile Creek Watershed District Rules

April 10, 2018

#### I. BACKGROUND

This memorandum presents background on and an explanation of amendments being proposed to the Nine Mile Creek Watershed District rules. In addition to supporting NMCWD's proposed changes and, ultimately, the adoption of the revisions by the NMCWD Board of Managers, this memo provides guidance on application and interpretation of the rules, as well as explanation of NMCWD's intent in adopting certain specific provisions. The amendments proposed pertain to the following NMCWD rules:

- Definitions
- Rule 1: Procedural Requirements
- Rule 2: Floodplain Management and Drainage Alterations
- Rule 3: Wetlands Management
- Rule 4: Stormwater Management
- Rule 5: Erosion and Sediment Control
- Rule 6: Waterbody Crossings and Structures
- Rule 7: Shoreline and Streambank Improvements
- Rule 8: Sediment Removal
- Rule 9: Appropriations of Public Waters
- Rule 10: Exceptions and Variances
- Rule 11: Fees
- Rule 12: Sureties

In addition, NMCWD proposes to adopt one new rule:

- Rule 13: Enforcement

This memo supports NMCWD's judgment that the proposed changes will improve the capacity of the NMCWD regulatory program to protect water resources in the Nine Mile Creek watershed. It establishes the basis for NMCWD's determination that the effectiveness of the rules reasonably supports the compliance burden imposed on property development and other land-altering activities in the watershed by the rules as amended, not to mention the administrative burden of the regulatory program on NMCWD operations. The memo adds to the body of research, analysis, experiential evidence and collaborative dialogue supporting and explaining the NMCWD rules, and the support found in the statements of need and reasonableness issued by NMCWD in conjunction with rule revisions completed in 2008, 2011 and 2015. (The prior SONARs are available from the NMCWD office – 952-835-2078.)

When the proposed amendments were released on January 18, 2018, NMCWD invited all interested parties to submit written comments on the proposed changes by March 6, 2018, in compliance with the 45-day period for receipt of written comments required by Minnesota Statutes section 103D.341. NMCWD held a public hearing on the rules as part of the February 21, 2018, regular meeting of the NMCWD managers. At the hearing, NMCWD provided an

opportunity for interested persons to address the board of managers concerning the proposed revisions and the amendment of the rules into the NMCWD Watershed Management Plan.<sup>1</sup>

NMCWD received both written comments and testimony at the public hearing, though the latter did not introduce issues, concerns or questions beyond those that had been raised in written comments. Staff reviewed the comments received with the managers, who provided direction on responses. The managers approved the responses and this memo, and adopted the amendments at a special meeting of the managers held April 10, 2018, with an effective date for the amended rules of May 21, 2018.

### **Responses to comments and changes responding to comments**

The comments received on the draft rule revisions covered a number of topics and several specific rule provisions. Some comments addressed technical points that were addressed through the responses to comments and, in some cases, minor, nonsubstantive revisions to the draft amendments (both of which were approved by the managers). But the comments raised three substantive themes/points that were brought to and addressed in accordance with direction from the managers:

#### ***Burden of compliance on owners of single-family home properties (subsection 4.2.3).***

Commenters argued that the financial burden on applicants for single-family home projects, who likely will need an engineer to design required stormwater facilities, would be excessive. They also asserted that the 20 percent threshold originally proposed captured improvements for small homes while not triggering additions on larger homes. Commenters expressed concern too with the application of the stormwater requirements to construction of homes within subdivisions for which stormwater-management plans were already approved (under a prior permit), creating an undue burden on such construction.

NMCWD made a minor substantive revision (discussed below) in response to the comments.

- Single-family properties have been subject to the NMCWD stormwater rule since 2008 and cost of engineering has not been a barrier to compliance. The NMCWD engineer and administrator have provided significant case-by-case guidance, and guidance documents will be prepared to supplement the substantial guidance available from the Minnesota Pollution Control Agency<sup>2</sup> and others. NMCWD managers and staff also observed that much design and planning can be (and has been) done by homeowners working with their builders, with limited engineering review and signoff on calculations and construction drawings. (It is critical that stormwater-management plan be supported by sound engineering.) The managers also noted the availability of assistance with stormwater-facility design from affordable nonprofit providers such as Metro Blooms. With these observations, the managers directed staff to make no substantial change to the applicability of the stormwater-management requirements other than increasing the threshold in subsection 4.2.3a from 20 percent to 25 percent to try to better ensure that additions to small homes are not disproportionately brought into the scope of the rule.

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<sup>1</sup> NMCWD proposed to amend its watershed management plan to include the updated rules at the same time it solicited comment on the rules. Minn. Stat. § 103B.231, subd. 11. The two statutory processes were pursued in tandem in the interest of efficiency. NMCWD signaled its intention to amend the plan to include the updated rules in the watershed plan. Section 6.2, p. 6-4, 2017 Plan.

<sup>2</sup> See, e.g., Minnesota's Stormwater Manual, available at <https://www.pca.state.mn.us/water/minnesotas-stormwater-manual> (last visited April 5, 2018).

- As to development of single-family lots within subdivisions that were designed and permitted under the prior rules, NMCWD observes that such instances are likely to be few and far between, and that property owners may well be able to rely on already-built stormwater management capacity.

***The increase in the stormwater-retention standard from 1 inch of runoff to 1.1 inches (subsection 4.3.1a).***

Comments questioned why NMCWD elected to propose adopting the Minimal Impact Design Standards standard of 1.1 inch of onsite stormwater retention.

NMCWD did not, in response to the comment, make a revision to the proposed amendments.

- NMCWD's adopted the 1.1-inch retention standard based on 10 years' experience with successful implementation of a 1-inch standard, and to make the NMCWD rules consistent with both the MIDS and neighboring watershed organizations that have adopted the standard. NMCWD also was responding to a relatively frequent criticism of watershed-district rules by adopting a standard that was collaboratively developed (under the auspices of the Minnesota Pollution Control Agency) in the first place and has been adopted by other metro watershed organizations. (Commenters sometimes note disparities among watershed-district rules as a source of confusion and disgruntlement.) Much more detailed responses to this concern are found in the responses to comments 37 to 39 in the document titled Nine Mile Creek Watershed District Rule Revision and Minor Plan Amendment 45-Day Review Comments and Responses, available on the NMCWD web site at [www.ninemilecreek.org](http://www.ninemilecreek.org).

***A question on underground parking and low-floor requirements (4.3.3).***

Commenters noted that the requirement that underground parking structures comply with the freeboard standard in paragraph 4.3.3 may disincentivize this design feature and thereby accelerate consumption of green space.

NMCWD made certain changes to clarify the operation of the freeboard provision of rules, but did not exempt underground parking facilities from the requirement.

- While NMCWD appreciates the land-use benefits of underground parking, the engineer and staff did not recommend and the managers did not direct inclusion of an exemption from the freeboard requirement because NMCWD finds that allowing flooding of a certain class of valuable buildings is contrary to established policy and the purposes of the organization. Also, analysis of flood-proofing measures for underground spaces is a matter of city building permitting, not watershed rules.<sup>3</sup> That said, the final rule amendment clarifies that siting a stormwater facility or building in a manner that does not comply with the 2-foot freeboard standard can be approved where groundwater elevations and mounding conditions are such that the risk of flooding is sufficiently mitigated. The revised amendment clarifies that siting in accordance with the framework provided in Appendix 4a is an alternative to showing compliance with the 2-foot freeboard standard. (The revisions also clarify that 4a is incorporated into the rules as a term thereof and is not guidance.) NMCWD has processed numerous applications that have demonstrated

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<sup>3</sup> City approval of flood-proofing measures could, however, support a variance request by diminishing the risk of realization of the harms the requirement is designed to ward off.

compliance through the 4a siting framework, which has proven cost-effective and protective.

### ***Other changes***

NMCWD made several further minor changes to the rules in response to comments:

- In response to comments received, the changes proposed to paragraph 1.2.2 were made less extensive. Instead of eliminating the requirement that an application provide demonstration of **city approval** to complete a NMCWD application, 1.2.2 is refined to clarify that if city approval is necessary for proposed work triggering a NMCWD permit requirement, at least preliminary approval from the relevant city is necessary to complete a NMCWD application.
- The **basic exhibit requirement** in all substantive rules was revised to clarify that printed exhibits must be *at least* 11 inches by 17 inches, not 11 by 17 at the largest. (See, e.g., subsection 2.4.)
- NMCWD clarified in 2.4.8 that documentation of **drainage and flowage easements** is required as part of the permitting process only if the city in question requires such dedication.
- An additional exception from the Stormwater Management Rule was added at 4.2.2c for **trails, sidewalks and retaining walls** (i.e., narrow – less than 10 foot wide – accessory impervious areas). An informal analysis indicates that the cost-benefit of modeling stormwater runoff data from such features is better achieved by simply requiring downgradient green space of a width that the NMCWD engineer is comfortable assuming provides the necessary treatment.
- NMCWD made the framework for approval of regional stormwater plans more flexible and able to adapt to specific circumstances presented with a region or subwatershed. Rather than requiring applicants to affirmatively demonstrate that none of a variety of adverse consequences will result from stormwater treatment via a regional system, the rule anticipates the NMCWD engineer and applicant(s) working together to ensure the plan addresses identified potential adverse consequences. The onus will remain on the applicant to ensure the plan protects against such consequences. But plans will not have address potential consequences that neither the applicant nor NMCWD engineer find are reasonably foreseeable.
- The standard for approval of plans submitted for approval under the new **regional stormwater treatment** option in subsection 4.3.6a is made reasonably flexible – requiring the applicant to address specific concerns emanating from the specific site conditions. The NMCWD engineer concurred in commenters’ assertion that requiring affirmative and definitive demonstration of no adverse impacts with regard to local groundwater, upstream and downstream natural resources, water quality (beyond meeting the criteria in 4.3.1c), wetland hydrology, changes to stream velocities or base flow, erosion and groundwater recharge would create an unnecessary high threshold for approval of such plans such that applicants would be unlikely to pursue the option.
- The limitation on the **length of shoreline** affected in paragraph 7.3.6 is eliminated.

(Please see also the responses to comments for further insights into NMCWD’s reasoning in addressing the above comment topics.)

### **Watershed district regulatory authority and relationship to city regulation**

Minnesota Statutes chapters 103B and 103D provide legal authority for NMCWD’s rules. Under Minnesota Statutes section 103D.341, subdivision 1, watershed districts must adopt rules “to accomplish the purposes of [the watershed act] and to implement the powers of the managers.” Watershed districts’ purposes include, among others, conservation of water for public uses; controlling erosion and siltation of lakes, streams and wetlands; and protecting water quality in these bodies.<sup>4</sup> Watershed district managers are authorized to regulate and control the use of water within the watershed and regulate the use of streams and watercourses to prevent pollution.<sup>5</sup> In addition, watershed districts in Hennepin County are required by state law to regulate small appropriations from public surface waters.<sup>6</sup> Finally, watershed districts in the Twin Cities metropolitan area are authorized to regulate the water-resource impacts of land use and development where cities have not adopted district-approved local water management plans or where cities elect to defer exercise of regulatory authority to the watershed district.<sup>7</sup>

If it wishes, a city in the watershed may elect to amend its local water management plan and submit implementing ordinances to NMCWD. On NMCWD’s approval of the city’s plan<sup>8</sup> and determination that the implementing ordinances will protect water resources as well or better than the NMCWD rules, the city will assume sole regulatory authority in place of NMCWD for the relevant rule areas.<sup>9</sup> Importantly, this does not mean that a watershed city needs to adopt the NMCWD rules; it means that the NMCWD board must find, based on analysis of the NMCWD engineer and staff, that the city’s approach is reasonably likely to produce equivalent protection. (NMCWD will continue to exercise authority for regulatory responsibilities that are uniquely the watershed organization’s.) The delineations of authority will be articulated in a memorandum of understanding submitted for approval of the city council and the NMCWD Board of Managers. The memorandum of understanding will also provide a framework whereby the two entities will

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<sup>4</sup> Minn. Stat. § 103D.201, subd. 2.

<sup>5</sup> *Id.* § 103D.335, subds. 10 and 16.

<sup>6</sup> Minn. Stat. § 103B.211, subd. 4.

<sup>7</sup> Minn. Stat. §§ 103D.335, subd. 23; 103B.211, subd. 1, providing metro watershed organizations with authority to regulate the use and development of land in the watershed when one or more of the following conditions exists:

- (i) the local government unit exercising planning and zoning authority over the land ... does not have a local water management plan approved and adopted in accordance with the requirements of section 103B.235 or has not adopted the implementation program described in the plan;
- (ii) an application to the local government unit for a permit for the use and development of land requires an amendment to or variance from the adopted local water management plan or implementation program of the local unit; or
- (iii) the local government unit has authorized the organization to require permits for the use and development of land.

<sup>8</sup> For NMCWD to approve a local water management plan wherein the city indicates that it will exercise sole regulatory authority, the city water plan would have to include a commitment to timely update city ordinances in response to any substantial amendment of the NMCWD rules (e.g., adoption of a new standard or requirement).

<sup>9</sup> See Minn. R. 8410.0105, subp. 6 (setting out framework for relationship between watershed district rules and city ordinances).

regularly meet and collaborate to ensure that fully protective water-resource standards and criteria are in place, effectively implemented and diligently enforced.

### **Background and highlights of the 2018 rules**

After adopting an updated watershed management plan in 2007, the Nine Mile Creek Watershed District Board of Managers adopted revised and expanded rules in March 2008. The revisions wholly updated NMCWD rules that had been in place since the mid-1970s. NMCWD adopted a set of housekeeping amendments and focused policy changes in 2012. Then, in 2015, NMCWD slightly revised rule provisions to exempt owners of single-family home properties from certain technical submissions associated with the NMCWD buffer requirements. (Documentation, including a statement of need and reasonableness, remains available for each of the 2008, 2012 and 2015 rulemakings.)

While more extensive than the changes made in the two rulemakings since 2008, the revisions now proposed do not present an overhaul of the NMCWD rules. While there is significant ~~strikeout~~/underline text in the rules document, many of the changes are simple clarifications or corrections that do not change the nature or extent of any regulatory requirement.

NMCWD recently adopted a revised and updated watershed management plan (the 2017 Plan). The 2017 plan identified several critical issues that the regulatory program would need to address as part of the effort to update the rules to best implement plan goals and policies. But the 2017 Plan did not call for a substantial revision of the rules as much as a tune-up on specific topics and continued diligent administration of the regulatory program. NMCWD relied on 10 years of applying the present rules to refine and clarify the language and operation of the rules wherever possible; many of the changes are meant to make the rules more user-friendly and clearer.

At the direction of the Board of Managers, staff gathered input, explored options and drafted text (revisions and additions to the rules) for presentation to and discussion with the managers in a series of workshops through 2017 to follow through on the subjects identified in the plan. In addition, staff gathered NMCWD's Technical Advisory Committee for two feedback sessions – one early on to review rule-revision topics introduced in the 2017 Plan<sup>10</sup> and another to review a complete set of draft revisions. The final draft revisions reflect the input from the TAC and the direction of the managers.

As noted, NMCWD's 2017 Plan signaled particular areas and topics for attention during the rule-revision process. Those topics are stated in section 6.2 in the plan.<sup>11</sup> In this memo, some of these topics are addressed in this introductory section, and the rest are addressed in the rule-specific sections that follow.

### **HIGHLIGHTS**

Among the most notable changes proposed to the NMCWD rules are:

- NMCWD proposes to add “constructed facilities” to the definition of “**100-year flood elevation**” as part of an effort to strengthen the rules’ protection of downgradient properties and resources (principally Nine Mile Creek) from increased stormwater flows resulting from redevelopment. This was a concern that particularly resonated with members of TAC representing cities that are experiencing rapid redevelopment of

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<sup>10</sup> Nine Mile Creek Watershed District, Water Management Plan 2017, section 6.2.

<sup>11</sup> The 2017 Plan can be downloaded as an Adobe Acrobat file at <https://www.ninemilecreek.org/wp-content/uploads/Nine-Mile-Creek-Fifth-Generation-Watershed-Management-Plan.pdf>.

residential areas (usually with dramatic increases in impervious coverage, which has been allowed in parts of the watershed by land-use planning bodies). Further detail on the background conditions that led to NMCWD's decision to require replacement of flood storage loss when stormwater facilities are filled, in whole or part, by a redevelopment project is found in the discussion of changes to the Floodplain Management and Drainage Alteration Rule.

- Where the prior rule required **stormwater management** only for work on **single-family home properties** within certain distances of water resources or in floodplain, the revisions apply the requirement to projects on single-family home properties throughout the watershed (except when compliance with the rule has been provided for the relevant subdivision or region). (See subsection 4.2.2a.) Requirements applicable to work on single-family home properties are scaled to ensure that the effort required to comply with the rule is commensurate with the extent of the land-disturbing activity proposed (subsection 4.2.3a).
- NMCWD's stormwater-retention requirement has been increased from 1 inch of runoff to **1.1 inches**. The measure is consistent with both the Minimal Impact Design Standards promulgated by the Minnesota Pollution Control Agency<sup>12</sup> and other cities and watersheds in the metropolitan Twin Cities area.
- Greater compliance flexibility is provided for owners of **restricted sites** – properties with inherent conditions that make it very difficult to retain stormwater volume onsite through infiltration (section 4.3). At the same time, the compliance framework in the Stormwater Management Rule has been revised to ensure all reasonable effort is pursued to provide water-quality treatment on a project site. The changes in this section necessarily diminish the likelihood that applicants will qualify for the volume-banking options in section 4.4. The NMCWD Board of Managers will, if these changes are adopted as drafted, by resolution provide current holders of volume credits with flexibility to use their credits.
- In new subsection 4.3.4, NMCWD has added two very basic requirements to provide protection of Nine Mile Creek and other resources from **chloride** (salt) contamination: All projects triggering the Stormwater Management Rule except those on single-family home properties will be required to implement a chloride-management plan that, at a minimum, 1. designates an individual responsible for management of chloride use (for ice and snow removal), and 2. identifies an individual who has been certified by the Minnesota Pollution Control Agency as having completed its salt-application training and is responsible for implementation of the training.<sup>13</sup> NMCWD staff and managers realize the chloride plan requirement will be new to many applicants, and basic forms and guidance materials will be provided to support applicants' compliance. In addition, NMCWD will not require the completed plan to be submitted before issuing a permit, i.e., the chloride-management plan need not be submitted before NMCWD will issue a permit for the proposed work. But NMCWD will not conduct the final inspection needed to release an applicant's financial assurance until the plan is provided. (See section 12.4.) The

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<sup>12</sup> See generally the Minimal Impacts Design Standards section of the MPCA website. Available at <https://www.pca.state.mn.us/water/enhancing-stormwater-management-minnesota> (last visited December 29, 2017).

<sup>13</sup> Information on the agency's program generally and salt-application training specifically is available at: <https://www.pca.state.mn.us/water/salt-and-water-quality> (last visited January 7, 2018).

NMCWD managers continue to support legislation providing a liability exemption for property owners who manage chloride use in accordance with MPCA protocols. But even in the absence of such a reasonable legal innovation, public and private property owners both will be required to comply with the provision, which NMCWD has determined is a critical component of the effort to address the chloride impairment in Nine Mile Creek. NMCWD looks forward to feedback on this innovative approach to mitigating the damage to water resources caused by chloride loading.

- NMCWD has added options for compliance with stormwater-management standards on a **regional** scale in subsection 4.3.6 of the rules. Paragraph a provides a framework for a regional approach to meeting the management criteria in section 4.3.1. The more innovative provision is paragraph b, which allows a collaboration of private property owners and public interests to make a variance-like demonstration to argue that because of inherent site conditions, compliance with the stormwater-management criteria within a particular catchment area – either as a whole or site-by-site – is not reasonably feasible. NMCWD has identified significant pockets of contamination, high groundwater and/or poorly draining soils in the watershed, and recognizes that these site conditions not created by present property owners make infiltration particularly challenging as a stormwater-management method.<sup>14</sup> In particular, the development of the provision was informed by NMCWD’s collaboration with the cities of Edina and Bloomington on an assessment of stormwater-management challenges and options in the Pentagon Park subwatershed, which is characterized by high groundwater and poor soils that will make managing stormwater a challenge as the area undergoes updating and redevelopment.<sup>15</sup> NMCWD recognized through this work that the regulatory program needed to provide a way to permit redevelopment projects that could result in improved performance on critical stormwater-management measures even though the criteria in section 4.3.1 may not be able to be met. Rather than teeing up a potentially long series of variance requests as individual parcels undergo redevelopment, NMCWD elected to codify a regional approach to improving stormwater management and resource protection in subsection 4.3.6b. NMCWD is particularly keen to receive comments on this approach.
- Correcting an oversight from the 2008 rulemaking, NMCWD proposes to adopt a new **Enforcement Rule, 13.o**. The rule provides the regulated community with fair, complete, straightforward notice of the process and procedures NMCWD will use to enforce its rule requirements and ensure compliance with permits. The rule makes clear (in section 13.4) that NMCWD may recover costs of enforcement actions from private property owners.

In conjunction with the rulemaking, staff will be introducing administrative changes to the permitting program for the managers’ consideration. Changes staff has already identified for consideration include:

- Updating the NMCWD permit-fee schedule;

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<sup>14</sup> While NMCWD’s criterion in 4.3.1b is *retention* of 1.1. inches of stormwater and retention can be provided through a variety of practices and facilities, infiltration is generally the favored methodology because it is the most economically feasible and pragmatically efficient method of retaining stormwater.

<sup>15</sup> The NMCWD engineer is completing a final report on the collaborative analysis of stormwater management challenges and options in Pentagon Park. When completed in the first quarter of 2018, the report will be available to the public.

- Expanding the administrator’s delegated approval authority to include, e.g., all projects on single-family home properties.

The administrative changes will not need to be reflected in rule text, but for efficiency’s sake, NMCWD will conjoin these efforts. In addition, NMCWD will be developing regulatory guidance materials during the comment period on the draft revisions, including, e.g., flow charts explaining applicability and requirements of the NMCWD rules as well as, as mentioned, a chloride-management plan template. Suggestions for additional guidance materials and questions regarding rule interpretation or application that should be answered also are welcome.

## II. RULE-SPECIFIC EXPLANATIONS AND GUIDANCE

Generally, changes to the rules are not explained here when the change is proposed to eliminate unnecessary or unused language; correct a grammatical or functional error; or clarify the operation of a regulatory provision. The majority of the changes to the rules are proposed for these purposes. Proposed changes that have substantive effect on the operation of the rules are discussed and explained below.

### Definitions

- The definition of “**linear project**” is relevant and important to the operation of the Wetlands Management Rule and Stormwater Management Rule. The scope and intent of the specific provisions in the rules for linear projects have not been properly served by the existing definition. It is particularly difficult to provide stormwater management and wetland buffer for linear projects because they take place in narrow, elongated parcels that tend to be crowded with not just impervious road surfaces but underground utilities as well, and the carve-out in the stormwater requirements for linear projects is there in recognition of this unique but frequent challenge. Lacking the restriction to “in a linear corridor,” the current definition gives road and utility projects that were not subject to such challenges something of a break on stormwater-management requirements. The addition of “in a linear corridor” to the definition and, hence, the scope of the relevant provisions in the stormwater rule rectifies this incongruity.
- “**NURP standard**” is removed from the definition because the term does not appear in the rules.
- NMCWD’s addition of “constructed facility” to the definition “**100-year flood elevation**” is a critical component of the effort described above to strengthen the rules’ protection of downgradient properties and resources, as discussed above in the highlights section and below with regard to the Floodplain Management and Drainage Alteration Rule. The definition also is revised to reference the flood elevation “that has a 1 percent chance of being equaled or exceeded in any given year” to more accurately describe the critical event. The definition also has been revised to reference not only the current best-available precipitation data (the National Weather Service’s 2013 Atlas 14 Volume 8 release), but to underscore that updates to these data sets will be integrated into the rules and NMCWD’s analytical practice as a matter of course (i.e., without further amendment of the rules).
- The definition of “**Volume Credits**” is proposed to be added to improve the functionality of the banking provisions in the Stormwater Management Rule (section 4.4).

### **Rule 1.0: Procedural Requirements**

Though there are several changes to the Procedural Requirements Rule, all are simple refinements or clarifications. The one exception is for “emergency activity” (1.2.4). The provision recognizes that public entities sometimes must take immediate steps to protect property or ensure safety of the traveling public, and that such work sometimes will trigger NMCWD’s rules. The exception is created with the expectation that any such work will be conducted – or retrofitted, as needed – to meet NMCWD rules. The provision does not provide a variance from rule requirements. The exception is available only to public entities.

### **Rule 2.0: Floodplain Management and Drainage Alterations**

NMCWD committed in the 2017 Plan to consider revisions that might help make the watershed better prepared and more resilient to the potential impacts of climate change, such as increased rates and volumes of precipitation and flashier storm events (i.e., tremendous volumes in quick bursts). The two changes proposed to address changes in precipitation patterns are incremental, though, and not offered as a silver-bullet solution by any stretch; both are to the definition of “100-year flood elevation.” First, as mentioned, the current National Weather Service data (Atlas 14) are integrated into the definition and future updates will be as a matter of course, which means that stormwater and flood flow management infrastructure submitted to meet NMCWD requirements will need to be designed using the most recent data issued by the National Weather Services or a state or regional authority and widely accepted by water-management professionals. The second change – requiring replacement of flood storage lost, if any, when constructed stormwater-management facilities are altered – is discussed above and was among the regulatory revisions identified for consideration in the 2017 Plan.<sup>16</sup> The operation of these changes is straightforward. The requirement for elevation of replacement storage in subsection 2.3.2 is revised to provide appropriate flexibility for locating replacement of flood storage needed when a water basin or constructed stormwater facility is filled in whole or part. The drainage and utility easement exhibit requirement in 2.4.8 is expanded to ensure coverage of facilities, as well as floodplains associated with water bodies to round out measures installed for the protection of flood storage.

#### **OTHER CHANGES**

Other changes to Rule 2.0 are housekeeping, including a simplified cross-reference in subsection 2.3.1 to the low-floor requirement articulated in detail in the Stormwater Management Rule and applicable to work that triggers either or both rules. The exception in section 2.5 is proposed to be removed because it has never been utilized and deference to a watershed city’s regulatory program would more pragmatically be subject to the general allocation of responsibility to exercise regulatory authority between a city and NMCWD under Minnesota Statutes section 103B.211, subdivision 1, as discussed above.

### **Rule 3.0: Wetland Management**

There are no major changes to NMCWD’s wetlands rule.

NMCWD proposes to clarify the exemption in paragraph 3.2.2a to 1. eliminate an incentive in the existing rule language (albeit one that no applicant appears to have exploited to date) to cause a de minimus impact to a wetland in order to exempt itself from the operation of the buffer and

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<sup>16</sup> 2017 Plan, section 6.2.

stormwater-management requirements of the rule, and 2. to clarify the types of utility work that do not trigger the buffer and stormwater-management requirements and eliminate the option of simply obtaining a no-loss determination in lieu of complying with the buffer requirement.

The proposed changes also clarify that replacement-wetland siting is applicable only to project-specific replacement (subsection 3.3.1), and that buffer is required only to the extent that the applicant owns the necessary property rights (subsection 3.4.4).

Section 3.5 is retained despite the increased emphasis via the changes to the Stormwater Management Rule on applicants' providing onsite water-quality treatment. Section 3.5 requires treatment any time there is discharge to a wetland, even one wholly contained on an applicant's property, and requires treatment to NMCWD's water-quality standard for high-value wetlands – neither of which would necessarily be required by Rule 4.0. As forecasted in the 2017 Plan,<sup>17</sup> the protection of high-value wetlands (of which there are few left in the Nine Mile Creek watershed) in this subsection is strengthened to a prohibition unless no other alternative is available.

#### **Rule 4.0: Stormwater Management**

The Stormwater Management Rule is the heart of NMCWD's regulatory program, and it is the focus of the most significant changes proposed in this rulemaking. The particularly consequential changes to the rule are discussed above; additional detail and background on other, more mechanical improvements, are provided here.

#### CHLORIDE MANAGEMENT PLAN

As discussed above, NMCWD proposes provisions to its stormwater rule to add a regulatory component to its efforts to address the chloride impairment in Nine Mile Creek. A new **chloride** policy (paragraph 4.1.4) supports the substantive requirement that an applicant submit a chloride-management plan in subsection 4.3.4 and the exhibit required in paragraph 4.5.7. NMCWD has been a leader among local governmental entities in the metro area in addressing the impact chloride pollution has on water resources. Nine Mile Creek was listed as impaired for chloride by the Minnesota Pollution Control Agency in 2004, and NMCWD led the completion of the Total Maximum Daily Load study of the impairment. The study was approved in 2010.

The 2017 Plan identifies a specific chloride water-quality goal,<sup>18</sup> identifies and discusses chloride as a common pollutant in stormwater runoff,<sup>19</sup> and cites reduction of chlorides as a priority issue and implementation action for water quality in the creek.<sup>20</sup> In addition to other actions,<sup>21</sup> the 2017 Plan stated that NMCWD would consider a regulatory approach to reducing salt pollution in the creek.<sup>22</sup> The approach proposed in these amendments is simple, and is meant to complement other efforts NMCWD continues to undertake to draw private property owners into the mix of parties contributing to reducing salt contributions to the creek. (Though the requirement also applies to governmental entities in the watershed, NMCWD's experience is that virtually all of these are already implementing salt-reduction strategies and conducting their operations in compliance with the MPCA salt-management program. NMCWD elected to exclude single-family

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<sup>17</sup> 2017 Plan, section 6.2.

<sup>18</sup> 2017 Plan, Table 2-2.

<sup>19</sup> *Id.*, Table 2-4 and subsection 4.2.1.

<sup>20</sup> *Id.*, section 4.4.6 and objective 4, policy 1, in Table 5-2.

<sup>21</sup> *Id.*, section 4.4.3.

<sup>22</sup> *Id.*, section 6.2.

home properties in the proposed scope of the chloride requirement since such properties generally are not professionally maintained and usually feature significantly smaller paved areas.)

Mindful that the requirement is innovative and will be unfamiliar to many applicants, NMCWD will implement it in a manner that facilitates compliance:

- Property owners and permit applicants may have difficulty completing the necessary training before scheduled groundbreaking on a project, so rather than requiring the chloride-management plan prior to issuance of a permit, NMCWD will require completion within one year of permit approval, withholding a portion of the permittee's financial assurance until the management plan is submitted and approved.
- NMCWD will provide guidance on chloride management, continue to work with MPCA to hold trainings in the watershed, and develop and make readily available (e.g., on the NMCWD website) a basic management-plan template.

NMCWD staff discussed the chloride-management plan requirement in some detail with the TAC, but is eager to hear from potentially regulated private property owners on the proposed requirement during the comment period.

#### RULE APPLICABILITY – SINGLE-FAMILY HOME PROPERTIES

Subsection 4.2.1 describes the type of activities that trigger required compliance with the rule. The triggers in this subsections are unchanged, except for the mechanical clarification regarding **subdivision** of property in paragraph c. The change from “parcel” to “property or properties” makes clear that any reconfiguration of one or more properties via city land-use platting processes into three or more new parcels will trigger the requirement that the property owner and/or project proponent submit a stormwater-management plan to NMCWD for approval.

The applicability of the stormwater rule to **single-family home properties** is the subject of more substantial changes. As discussed in the highlights section above, applicability has been expanded and the requirement framework revised to make the rule fairer and more comprehensive in its approach in light of NMCWD research and analysis showing that significant added pressure on stormwater-management systems and water resources is coming from and will continue to come from redevelopment of such properties. (Single-family home properties within a subdivision with a stormwater-management plan that was approved and implemented in accordance with a NMCWD permit remain exempt from stormwater permitting under paragraph 4.2.2a. In fact, the exemption is broadened somewhat from properties subject to an active subdivision permit to properties constructed in accordance with a permit that meets current NMCWD standards.) Single-family home properties represent approximately 30 percent of the land area within the Nine Mile Creek watershed.

NMCWD staff's experience in the last 10 years and a review of data on recent redevelopment patterns show that generally, homes are getting bigger and single-family home properties are becoming more impervious. Information provided by city staff on expected redevelopment patterns in the coming decade indicates that single-family home redevelopment – often in the form of teardown-and-rebuild projects – is expected to continue to represent some of the most significant land-disturbing activity in the watershed. Increased imperviousness on single-family home properties will result in increased runoff volume and pollutant loading to downstream water resources, increasing the importance of stormwater rules to mitigate the impacts. Modeling conducted by NMCWD staff as part of the rule-revision process quantified the increases in total phosphorus loading from single-family home properties with increased imperviousness. For soils

with good infiltration potential (e.g., sand or silty-sands), the increased phosphorus loading was generally proportional to the percent increase in imperviousness. For example, if the imperviousness of a 0.5-acre single-family home property increases by 100 percent, the corresponding increase in phosphorus loading from the property is approximately 98 percent for sandy soils and 90 percent for silty-sand soils. For soils with limited infiltration capacity, the increase in phosphorus loading was not as proportional. For example, if the imperviousness of a 0.5-acre single-family home property increases by 100 percent, the corresponding increase in phosphorus loading from the property is approximately with 78 percent for silty soils and 68 percent for clay soils. The modeling analysis also showed that implementing the NMCWD's volume retention standard for new and additional impervious surfaces reduces phosphorus loading from single-family home properties to below pre-redevelopment loading.

At the same time, single-family home projects usually involve a single general contractor and no engineering or other technical support. The NMCWD engineer often needs to provide proportionally more guidance through the process of determining sizing and configuration of stormwater-management facilities than is required for large commercial property redevelopments. NMCWD staff extensively discussed balancing the effort required by staff and homeowners to meet stormwater requirements against the potential impact of such projects with members of the Technical Advisory Committee. TAC members generally supported the proposition that projects on single-family home properties throughout the watershed be subject to the Stormwater Management Rule.

NMCWD proposes to remove the single-family home stormwater rule trigger dependent on proximity to a public water body or wetland from subsection 4.2.2, and made the rule applicable throughout the watershed. The logic behind the geographic distinctions was that properties closer to water resources were more likely to contribute runoff directly (without treatment) to water resources. But discussions with the TAC underscored the more significant fact that redevelopment of single-family home properties results in increased runoff and pollutant loading to the downstream water resources (such as the creek), regardless of proximity to the resource, as untreated runoff is often conveyed to the downstream water resource via existing stormwater systems.

TAC members felt that NMCWD could simplify the rule to require only that single-family home projects build a best-management practice, without necessarily meeting specific numerical standards. (The TAC members were uniform in the opinion that NMCWD should not discontinue regulation of work on single-family home properties altogether.) At the same time, the TAC members represent cities that need to show progress toward pollutant-reduction requirements, which requires hard data on reductions achieved through implementation of regulatory requirements. In reviewing past performance of the NMCWD regulatory program and discussing options for reconfiguring the single-family property requirements, the NMCWD managers appreciated that staff was able to show specific numerical reductions achieved by imposition of the stormwater requirements on single-family home projects since the rules were substantially revised in 2008. The managers did not want to lose such specific measures – which necessarily would happen if NMCWD required homeowners to simply incorporate a BMP into their plans. Instead the managers directed staff to scale requirements for redevelopment projects on single-family home properties relative to the increase in impervious surface and extent of disturbance proposed, leading to the proposed three-tiered framework specifically for single-family home properties in new subsection 4.2.3a.

## RESTRICTED SITES AND A PRIORITY ON ONSITE STORMWATER TREATMENT

While the revised rule provides a unique framework for applicability of the NMCWD stormwater requirements to single-family properties, the “restricted sites” framework added to the rule for properties with inherent site conditions that make retention of stormwater through infiltration difficult, ill-advised or impossible (discussed below) works the same way for single-family home properties as it does for other land uses. It also applies to linear projects.

Generally, the stormwater rule has been reconfigured to continue to require onsite retention of stormwater wherever possible, while better ensuring that water-quality treatment is provided onsite. This is accomplished through the “off-ramps” provided for so-called restricted sites in subsection 4.3.2. The framework here is built on the reality accepted among stormwater professionals that infiltration is the most reliable and effective practice for retaining stormwater onsite at the volumes required by the stormwater management rules that have been adopted by watershed organizations, counties and cities across the Twin Cities metro area. Where conditions *inherent to the property* make retention through infiltration ill-advised (e.g., contamination) or technically infeasible (e.g., Hydrologic Soil Group type D soils), it is not reasonable or realistic to require the same volume of retention. The rule in place in NMCWD since 2008 recognized that reality, and provided a volume-banking option whereby property owners could either purchase credits created by others or pay into the Stormwater Facilities Fund created by the Board of Managers in 2008. Utilization of either provided owners of such “restricted” sites with a ready route to compliance with both the volume-retention and water-quality treatment requirements in section 4.3.1 as applied to their projects.<sup>23</sup>

Two significant issues arose in connection with this framework, though, prompting the revision proposed now: One, volume credits did not materialize as quickly as hoped. NMCWD found that property owners whose sites provided ready infiltration capacity were not terrifically interested in creating additional retention capacity that they could market to owners of less suitable sites, and those who did create beyond-requirement capacity wanted to retain the credits created for use on later projects of their own. The upshot was that virtually all property owners who qualified for volume banking paid into the Stormwater Facilities Fund, which came with the burden on NMCWD to find volume-retention projects in the watershed that it could build. Such opportunities did not readily present themselves, and NMCWD’s small staff was stretched to find them. Second, as a consequence of the first trend, creation of makeup volume and water-quality capacity was delayed (i.e., the projects creating the need for stormwater management proceeded, but construction of the required stormwater management facilities took longer). Further, no water-quality treatment capacity was created on properties at which it could have been, even though retention capacity through infiltration was not reasonably available. And even when it was created, through construction of an offsite facility providing the necessary makeup volume, the benefit did not necessarily accrue to the same water resource affected. This final factor, most importantly, drove the managers to direct the revision of the stormwater-treatment framework to include the restricted sites tiers in subsection 4.3.2, which require onsite water-quality treatment

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<sup>23</sup> As adopted in 2008, the rules provided only credit toward the volume requirement in 4.3.1a for volume banking. Early implementation of the rule produced pushback from some regulated parties that by requiring water-quality treatment onsite at the same time an applicant is buying volume credits or paying into the Stormwater Facilities Fund, NMCWD was getting some degree of double treatment benefit, because the infiltration systems producing volume credits would inherently provide water quality treatment too. The NMCWD engineer concurred in the validity of the assertion, and the managers revised the rule in 2011 to provide water quality credit along with volume credits.

even where the volume criterion may not be able to be feasibly met. This framework is consistent with both the Minimal Impact Design Standards developed by a team assembled by the Minnesota Pollution Control Agency and numerous other watershed organizations' stormwater management schemes.

The framework proposed comes, however, with a challenge for land-use authorities in the watershed: The extent of impervious surface on a particular property is a function of land-use planning, regulation and permitting, which are squarely within municipal jurisdiction. Impervious surface area (i.e., the percentage of a property allowed to be built on or paved) represents a property condition over which NMCWD has no control and is usually decided well before plans and designs for a project are submitted to the watershed organization. But the extent of buildout on a property is *not* an inherent condition, and NMCWD's engineer will not be able to concur that a project qualifies for restricted-site analysis *solely* because the land-use authority has authorized curb-to-curb buildout. Such land-use planning and permitting pushes stormwater volume onto downgradient property owners and water resources, raising significant possible consequences in terms of flooding, infrastructure stress and resource degradation – exactly the kind of negative consequences the NMCWD rules are in place to prevent.

#### REGIONAL STORMWATER MANAGEMENT

The drivers for and general operation of the two-part regional-compliance framework are discussed in some detail under “Highlights” above; only a few additional notes are needed here.

Subsection a of 4.3.6 essentially takes the well-established approach to stormwater-management for residential subdivisions and applies to other land uses. In short, the provision allows a city or a conglomeration of current property owners and potential future redevelopment interests to comply with the NMCWD stormwater criteria within a particular catchment area or subwatershed by implementing a plan that includes:

- constructing stormwater-treatment facilities that will meet the criteria in subsection 4.3.1 for development or redevelopment of the entire catchment,
- measures necessary to ensure no degradation of any water resources within the subwatershed (including groundwater resources), and
- onsite best management practices as necessary.

It is anticipated that a regional plan is most likely to be pursued by a public-private partnership that wishes to facilitate the redevelopment of a particular subwatershed. Such a group would submit the regional plan to the NMCWD Board of Managers for approval. As development and redevelopment projects for individual parcels within the subwatershed come forward for NMCWD permit approval, each will need to show 1. authorization from the owner(s) of the regional plan to utilize stormwater-management capacity created and being maintained, and 2. a design and plans for site-specific best management practices needed to “mitigate adverse impacts and provide local benefits not provided by the regional facility/ies,” if any.

The alternative regional plan framework in subsection b will work the same way, except will also include in the initial plan approval a required demonstration of infeasibility of compliance with the 4.3.1 criteria – i.e., a variance of sorts will be built into the regional plan approval, allowing the subwatershed plan and individual-site permit applications to meet the requirements in paragraphs i through iii and the rest of the subsection in lieu of complying with the rate, volume and water-quality criteria in 4.3.1. While other watershed organizations include regional

compliance options within their stormwater-management rules, the alternative regional approach in subsection b is unique, and NMCWD anticipates there may be some challenges in implementation that may lead to proposed modifications of the framework. In the meantime, though, comments on this new approach to getting best-possible stormwater management in areas with challenging conditions are most welcome.

Finally, subsection 4.5.5 is particularly important for any regional approach: A property owner wishing to utilize a regional facility to comply with NMCWD stormwater requirements must produce a binding legal document providing it with the right to use a regional facility or facilities to meet regulatory requirements, and NMCWD must have the legal right to require maintenance of any facility used for regional compliance.

#### OTHER CHANGES

Other changes to the Stormwater Management Rule represent housekeeping or administrative changes:

- Given the broadened change in the applicability of the rule to single-family home properties, NMCWD elected to propose that aggregating of impervious surface construction and reconstruction projects on such properties start at the effective date of this version of the rules, rather the March 2008 reference point for all other properties under the common scheme of development provision in subsection 4.2.5.
- The low-floor criteria in subsection 4.3.3 are restated for clarity, and NMCWD has made it clearer that stormwater facilities cannot be constructed at a location and elevation that bring habitable buildings on adjacent properties into noncompliance with the freeboard standard.
- NMCWD has added a requirement that infiltration practices and facilities draw down to 'dry' (i.e., no standing water in the practice) within 48 hours (paragraph 4.3.1a).
- The commitment to expending Stormwater Facilities Funds within the same city of a project contributing such funds "to the extent possible" (formerly in paragraph 4.4.4a) is removed given the difficulty finding *any* viable opportunities to create makeup stormwater retention volume, and given that the influx of funds into the SFF is expected to slow significantly given the implementation of the restricted-site framework discussed above.
- NMCWD also has added specific exhibit requirements applicable to use of stormwater harvest and reuse to provide stormwater management (paragraph 4.5.5k), based on experience and the increasing frequency with which such solutions are now being proposed. Other changes to the exhibits section (not discussed above) are administrative.

#### NON-CHANGES

Of the several possible rulemaking topics the 2017 Plan, only a couple ended up not specifically addressed via a change in the rules:

- Increasing infiltration of stormwater to maintain the vitality of aquifers in the watershed through implementation of the NMCWD Stormwater Management Rule is among the priority goals in the plan.<sup>24</sup> But NMCWD has had a regulatory standard requiring

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<sup>24</sup> Nine Mile Creek Watershed District, Water Management Plan 2017, subsection 4.10.1.

retention of stormwater onsite since 2008, and no new provisions or changes are proposed to encourage groundwater recharge for groundwater-dependent resources. NMCWD has not undertaken data collection or analysis to identify specific groundwater-dependent natural resources such as would support specific provisions in the rules. The absence of such an effort is not viewed as putting any potentially qualifying resources at risk, given that NMCWD retains an overall stormwater-management framework that requires recharge of shallow aquifers wherever reasonable through infiltration.

- No change was deemed necessary to strengthen the stormwater-facility maintenance terms in subsection 4.3.5. Specifics were added for stormwater-reuse systems, but the section otherwise provides the necessary regulatory requirement, and NMCWD will continue to diligently administer its program to ensure that all permittees record and comply with maintenance declarations that include all necessary specifics to ensure the long-term efficacy of facilities to the greatest degree possible.

**Rule 5.0: Erosion and Sediment Control**

NMCWD is proposing only typographical changes to the Erosion and Sediment Control Rule.

**Rule 6.0: Waterbody Crossings and Structures**

All changes to Rule 6.0 are administrative or typographical, with the exception of the added specificity to the minimal impact criterion, clarifying that analysis of at least two alternative approaches must be provided (paragraph 6.3.1e). The addition of subsection 6.3.5 underscores NMCWD's understanding of the need to stabilize inlets and outlets when a culvert is replaced in, e.g., the creek.

**Rule 7.0: Shoreline and Streambank Improvements**

All changes to Rule 7.0 are administrative or typographical.

**Rule 8.0: Sediment Removal**

The only noteworthy change to Rule 8.0 is the addition of a fast-track permitting framework for public (city) projects removing of less than 20 cubic yards of sediment from a public water – a purely pragmatic change recognizing the cities' need to efficiently conduct such cleanouts (section 8.5).

**Rule 9.0: Appropriations of Public Surface Waters**

No changes are proposed to Rule 9.0.

**Rule 10.0: Variations and Exceptions**

No changes are proposed to NMCWD's framework for granting variances.

NMCWD proposes to retain the “undue hardship” standard that has been replaced in state law pertaining to city and county land-use planning and zoning programs by the “practical difficulties” standard.<sup>25</sup> Given that no statute dictates the standard that must be used by watershed districts, the Board of Managers elected to retain the familiar and well-understood undue hardship standard, which the board has applied with the kind of discretion – balancing the burden of compliance on the applicant against the risk of degradation or other harm to water resources from failure to meet the strict application of a rule provision – the state has

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<sup>25</sup> See, e.g., Minn. Stat. § 394.27, subd. 7 (articulating the practical difficulties standard for counties).

incorporated into the practical difficulties standard. A principal driver for this decision is that the factors for finding a variance under undue hardship are familiar and useful to managers in the context of applying watershed rules, while the practical-difficulties factors (as articulated in Minnesota law) are not well suited to the kind of circumstances that produce requests for variances from watershed district regulatory standards and criteria.

**Rule 11.0: Permit Fees**

No changes are proposed to Rule 11.0.

**Rule 12.0: Financial Assurances**

Beyond purely typographical clarifications, the Financial Assurances Rule is proposed to be amended to provide for reasonable implementation of the chloride-management plan submission requirement in Rule 4.0. The proposed changes make clear that a financial assurance will be retained until the applicant has demonstrated proper construction and, where applicable, functionality of facilities (e.g., stormwater BMPs) or features (e.g., required buffer), as has been the consistent practice of the NMCWD regulatory program.

**Rule 13.0: Enforcement**

The proposed addition of Rule 13.0 is discussed under the highlights section above.