

WDO Amendment #1a**Appendix I: Updated Rainfall Depth Duration Frequency Table**

Rainfall Depth Duration Frequency Tables for Lake County
Rainfall is in Inches

Storm Duration	2-month	3-month	4-month	6-month	9-month	1-year	2-year	5-year	10-year	25-year	50-year	100-year	500-year
5 minutes	0.19	0.22	0.24	0.27	0.31	0.33	0.40	0.52	0.62	0.77	0.90	1.03	1.35
10 minutes	0.35	0.40	0.43	0.49	0.56	0.61	0.73	0.95	1.13	1.42	1.65	1.89	2.47
15 minutes	0.42	0.49	0.53	0.61	0.69	0.75	0.90	1.16	1.39	1.74	2.03	2.32	3.04
30 minutes	0.58	0.66	0.73	0.83	0.94	1.03	1.24	1.59	1.91	2.39	2.78	3.17	4.16
1 hour	0.74	0.84	0.93	1.05	1.20	1.30	1.57	2.02	2.42	3.03	3.53	4.03	5.28
2 hours	0.91	1.04	1.14	1.30	1.48	1.61	1.94	2.49	2.99	3.74	4.35	4.97	6.52
3 hours	1.00	1.15	1.26	1.44	1.63	1.77	2.14	2.75	3.30	4.13	4.80	5.49	7.20
6 hours	1.18	1.35	1.48	1.68	1.91	2.08	2.51	3.23	3.86	4.84	5.63	6.43	8.43
12 hours	1.37	1.56	1.71	1.95	2.21	2.41	2.91	3.74	4.48	5.61	6.53	7.46	9.78
18 hours	1.48	1.69	1.85	2.11	2.39	2.61	3.14	4.04	4.84	6.06	7.05	8.06	10.57
24 hours	1.57	1.80	1.97	2.24	2.55	2.77	3.34	4.30	5.15	6.45	7.50	8.57	11.24
48 hours	1.72	1.97	2.16	2.46	2.79	3.04	3.66	4.71	5.62	6.99	8.13	9.28	12.10
72 hours	1.87	2.14	2.34	2.67	3.03	3.30	3.97	5.08	6.05	7.49	8.64	9.85	12.81
120 hours	2.08	2.38	2.61	2.97	3.37	3.67	4.42	5.63	6.68	8.16	9.39	10.66	13.81
240 hours	2.63	3.01	3.30	3.76	4.27	4.65	5.60	7.09	8.25	9.90	11.26	12.65	16.00

References: ISWS Bulletin 75 Precipitation Frequency Study for Illinois
 James R. Angel and Momcilo Markus
 Illinois State Water Survey, March 2020

Purpose: Incorporate new rainfall data as published in updated ISWS study.

TAC Vote: 03/19/2020 9-0-0 (unanimous)

WDO Amendment #1b**Appendix I: Updated Huff Rainfall Distributions****HUFF RAINFALL DISTRIBUTIONS**

The Huff quartiles represent the typical rainfall distribution for 4 different storm duration ranges. The First quartile applies to storms less than or equal to 6 hours long. Second is for storms greater than 6 hours and less than or equal to 12 while the third is Huff quartile is for storms greater than 12 hours and less than or equal to 24 hours. Fourth quartile storms apply to storm durations greater than 24 hours.

AREA < 10 SM					AREA > 10 & AREA < 50				AREA > 50 & AREA < 400			
Portion of the Storm	First Quartile	Second Quartile	Third Quartile	Fourth Quartile	First Quartile	Second Quartile	Third Quartile	Fourth Quartile	First Quartile	Second Quartile	Third Quartile	Fourth Quartile
0/24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/24	8.36	2.29	2.05	2.31	6.41	1.48	1.33	1.48	4.59	0.88	0.72	0.90
2/24	17.73	4.82	4.31	4.79	15.69	3.57	3.02	3.34	13.49	2.38	1.85	2.29
3/24	28.11	7.78	6.67	7.12	27.45	6.39	5.13	5.72	25.94	4.93	3.47	4.36
4/24	38.33	11.33	9.12	9.78	38.91	10.02	7.53	8.56	39.17	8.52	5.57	7.10
5/24	47.45	15.79	11.71	12.53	49.34	14.71	10.01	11.69	51.04	13.19	8.28	9.93
6/24	55.50	21.39	14.36	15.23	58.55	20.89	12.65	14.19	60.79	19.59	10.96	12.84
7/24	62.25	28.41	16.91	17.91	65.88	28.91	15.24	17.19	69.26	27.46	13.79	15.46
8/24	67.22	36.44	19.64	20.33	71.10	37.55	18.17	19.69	74.80	37.17	16.35	17.83
9/24	70.82	45.29	22.78	22.83	74.92	46.86	21.46	22.27	78.74	47.77	19.66	20.12
10/24	74.17	54.35	26.33	25.41	78.30	56.25	25.36	24.81	82.20	58.18	23.46	23.12
11/24	76.97	62.38	30.93	28.35	81.16	64.84	29.90	27.46	85.13	67.64	28.07	25.76
12/24	79.81	69.76	36.35	31.25	83.75	72.90	35.60	30.33	87.38	75.86	34.06	28.26
13/24	82.55	75.48	43.92	33.90	86.20	79.07	43.42	32.42	89.58	82.04	42.30	30.99
14/24	85.18	80.38	52.11	36.33	88.64	83.97	52.18	34.28	91.45	86.92	52.02	33.68
15/24	87.40	84.70	61.02	38.61	90.81	87.58	61.88	36.89	93.35	90.33	62.76	36.12
16/24	89.47	87.81	69.89	41.24	92.58	90.67	71.81	39.73	94.80	93.09	72.80	39.07
17/24	91.17	90.22	78.19	45.08	93.99	92.76	80.43	43.85	95.99	94.82	82.27	42.93
18/24	92.70	92.17	84.92	51.29	95.19	94.59	87.25	49.87	96.94	96.25	89.19	48.98
19/24	94.03	93.81	89.74	59.31	96.35	95.97	92.01	58.93	97.70	97.34	93.60	59.22
20/24	95.36	95.29	93.11	69.19	97.27	97.10	95.04	69.85	98.35	98.21	96.33	71.66
21/24	96.56	96.57	95.34	80.05	98.03	97.99	96.90	82.36	98.86	98.83	97.97	85.18
22/24	97.74	97.74	97.06	89.71	98.74	98.72	98.22	92.59	99.28	99.30	98.98	94.64
23/24	98.85	98.84	98.56	96.04	99.37	99.39	99.21	97.96	99.66	99.67	99.58	98.77
24/24	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

References: ISWS Bulletin 75 Precipitation Frequency Study for Illinois
James R. Angel and Momcilo Markus
Illinois State Water Survey, March 2020

Purpose: Incorporate new rainfall distributions as published in updated ISWS study.

TAC Vote: 03/19/2020: 9-0-0 (unanimous)

WDO Amendment #2**§ 507.01.B. Emergency Overflow Top of Impoundment**

- B. The top of the impounding structure shall be a minimum of ~~one (1) foot~~ **six (6) inches** above the design high water level within the emergency overflow structure based on 507.01A.

Purpose: Provide additional detention storage allowance within current design requirements.

TAC Vote: 09/19/2019: 7-3-0

WDO Amendment #3 - NEW**§ 509.04 Fee-In-Lieu Option For Storage above 50-year, 24-hour Detention Volume [7.5"]****509.04**

The following fee-in-lieu of on-site stormwater storage procedures shall be authorized for all developments permitted after [NEW WDO DATE].

- A. *The [Enforcement Officer](#) may require, or the [applicant](#) may submit, a written request for the payment of a [fee-in-lieu of on-site stormwater storage](#) to fulfill all or part of the on-site detention requirement above the 50-year, 24-hour detention volume using Appendix I: Rainfall Depth Duration Frequency Tables for Lake County. A request for fee-in-lieu of on-site stormwater storage shall be either rejected or approved within forty-five (45) days of the written request unless additional engineering studies are required.*
- B. *Approval of a request for [fee-in-lieu of on-site stormwater storage](#) on a [development](#) site above the 50-year, 24-hour detention volume shall be determined by the [Enforcement Officer](#).*
- C. *[Fee-in-lieu of on-site stormwater storage](#) shall be the fee computed for each acre-foot or part thereof of stormwater storage approved in accordance with the procedures and schedules as approved by the SMC.*
- D. *A fund will be maintained by the SMC for each of the four major Lake County [watersheds](#) for the purpose of identifying and controlling all revenues and expenditures resulting from fee-in-lieu of on-site stormwater storage approvals. All [fee-in-lieu of on-site stormwater storage](#) revenues received from each [watershed](#) shall be deposited in these funds for use within that watershed.*
- E. *The following requirements must be met before a [fee-in-lieu of on-site stormwater storage](#) will be approved:*
 - 1. *The downstream [stormwater management system](#) has “[adequate downstream stormwater capacity](#)” (see Appendix A: Definitions); and*
 - 2. *The SMC has an adopted fee-in-lieu of on-site stormwater storage program.*
- F. *[Fee-in-lieu of on-site stormwater storage](#) revenues shall be used to design, maintain, or construct an upgrade to existing or future [stormwater management systems](#) if the upgrade is consistent with a [basin plan](#), [floodplain study](#), or stormwater system improvement that has been approved by the SMC.*

Purpose: Provide fee-in-lieu option, as determined by the Enforcement Officer. Communities may be more restrictive and omit this option during Community Ordinance adoption.

TAC Vote: 04/16/2020: 10-0-0 (unanimous)

WDO Amendment #5**§ 302.02 Exempted Developments**

Annexation agreements, final plats, Planned Unit Developments, site development permits, or current building permits approved between October 18, 1992 and **[Lake County Board WDO Adoption DATE + six (6) months]** if the approved plans and designs are in conformance with the **pre-[Lake County Board WDO Adoption DATE]** Ordinance provisions. That portion of any annexation agreement, final plat, Planned Unit Development, site development permit, or current building permit which is amended after **[DATE + 6 months]** and which affects the stormwater management system is not exempt from the provisions of this Ordinance

Purpose: Allowance for exemptions (e.g., Appendix I: Rainfall) to be requested up to 6 months after effective WDO adoption date. Sets a consistent target date for all Communities to use [WDO Date + 6 months]. Communities typically adopt the WDO within 90 days after Lake County Board approval (anticipated May 2020).

TAC Vote: 10/17/2019: 8-1-1

WDO Amendment #6**§ 501.06 Developed Soil HSG**

For determination of soil runoff characteristics, areas of the development that are hydrologically disturbed and compacted shall be changed to the **next higher that hydrologic soil types' highest runoff potential/soil** group classification **e.g., B to C, C to D, or as approved by the Enforcement Officer**. Soil groups that are not hydrologically disturbed will retain their current runoff characteristics. ~~Areas that are deed or plat restricted for native planting areas may be determined to have lower runoff characteristics, and may be taken into account when meeting the runoff volume reduction requirements of this Ordinance (503.02). The Enforcement Officer may determine these areas are not hydrologically disturbed and may be removed from the required detention volume calculation.~~

Purpose: Clarify how HSG's are changed for hydrologically disturbed areas. Separate native planting section into new paragraph – see amendment #7.

TAC Vote: 10/17/2019: 10-0-0

WDO Amendment #7**§ 501.07 Native Planting Incentive**

Areas that are deed or plat restricted for native planting areas may be determined to have lower runoff characteristics, and may be taken into account when meeting the runoff volume reduction requirements of this Ordinance (503.02). **The Enforcement Officer may determine these areas can be excluded from the required detention volume calculation.**

Purpose: Separated from 501.06 to clarify detention volume incentive for native planting areas.

TAC Vote: 10/17/2019: 9-0-0

WDO Amendment #8**§ 401.15 Updated Hydric Soil Classification**

If the soil mapping submitted for the [development](#) indicates the presence of **soils classified as a [hydric soil](#) (USDA/NRCS Soil Classification) the soils listed in this subsection**, then the [applicant](#) shall provide site-specific soil mapping performed by a certified soil classifier **or geotechnical investigation** for the development. No [buildings](#) shall be constructed on these soils unless appropriate building methods, such as pilings, caissons, or removal and replacement of unsuitable soils, as approved by the [Enforcement Officer](#), are used to provide and protect a suitable building foundation.

~~Soils classified as a [hydric soil](#) (USDA/NRCS Soil Classification) in its very poorly drained condition or the following three soil classification in any condition:~~

- ~~A. Houghton Muck (W103)~~**
- ~~B. Houghton Peat (W97)~~**
- ~~C. Peotone Silty Clay Loam (W330)~~**

Development that is exempted from this requirement is any development activity not resulting in the construction of a building.

Purpose: Capture all current poorly drained hydric soils per 2005 Lake County Soil Survey e.g., Houghton Peat (W97) does not exist, while many others are included.

TAC Vote: 5/21/2020: Approved as modified 6-3-3

WDO Amendment #9**§ 600.09 Permanent Stabilization**

All temporary soil [erosion](#) and sediment control measures shall be removed within thirty (30) days after final site stabilization is achieved or after the temporary measures are no longer needed. Trapped sediment and other disturbed soil areas shall be permanently stabilized ***with a uniform (e.g., evenly distributed, without large bare areas) perennial vegetative cover with a minimum density of 70 percent or higher, at the discretion of the Enforcement Officer, on all unpaved areas and areas not covered by permanent structures or equivalent permanent stabilization measures.***

Purpose: Clarify and codify vegetative cover requirement for permanent stabilization. Mirrors IEPA ILR10 language which requires 70 percent.

TAC Vote: 10/17/2019: 9-0-0

WDO Amendment #11**§ 100 Introduction**

This Ordinance is one part of the adopted Lake County Comprehensive Stormwater Management Plan. It sets forth the minimum requirements for the [stormwater management](#) aspects of [development](#) in Lake County. The Lake County [Stormwater Management Commission](#) is the corporate enforcement authority for the Ordinance. Illinois Compiled Statutes Chapter 55, Act 5, Section 5-1062 [55 ILCS 5/5-1062] states, "The purpose of this Section is to allow management and [mitigation](#) of the effects of urbanization on stormwater drainage... by consolidating the existing stormwater management framework into a united, countywide structure..." The [Lake County Comprehensive Stormwater Management Plan](#), adopted by Ordinance on June 11, 1990 states, "... that the regulations be uniformly and consistently enforced throughout the County by all agencies." While local conditions may sometimes require extraordinary regulatory measures, the Lake County Stormwater Management Commission (SMC) has determined that uniform and consistent enforcement will be enhanced by municipalities adopting the standards of the Watershed Development Ordinance. In those instances where the requirements of this Ordinance are not stipulated in a municipal ordinance or do not meet the minimum requirements herein, this Ordinance shall prevail. ~~It is recognized that~~ **A community may** ~~has an individual right to enact stricter standards beyond the minimum standards presented in this Ordinance.~~ The SMC has developed ~~a~~ [Technical Reference Manual](#) **Guidance Memorandums Memoranda** which ~~is a~~ **are** recommended guides for users of this Watershed Development Ordinance (WDO).

Purpose: 1) Clarify that community Ordinances can be more restrictive. 2) Remove all TRM references as the manual is no longer supported by SMC. TGMs are now used.

TAC Vote: 10/17/2020: 10-0-0

WDO Amendment #12**§ 504.02 Water Quality Treatment**

Prior to discharging to [Waters of the United States](#), [Isolated Waters of Lake County](#), or adjoining property, the [development](#) shall divert and detain at least the first 0.01 inch of runoff for every 1% of [impervious surface](#) for the development with a minimum volume equal to 0.2 inch of runoff (e.g., 20% or less impervious = 0.2-inch, 50% impervious = 0.5-inch, 90% impervious = 0.9-inch); or provide an equivalent level of treatment of runoff as approved by the [Enforcement Officer](#) and consistent with ~~the~~ best management practices. ~~guidance contained in the~~ [Technical Reference Manual](#).

Purpose: Remove all TRM references as the manual is no longer supported by SMC. Optionally, reference a Technical Guidance Memorandum, if desired.

TAC Vote: 10/17/2019: 10-0-0

WDO Amendment #13**§ 1008.02 Detention in Isolated Waters of Lake County**

The following shall apply when using [Isolated Waters of Lake County](#) for detention and not for [wetland](#) enhancement [mitigation](#) credit:

- A. The [applicant](#) shall use a “wetland detention basin” design as provided in the [Technical Reference Manual \(TRM\)](#), and shall re-establish vegetation within the detention basin using the [Native Plant Guide for Streams and Stormwater Facilities in Northeastern Illinois](#), NRCS, et al., (as amended) as a minimum standard for the re-vegetation plan.

Purpose: Remove all TRM references as the manual is no longer supported by SMC. This section is under the Wetlands section of the WDO and would be administered by a Certified Wetland Specialist. Optionally, reference a Technical Guidance Memorandum, if desired.

TAC Vote: 10/17/2019: 10-0-0

WDO Amendment #14**§ Appendix A: Definitions**

~~Technical Reference Manual (TRM): The Lake County [Stormwater Management Commission](#) Technical Reference Manual. This manual contains design guidance for a [development](#) site to meet the Watershed Development Ordinance performance standards.~~

Purpose: Remove all TRM references as the manual is no longer supported by SMC.

TAC Vote: 10/17/2019: 9-0-1

WDO Amendment #16**§ 201.02. Community Certification Process**

- A. Communities desiring certification may submit a letter of intent to petition for Certification.
- B. A petition for Standard Certification, Isolated Wetland Certification, **or FIL50 Certification** shall be submitted to the SMC indicating how the community meets the criteria for certification. A copy of the community's adopted ordinance shall be included with the petition.

...

- J. Fee-in-lieu of detention ordinances and procedures used by Certified Communities shall be reviewed and approved by the SMC as part of the regular certification process.

...

M. Communities with FIL50 Certification may administer WDO 509.04 for development under its respective permit authority.

Purpose: Create a new certification for Communities to administer FIL50 program.

TAC Vote: 03/19/2020: 9-0-0 (unanimous)

WDO Amendment #19**Appendix E: Enforcement Officer Duties - NEW**

- M. The Enforcement Officer of a community with FIL50 Certification shall provide SMC an annual report summarizing FIL50 fees received, project expenditures and status, categorized by watershed.***

Purpose: Create a new certification for Communities to administer FIL50 program.

TAC Vote: 03/19/2020: 9-0-0 (unanimous)

WDO Amendment #20**§ Appendix A: Definitions**

Designated Erosion Control Inspector: A person responsible for, at a minimum, verifying compliance and on-going maintenance of the approved soil erosion and sediment control plan measures of a [development](#) and who is recommended to meet the minimum qualification requirements of A., B., C., and D., as follows:

- A. Provide a one (1) page statement of qualifications in the areas noted below and a request to be included on the SMC Designated Erosion Control Inspector qualified listing. The signed statement will be considered as evidence of qualifications.
- B. Pass the [Designated Erosion Control Inspector Exam](#) that is administered by the SMC.
- C. Complete a SMC-approved soil erosion and sediment control course and meet the requirements of one (1) of the following:
 1. Have an official designation as a Certified Professional in Erosion and Sediment Control (CPESC) or Certified Erosion, Sediment and Stormwater Inspector (CESSWI); or
 2. Two (2) years cumulative experience in the Upper Midwest Region on soil erosion and sediment control inspections.
- D. The listing of Designated Erosion Control Inspectors shall be officially updated every three (3) years by the SMC. ~~A minimum of twenty-four (24) work-related professional development hours including SMC mandatory training for this designation shall be obtained within the three-year period in order to qualify for re-listing.~~ **Continuing education requirements shall be as follows:**
 1. **Attendance at each annual DECI training seminars shall be sufficient for the three-year listing period.**
 2. **Alternatively, DECIs must attend twenty-four (24) hours of work-related professional development hours within the three-year period for relisting.**
- E. **Documentation shall be self-monitoring and shall be provided to SMC upon application for listing.**

Purpose: Update the continuing education requirement for DECIs

TAC Vote: 04/13/2020: approved as modified, 6-4-0

WDO Amendment #21**§ 1000.02 Wetland Determination Report**

- C.2. Lake County Wetland Inventory map **(including ADID sites)**

Purpose: Important to show ADID sites for regulatory purposes (possible HQARs, stricter requirements).

TAC Vote: 04/16/2020: 10-0-0

WDO Amendment #22**§ 1000.02 Wetland Determination Report**

- C.5. Hydrologic Atlas **(U.S.G.S. Flood of Record map)**

Purpose: Clarify that these are one and the same source – Lake County online maps identify this layer under *Drainage* menu as “USGS Flood of Record”.

TAC Vote: 04/16/2020: 10-0-0

WDO Amendment #23**§ 1000.02 Wetland Determination Report**

- D. Army Corps of Engineers data sheets ~~(March 1992 or most recent version)~~ **(Midwest Region, most recent version)** with color photographs provided for representative upland and wetland data points;

Purpose: Update to make sure delineators are using the most current Corps-approved data sheet for our region.

TAC Vote: 04/16/2020: 10-0-0

WDO Amendment #24**§ 1000.02 Wetland Determination Report**

- E. A written description of the wetland(s) that includes a Floristic Quality Assessment as determined **using the Chicago Region Floristic Quality Assessment Calculator (U.S. Army Corps of Engineers, Chicago District, most recent version)** ~~by methodology contained in Swink, F. and G. Wilhelm's Plants of the Chicago Region (1994, 4th Edition, Wilhelm, G. and L. Rericha's Flora of the Chicago Region, 2017, Indianapolis: Indiana Academy of Science).~~ Floristic quality assessments shall generally be conducted between May 15 and October 1. Assessments conducted outside this time frame may require additional sampling during the growing season to satisfy this requirement;

Purpose: Update to current methodology for floristic quality assessment determinations.

TAC Vote: 05/21/2020: Approved as modified 12-0-0

WDO Amendment #25**§ Appendix L, Section. L: High-Quality Aquatic Resources**

- L. Wetlands with a native mean coefficient of conservatism value (native mean C value) of greater than or equal to 3.5 or a native floristic quality index value (FQI) of greater than or equal to 20 as determined using the Chicago Region Floristic Quality Assessment Calculator (U.S. Army Corps of Engineers, Chicago District, most recent version). ~~Floristic Quality Index of 20 or greater or a mean C-value of 3.5 or greater: Reference Plants of the Chicago Region (F. Swink and G. Wilhelm, 4th Edition, Indianapolis: Indiana Academy of Science, 1994) Wilhelm, G. and L. Rericha's Flora of the Chicago Region, 2017, Indianapolis: Indiana Academy of Science. Mean C-Values, and the total number of species used to calculate the FQI, should be calculated for native plants only, as described in Plants of the Chicago Region (F. Swink and G. Wilhelm, 4th Edition, Indianapolis: Indiana Academy of Science, 1994). In Swink and Wilhelm, introduced plants have no C-value, rather than a C-value of 0.~~

Purpose: Update for new reference for plant classification (native vs. adventive) and consistency with definition in Corps-Chicago District Regional Permit Program Appendix A – High Quality Aquatic Resources (as revised 1-10-2020).

TAC Vote: 05/21/2020: Approved as modified 12-0-0

WDO Amendment #26**§ Appendix M: SMC-Approved Wetland Mitigation Banking Requirements**

- S. Species Composition: Species selected for the planting shall be native to Lake County (ref. ~~Swink and Wilhelm, Plants of the Chicago Region, 4th Edition, 1994~~ **Wilhelm, G. and L. Rericha's Flora of the Chicago Region, 2017, Indianapolis: Indiana Academy of Science**) and shall be appropriate for the hydrologic zone to be planted. A minimum number of native perennial species proposed for establishment must be present within each plant community to meet certification standards, as follows:

Purpose: Update to the new reference for plant classification (native vs. adventive).

TAC Vote: 04/16/2020: 8-1-1

WDO Amendment #27**§ Appendix N: WDO Mitigation Requirements and Guidelines for Isolated Waters of Lake County Impacts**

- H.2.a. Floristic Quality: By the end of the performance period, a native mean coefficient of conservatism value (native mean C value) of greater than or equal to 3.5 and a native floristic quality index value (FQI) of greater than or equal to 20 shall be achieved for each wetland community **as determined using the Chicago Region Floristic Quality Assessment Calculator (U.S. Army Corps of Engineers, Chicago District, most recent version).** ~~Native plant species coefficients of conservatism and the methods for calculating the native mean C value and FQI are included in Swink, Floyd and Gerould Wilhelm, Plants of the Chicago Region (Indianapolis: Indiana Academy of Science, 4th Edition, 1994).~~

Purpose: Update to current reference for floristic quality assessment determinations.

TAC Vote: 04/16/2020: 10-0-0

WDO Amendment #28**§ Appendix N: WDO Mitigation Requirements and Guidelines for Isolated Waters of Lake County Impacts**

- H.2.b. Mean Wetness Coefficient: By the end of the performance period, the mean wetness coefficient (mean W) shall be less than or equal to 0 in each wetland community. Wetness coefficients are listed below, based on the ~~National Wetland Category~~ of each plant species designated in **the National Wetland Plant List - Midwest Regional Plant List (U.S. Army Corps of Engineers, most recent version)**. ~~Reed, Porter B., National List of Plant Species that Occur in Wetlands: North Central (Region 3), U.S. Fish Wildlife Service, Rep. 88(26.3, 1988).~~ The mean W for each wetland community is calculated by the following equation: Sum of wetness coefficients for all species/number of species.

Wetness Coefficients

<i>National Wetland Category</i>	<i>Wetness Coefficient</i>
Obligate (OBL)	-5 -2
Facultative Wetland + (FACW+)	-4
Facultative Wetland (FACW)	-3 -1
Facultative Wetland - (FACW-)	-2
Facultative + (FAC+)	-1
Facultative (FAC)	0
Facultative - (FAC-)	1
Facultative Upland - (FACU-)	2
Facultative Upland (FACU)	3 1
Facultative Upland + (FACU+)	4
Upland (UPL)	5 2

Purpose: Update the Wetness Coefficient values to be consistent with National Wetland Plant List - Midwest Regional Plant List (U.S. Army Corps of Engineers, most recent version).

TAC Vote: 04/16/2020: 10-0-0

WDO Amendment #29**§ Appendix N: WDO Mitigation Requirements and Guidelines for Isolated Waters of Lake County Impacts**

- H.3.a. Floristic Quality: By the end of the performance period, a native mean coefficient of conservatism value (native mean C value) of greater than or equal to 2.5 and a native floristic quality index value (FQI) of greater than or equal to 15 shall be achieved for the buffer **as determined using the Chicago Region Floristic Quality Assessment Calculator (U.S. Army Corps of Engineers, Chicago District, most recent version)**. ~~Native plant species coefficients of conservatism and the methods for calculating the native mean C value and FQI are included in Swink, Floyd and Gerould Wilhelm, Plants of the Chicago Region (Indianapolis: Indiana Academy of Science, 4th Edition, 1994).~~

Purpose: Update to current reference for floristic quality assessment determinations.

TAC Vote: 04/16/2020: Approved as modified 10-0-0

WDO Amendment #30**§ Appendix A: Definitions**

Isolated Waters of Lake County: All waters such as wetlands, ponds, streams ~~(including intermittent streams)~~, farmed wetlands, and wetlands that are not under U.S. Army Corps of Engineers jurisdiction. The limits of the Isolated Waters of Lake County extend to the ordinary high water mark or the delineated wetland boundary.

Purpose: Clarify that all stream classifications not regulated by the Corps as waters of the United States would be IWLC: perennial, intermittent and ephemeral.

TAC Vote: 04/16/2020: 9-0-1

WDO Amendment #31**§ 1005.01.E. Isolated Waters of Lake County Impacts (HQAR Documentation)**

~~A statement~~ **Current documentation** on the occurrence of any high quality aquatic resources on or adjoining the development.

Purpose: Require submittals with valid information on T&E species and wetland floristic quality for potential HQAR designation (i.e., EcoCat <2 years old; wetland delineations with FQA <3 years old).

TAC Vote: 04/16/2020: 10-0-0

WDO Amendment #33**§ Mitigation Hierarchy****1007.03 Space intentionally left blank.**~~4007.03~~ **1009.01 Mitigation Hierarchy for Isolated Waters of Lake County****A. Size Requirements**

1. If the required mitigation acreage is less than one and one-half (1.5) acres, mitigation requirements shall follow the mitigation hierarchy in ~~4007.03~~ **1009.01.B.2** through ~~4007.03~~ **1009.01.B.4**. If on-site mitigation increases an existing on-site wetland size to greater than or equal to one and one-half (1.5) acres, the applicant may use the mitigation hierarchy in ~~4007.03~~ **1009.01.B.1**.
2. If the required mitigation acreage is one and one-half (1.5) acres or greater, mitigation requirements shall follow the mitigation hierarchy in ~~4007.03~~ **1009.01.B.1** through ~~4007.03~~ **1009.01.B.4**.

B. Hierarchy

All mitigation shall occur in Lake County. Mitigation shall use the following hierarchy. Allowance to the next lower step is permitted only when justified through sequencing specified in 1005.01L and 1005.01M or when the higher step is not available or as specified in ~~4007.03~~ **1009.01.B.4**:

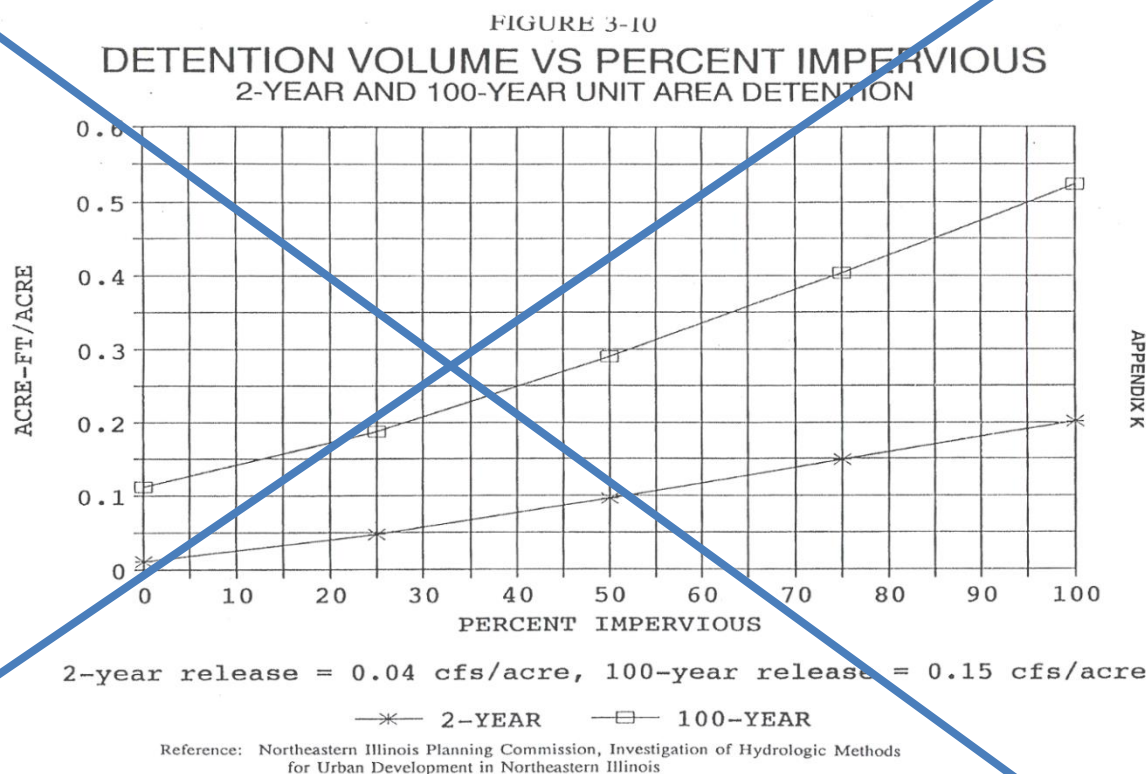
1. On-site wetland mitigation meeting the requirements of the project mitigation document.
2. In the same watershed as wetland impact: A U.S. Army Corps of Engineers Approved Wetland Mitigation Bank; or a SMC Approved Wetland Mitigation Bank; or off-site wetland mitigation meeting the requirements of the project mitigation document.
3. Outside of the watershed (at double the required mitigation acreage): A U.S. Army Corps of Engineers Approved Wetland Mitigation Bank; or a SMC Approved Wetland Mitigation Bank; or off-site wetland mitigation meeting the requirements of the project mitigation document.
4. **SMC Wetland Restoration Fund**. This mitigation option may only be used for wetland impacts where there are no available mitigation credits within the watershed and the corresponding fees and mitigation ratios shall be charged at the 'in-watershed' rate.

Purpose: Re-insert Mitigation Hierarchy per pre-WDO reformatting. This section was erroneously reformatted to incorrectly include only IWLC. The original formatting was applicable for both IWLC and WOUS.

5/21/20 TAC Vote: 05/21/2020: 12-0-0

WDO Amendment #34
§ WDO Appendix K

Appendix K: Detention Volume Versus Curve Number



Curves to be inserted from the attached May 18, 2020 memorandum from Bleck Engineering

Purpose: Increase required detention to account for updated rainfall in Amendment #1a. Support new Fee-in-Lieu program. Update to use Curve Numbers instead of percent impervious. Add 50-year curve.

TAC Vote: 05/21/2020: 10-0-2

May 18, 2020

Memo

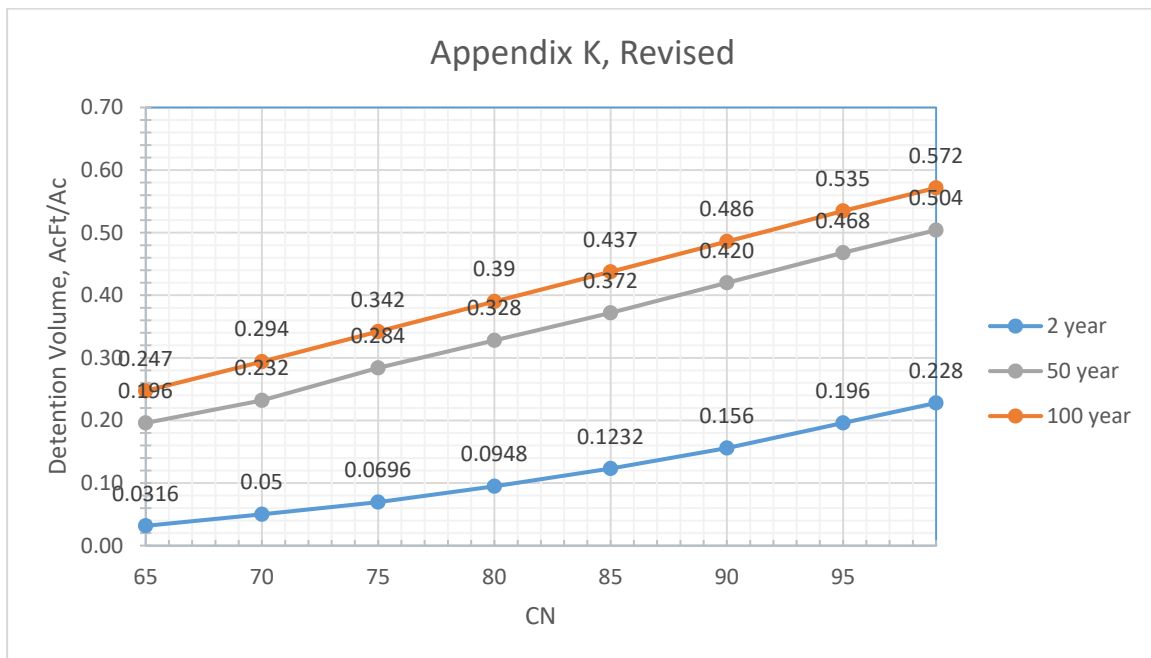
To: Kurt Woolford

From: Joy Corona

Re: WDO Appendix K

Per your request, I have evaluated potential revisions to Appendix K. The current Appendix is from the 1991 NIPC publication Investigation of Hydrologic Design Methods for Urban Development in Northeastern Illinois. The unit area detention curves were created using a calibrated continuous simulation (40 year record) HSPF model at 5 different data points. The curves were presented in a percent impervious versus unit area detention format. Per the study, the resultant "unit area detention volume had a nearly identical 100-yr, 24-hr rainfall depth as Bulletin 70."

As part of its previous discussions, TAC recommended that the revised Appendix K curves be presented based on CN as opposed to percent impervious (format of the existing Appendix K). The new analysis was completed using HEC-HMS. A total of 8 models were created at CN 65, 70, 75, 80, 85, 90, 95 and 99 including the 2-yr, 50-yr and 100-yr events. The volume required for the 50-yr event was interpolated based on model's resultant HWL and the stage-storage rating curve.



The final values were compared with the current Appendix K and the MWRD calculator. The difference between the revised Appendix K and MWRD curves is a reflection of the updated rainfall distribution.

