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2 **APPROVED**

3 MINUTES OF THE REMOTE/WEBEX STORMWATER COMMISSION
4 VILLAGE OF NORTHBROOK
5 COOK COUNTY, ILLINOIS
6 February 18, 2021

7 **Commissioners present (6):**

8 Chairman Thomas Burke
9 Greg Hoeft
10 Peter Rosner
11 Craig Hetue
12 Pedro Cevallos
13 Leonard Rago

14
15 **Members not present (1):**

16 Adele Sturgis
17

18 **Others present**

19 John Albrecht, Architectural Control Commission
20 Sandra Dold, 1665 Sunset Ridge Rd, resident
21

22 **Staff present:**

23 Matt Farmer, Village Engineer
24 Jim Baxa, Civil Projects Engineer
25 Colleen Brunner, Recorder
26

27 **Call to Order**

28 Member Burke called the remote meeting to order at 6:31 P.M. through a WebEx meeting.
29

30 **Review of the Minutes from January 28, 2021 Meeting**

31 Member Hoeft made a motion, seconded by member Rosner to approve the minutes as presented.
32 On a voice vote, the motion to approve the amended minutes passed unanimously.
33

34 **Hear from the Audience on Topics not on the Agenda**

35 John Albrecht from the Architectural Control Commission, and a member of the Climate Action Plan
36 Team mentioned continued interest in rain gardens and the Go Green Northbrook effort.
37

38 Sandra Dold, a resident, environmentalist, and architect is here to listen and learn. She lives in a flood
39 zone AE and a portion of her property in the floodway.
40

41 **Old Business**

42 **a) Continued Discussion of Impervious Fees and Residential Detention Requirements from the**
43 **August 26, 2020, January 7, 2021 and January 28, 2021 SWC Meeting**
44

45 Matt Farmer presented a slide show including a matrix of the Commissioners' previous comments
46 along with emailed responses concerning the impervious fees from questions 1-6 of the February 11,
47 2021 memo with the subject "Impervious Fees and Residential Detention Requirements".

1 Farmer explained how the release rate affects the restrictor orifice size, and how it changes depending
2 on the depth (head) of the orifice. He further explained how the volume of water detained is related
3 to the orifice size and release rate.

4
5 Farmer provided examples of how much underground piping is required to detain 1,000 SF of added
6 impervious which equates to approximately 475 CF of water detained. If a property used 18" pipe, the
7 total length of pipe needed would be about 150 linear feet of pipe. The volume would be in the pipe
8 and in the aggregate surrounding the pipe. Burke pointed out that 1,000 SF of impervious does create
9 a significant amount of water detained according to our codes. If a project used an arch detention
10 system, the total linear feet would less than the 150 linear feet of 18" round pipe. Using open
11 detention uses even less area, but you do not have use of the detention area in the same way as a
12 typical yard.

13
14 Member Hoeft stated that the examples provided helped to understand what is required currently. He
15 also reiterated that the goal is to prevent downstream flooding, so we need upstream detention where
16 the new impervious is created. He does not like the fact that a contractor can build just short of 2,500
17 SF, and then add in future years and not provide any detention. Farmer stated that if the impervious
18 threshold is lowered to 1,000 SF, it will bring more property developments into providing detention
19 where the impervious is created.

20
21 Farmer explained that the current minimum restrictor size is 2.5" according to Northbrook code. He
22 provided examples on spreadsheets from MWRD showing restrictor sizes of 2.5", 2.0", and 1.5" and
23 how much water is released at 3 FT of head. He feels that the minimum restrictor size should be
24 reduced to 2.0".

25
26 Farmer went back through questions 1-6 to make sure he has the correct feedback from the previous
27 meetings.

28
29 **#1- Is the current 2,500 SF maximum additional impervious allowed with a fee appropriate for SFR's?**

30
31 As an example, if a property added 900 SF there would be a fee. If that property added 200 SF more
32 impervious, then the property would owe detention for 1,100 SF impervious. Farmer described
33 situations in the Village where no detention was provided by working around our current code.

34
35 Member Burke- He could support the 1,000 SF after hearing the explanation provided.

36
37 Member Rago – Farmer's explanation makes sense and it limits the size of impervious increase. He is
38 OK with the 1,000 SF maximum impervious allowed with a fee. Rago asked if the impervious fee for
39 the impervious created previously that was less than 1,000 SF would be refunded. Farmer explained
40 that the fee would have been collected, and under current conditions would not be refunded once the
41 property develops more than 1,000 SF. However, this could be discussed as part of these changes.

42
43 Member Cevallos- He asked if someone added 800 SF, then 800 SF, then 800 SF, they would only have
44 to pay a fee and not provide detention under today's standards? Farmer replied that today this
45 property would pay a fee for every 800 SF increase all the way up to 50% of the lot. The proposed

1 code change would require detention after 1,000 SF increase. Cevallos agrees with the 1,000 SF
2 maximum with a fee.

3
4 Member Rosner- He feels the 1,000 SF maximum with a fee increase sounds reasonable. What is the SF
5 cost to install detention? Farmer believes the range discussed at the last meeting was \$12 to \$16 per
6 SF impervious.

7
8 Member Hetue- He supports 1,000 SF maximum additional with a fee. Hetue asked what happens to
9 the fee paid prior to the 1,000 SF. Farmer said that this is open to discussion. Refunding the fee is an
10 option, but we are talking about raising the rate of the fee, so what fee is returned? Burke asked who
11 the fee goes back to if a previous homeowner paid it. Farmer said that refunding fees, tracking how
12 much was paid, who paid it, etc. gets very difficult from a staff perspective. Northfield has a fee up to
13 1,000 SF and detention after that. Northfield does not do any refunds of the fee.

14
15 Farmer would like some discretion in applying detention requirements in areas that have flooding
16 concerns and those that don't. He could allow small increases over 1,000 SF if the construction is in an
17 area not likely to result in flooding downstream.

18
19 Member Hoeft- The 1,000 SF is ok but would like to encourage detention on projects rather than a fee.
20 He would also like a mechanism so that people understand that they will pay a fee up to 1,000 SF and
21 detention after.

22
23 **#2- Should the Village track total additional impervious allowed with a fee per property?**

24
25 All members agreed that the Village should track impervious additions.

26
27 **#3 - After the maximum impervious allowed with a fee is exceeded, should detention be provided**
28 **starting at pre-construction impervious area?**

29
30 All members agreed that additions over 1,000 SF added impervious should be required to provide
31 detention, including detention back to pre-construction impervious area before the 1,000 SF allowance
32 with a fee.

33
34 **#4- Should an existing lot be given a calculated existing impervious credit? ie: 30% of total lot.**

35
36 There were two options discussed for calculating existing impervious. The first option was to calculate
37 the house and driveway impervious plus a few more SF for patios or private sidewalks that may have
38 been built when the original home was built. The second option was to provide a sliding scale of
39 impervious credit depending on how large the lot is. Members were split on which calculation they
40 preferred.

41
42 Member Burke felt the existing house and drive impervious puts Staff in a tough position with a new
43 homeowner. He would be okay to decrease the 30 % on larger lots. As an example a lot of 20,000 SF or
44 less would be credited 30% impervious and a lot of 20,000 to 30,000 SF would be a credit of 25%
45 impervious. A sliding scale could be looked at and proposed by staff.

46

1 Member Hoeft stated that Burke's suggestion of a sliding scale is a good idea based on the lot size. He's
2 ok with either option.

3
4 Member Rago agrees with Burke's approach.

5
6 Member Cevallos is okay with a sliding scale based on lot size.

7
8 Member Rosner is fine with a sliding scale based on lot size.

9
10 Member Hetue likes the sliding scale option.

11
12 **#5- Is the current fee structure of \$0.00, \$0.80 and \$1.60 per SF added impervious for Class I, II, and**
13 **III appropriate?**

14
15 Farmer stated that at the last meeting the commission members generally felt \$0.00, \$2.25, and \$4.50
16 fees are more appropriate. Member Rago asked the logic of the rates from the last meeting. Are they
17 tied to inflation or what neighboring communities charge for impervious? Farmer recapped that
18 discussion from the last meeting. He explained some communities do not charge a fee because they
19 require detention from the first SF of impervious. Other communities do not charge a fee or require
20 detention, but they limit the total impervious allowed between 25% and 40% on residential lots.
21 Northfield charges \$4.50 per SF impervious up to 1,000 SF. Once 1,000 SF is reached, they require
22 detention back to zero SF of impervious, and do not credit the fee.

23
24 **#6- How will properties be evaluated that have already added significant impervious with no**
25 **constructed detention when the owner proposes to add a small amount of impervious that requires**
26 **a permit?**

27
28 All members agreed that the existing permitted impervious will be grandfathered when proposing an
29 increase. The property needs to show what the total impervious existing and proposed is, and then
30 subtract the total impervious SF that has been allowed by permit. The difference in impervious will be
31 detained.

32
33 Farmer thanked the SWC for their work over four meetings to provide direction for these six questions.

34
35 **b) Continued Discussion of Rain Gardens from the January 28, 2021 SWC Meeting**

36 Farmer explained that this is meeting number two discussing rain gardens directed by the Board of
37 Trustees. A memo was provided to the SWC on February 11, 2021 with the subject "BOT Request of
38 SWC to Review Rain Gardens". There were 6 questions and #1 thru #4 were discussed at the January
39 28th meeting. Farmer presented several slides including a matrix of responses from the SWC at the last
40 meeting. Farmer asked the SWC to provide opinions of questions #5 and #6. Farmer explained that
41 the six questions were directly asked by the BOT, however he believes the root of the question was if
42 rain gardens can be used in place of standard detention. Farmer asked each SWC to comment on this
43 before moving onto questions #5 and #6.

44
45 Member Hoeft noted that Trustee Hebl's rain garden is more of a retention project than detention. It
46 was installed in lieu of installing a drain, so it holds water all the time until the water percolates or is

1 used by the plant growth. Farmer stated that this was true, but explained that her detention has a
2 sump pit with a pump that can be used to water plants from. The pump would be considered an outlet
3 as long as a person is using the pump consistently to drain the garden when needed. Hoeft felt that
4 replacing detention with rain gardens is risky. It's not so much if it will work 1 year after installation
5 but will it work 10 years after installation. How do we enforce the maintenance? How do we track it
6 and enforce upkeep?

7
8 Member Cevallos feels it needs to be quantified how much water can be retained in a garden. He has
9 an area in his yard with plantings that can absorb water. They worked with a landscape architect to
10 find the correct plants. It drains after a couple days usually. He thinks the rain garden could be
11 calculated for how much detention it holds.

12
13 Member Burke- We should encourage rain gardens and they are appropriate under certain
14 circumstances. A maximum volume would need to be determined and how that translates into SF
15 impervious. A legal recording would be needed so the garden would not be removed in the future
16 because a portion of the total detention would be in the rain garden. Rain gardens do a better job by
17 infiltrating the water, but when the garden is not taken care of it stops working. Generally, he thinks
18 we should encourage it if we can.

19
20 Member Rago has heard good points and rain gardens are an attractive option. The Village would have
21 to enforce that it's a functional rain garden and doesn't believe we have the staff for that. Perhaps you
22 could limit the extent of impervious addition tied to the rain garden so if it fails there is limited
23 exposure. Maybe 500 SF of impervious would be the limit that a rain garden could be used for. As far
24 as giving incentives, he doesn't think there clear advantage for effectiveness.

25
26 Member Rosner feels that a clear, good standard of design for rain gardens is needed. He is concerned
27 about the issue of maintenance or when the property transfers.

28
29 Farmer explained that tracking/monitoring rain gardens with current staff level is not possible. We
30 already have issues with the standard detention not working due to unpermitted modifications. The
31 rain gardens have the added difficulty of being in poor, moderate, or excellent condition and how it
32 works in each of those conditions. Lastly, gardens are likely in rear yards where staff will have a
33 difficult time inspecting.

34
35 Member Hetue feels that rains gardens can be an appropriate option for detention up to a set amount
36 of SF impervious. At least under this condition, if the rain garden fails not all of the detention has
37 failed for the property.

38
39 Sandra Dold asked why only one solution of rain gardens is being considered. Perhaps it could be
40 looked at holistically with installation of ponds, bio swales, etc.

41
42 John Albrecht feels if the Village got behind the initiative of rain gardens it could have a more
43 significant improvement. The Village could consider mapping all the rain gardens for residents to see
44 where they are. He believes the map could be used for self-enforcement. He does not believe the rain
45 gardens would fail due to lack of maintenance.

46

1 Member Hoeft feels replacing rain gardens for detention is an issue. He is for encouraging them in
2 drainage issues like back yards where there is squishy grass for days after a rain. The residents on
3 Dehne who came to the SWC a few months ago may be able to use a rain garden to improve the
4 standing water in the ditch.

5
6 Farmer reminded the Commission that at a previous SWC meeting they changed the Private Property
7 Cost Share program to pay for rain gardens at 70% versus 30% reimbursement for pipes. He feels that
8 rain gardens and bio swales work best for larger sites. It seems like the 4'x4' rain gardens do not
9 thrive. There are several places in town where larger rain gardens or bio-swales are doing very well.

10
11 Farmer wants to get back to the BOT with a recommendation, but doesn't think we are quite there.
12 We want to provide guidance and recommendation to the BOT where the gardens have a chance to
13 succeed.

14
15 Member Burke stated the main issue with the rain gardens is maintenance. A new owner of a property
16 may remove the garden, or perhaps they prefer a manicured lawn. We need to protect ourselves from
17 situations where new owners are not interested in rain gardens and want lawn. If they remove the
18 rain garden that was intended for detention, then we have lost the detention. Also, there are often
19 times in the spring where snow melts and we get spring rains when the rain gardens are not working at
20 full capacity. Standard detention would work in this situation. He recommends allowing rain gardens
21 to be used up to 1,000 SF impervious and not charge a fee.

22
23 Sandra Dold stated perhaps with a new SFR, you could require that you must have a certain SF of
24 plantings and limit the amount of turf allowed. This would reduce the runoff. Farmer is not aware of
25 any communities restricting how much turf can be installed on a residential site.

26
27 Due to time, Farmer doesn't think that the SWC will be able to finish discussion on questions 5 and 6 or
28 provide the BOT with a recommendation on rain gardens from this meeting. Burke recommended we
29 have another meeting on this issue in April. Farmer agreed and stated that the March meeting already
30 has a topics scheduled that will take the while meeting.

31
32 **c) Climate Action Planning Team Update- Leonard Rago**

33
34 Member Rago stated the goal is to reduce greenhouse gas emissions by 30 % by 2025 and 80% by
35 2040. This coincides with the Paris agreement. There are eight sectors and he is in transportation,
36 buildings and energy, and water and waste water. They are identifying goals and action items to
37 achieve the goals. An example is waste/waste water. The goal is conservation or to reduce
38 consumption by 7.5% by 2030. The action items has been reduced to 40 items from around 80 actions
39 considered. These are then assigned to a cross section of people such as Village staff, industry, and
40 residents to determine how to implement the action items. He will forward the list to the SWC to look
41 at and would appreciate any input or comments. He is finding the process very valuable.

1 **Hear from the Commissioners concerning new topics**

2 None.

3

4 **Next Meeting Date**

5 March 18, 2021.

6

7 **Adjourn**

8 There being no further business, Member Hoeft made a motion, seconded by Member Cevallos to
9 adjourn the meeting. On a voice vote, the motion was unanimously carried and the meeting adjourned
10 at 8:25 pm.

11

12 Respectfully submitted,

13 Colleen Brunner