Watershed Management Ordinance

Public Information on Proposed Amendment

Presented by

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Agenda

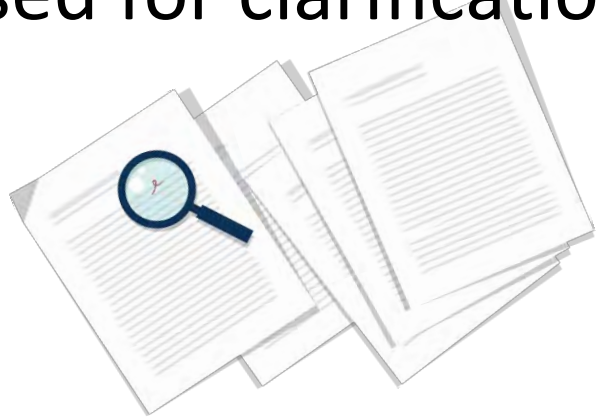
- WMO Background
- Clarifications and document improvements
- Noteworthy changes to the WMO
  - *GI as non-qualified development*
  - *Redevelopment of WMO permitted sites*
  - *Watershed Specific Release Rates*
  - *StormStore – New App H for stormwater trading*
- Public Comments

WMO Background

- 2004: Public Act 093-1049
  - *MWRDGC has stormwater authority for Cook County*
- 2007-2013: Development and Public Review
  - *Technical Advisory Committee and Public Comments*
  - *Economic Impact Study*
- October 2013: Adoption
- April 17, 2014: First Amendment
- May 1, 2014: Effective Date
  - *Existing Development Plans List (EDPL) projects exempt for one year*
- July 10, 2014: IICP Amendment
- May 1, 2015: EDPL Expired
- February 15, 2018: Amendment
  - *Clarifications, new earthwork permit, and limited volume control trading*
- 2018: Development of Proposed Amendment

Proposed WMO Changes

- Provisions moved within WMO to appropriate locations/order
- Redundancies removed/consolidated
- Guidance Details moved to TGM
  - *Technical Guidance Manual was created after WMO adoption*
- Definitions (Appendix A) revised for clarification
  - *New or merged definitions*
  - *Modified definitions*
  - *Deleted definitions*



Proposed WMO Changes

Public Comment Draft Review

- Green double-underlined text – *Information has been reorganized and moved within the same Article*
- Red text – *Information moved from a different Article or added for clarification. Substantial changes annotated in Public Comment Draft.*
- Red ~~strikethrough~~ text – *Information moved to a different Article, moved to the TGM, or deleted for redundancy. Substantial changes annotated in Public Comment Draft.*

Proposed WMO Changes

Public Comment Draft Review

Numerical References during this presentation:

- " § 123.45" – *Refers to the section in the Redline / Draft Amendment*
- "Former § 123.45" – *Refers to the section in the current WMO, dated February 15, 2018*

Proposed WMO Changes

Clarifications and Document Improvements

- Throughout the WMO:
  - Delete "regulatory" relating to general floodplains and floodways – *Regulatory floodplains and floodways are delineated by FEMA, but do not include all areas that may be considered floodplains and/or floodways. The term "regulatory" remains when referencing a FEMA defined floodplain or floodway.*
  - Delete "substantial improvement" language – *Regulated by local NFIP municipality and causes conflict, since WMO does not regulate inside buildings*

Proposed WMO Changes

Article 1 – Authority and Purpose:

§ 104 Relationship to the Sewer Permit Ordinance and Manual of Procedures

- Delete "prior to the effective date" in § 104.1 – *Not all Sewer Permit Ordinance permits were issued prior to the effective date, but they still retain rights, obligations, and liabilities under the SPO*
- Delete former § 104.2 – *All SPO permits are now issued, complete, or cancelled, and no longer require status as "exempt" from the WMO*

Proposed WMO Changes

Article 1 – Authority and Purpose:

§ 104 Relationship to the Sewer Permit Ordinance and Manual of Procedures

- Consolidate relationship between SPO and Article 7 (qualified sewer) in § 104.3 – *Combined with language from Article 7 regarding the regulation, permitting, and enforcement of qualified sewer under the SPO*

Proposed WMO Changes

Article 2 – Applicability and General Provisions:

§ 200 Scope of Regulation

- New § 200.4.C exemption for work in Lake Michigan – *Shore protection work regulated by USACE and IDNR, and can be certified by a Professional Engineer, Professional Geologist, or Structural Engineer*
- Delete District land provision in § 200.4.D – *Development follows City of Chicago stormwater provisions on District-owned land*

Proposed WMO Changes

Article 2 – Applicability and General Provisions:

§ 201 Applicability

- New § 201.1.D(1) exemption for single-family home development greater than 0.50 acre outside the FPA – *WMO does not regulate single-family home construction, only flood protection elevation*
- Delete § 201.2.G – *Development on District land shall be subject to the same WMO provisions as non-District land. Additional lease requirements may apply.*

Proposed WMO Changes

Article 3 – Permit Requirements and Submittals:

§ 300 General Requirements and Limitation

- Revise § 300.3.B – *Clarify responsibility and recording requirements for development in unincorporated areas without a permittee*
- New § 300.7 errors and omissions – *New provision to ensure minor errors or omissions of WMO requirements on a submittal document don't allow projects to be constructed inconsistent from WMO standards*

Proposed WMO Changes

Article 3 – Permit Requirements and Submittals:

§ 302 Watershed Management Permit Application Submittal

- Require only denial of FPA in § 302.1.E – *If present, the FPA submittal(s) will be required. Only need a certified denial in the general requirements.*
- Revise § 302.2 to include all submittals and reference appropriate Permit Schedule forms – *Reorganized § 302 - § 307 and § 310, and guidance detail moved to TGM*
- Revise § 302.2.B(5) – *Clarify when Schedule K is required to be submitted, and that the form must be notarized*

Proposed WMO Changes

Article 3 – Permit Requirements and Submittals:

§ 302 Watershed Management Permit Application Submittal

- Revise § 302.2.B(6) – *Clarify when Schedule L is required to be submitted, and that the form must be notarized*
- Delete LONO option in § 302.2.D(2) – *A Corps issued LONO does not satisfy jurisdictional determination requirements. Only a JD or permit application indicate that the wetland is under Corps jurisdiction.*
- Delete § 302.2.D(9) [former § 305.3.A(2)] – *The District does not verify wetland delineation boundary until a permit application and wetland submittal is received*

Proposed WMO Changes

Article 3 – Permit Requirements and Submittals:

§ 302 Watershed Management Permit Application Submittal

- Delete JD option in § 302.2.E(4) – *A Corps issued Jurisdictional Determination is not required for waters already designated as "jurisdictional"*

§ 303 Plan Set and Exhibits Submittal

- Revise § 303.2 to include all plan sheets – *Cover sheet requirements and individual plan sheets listed under this revised section*
- New § 303.2.M – *New floodplain plan sheet requirements added to reference all flood protection areas*

Proposed WMO Changes

Article 3 – Permit Requirements and Submittals:

§ 303 Plan Set and Exhibits Submittal

- New § 303.3 – *New requirements for Plat of Survey*
- Clarify Exhibit R requirements in § 303.4 – *Add requirement information needed to obtain an approved Exhibit R for the permit*

§ 305 Construction Timeline Requirements and Approval of Plan Revisions

- Clarify extension information in § 305.1 – *Extensions may be requested prior to construction start, as well as during construction*

Proposed WMO Changes

Article 3 – Permit Requirements and Submittals:

§ 306 Record Drawings

- Clarify record drawing requirements in § 306.3 and § 306.4 – *As-built calculations and acreages needed for specific requirements of the WMO*

§ 307 Recordation and Obligations of a Watershed Management Permit

- Revise § 307 – *Clarify recording obligations for Schedule R and Exhibit R*

Proposed WMO Changes

Article 4 – Erosion and Sediment Control:

§ 400 Erosion and Sediment Control General Requirements

- Include all projects in § 400.1 – *Development, maintenance, and demolition should be subject to erosion and sediment control requirements, not just development*

§ 401 Temporary Erosion Control Requirements

- Clarify § 401.3 – *Erosion control required when overland flow from the project discharges through un-stabilized area outside the project*

Proposed WMO Changes

Article 4 – Erosion and Sediment Control:

§ 402 Temporary Sediment Control Requirements

- Modify requirement for water discharge in § 402.8 – *Consistent with IEPA ILR10 Permit, and not mandating contaminant analysis*

Proposed WMO Changes

Article 5 – Stormwater Management:

§ 502 Runoff Requirements

- Modify § 502.1 – *Indicate runoff is required when a WMO permit is required, consistent with Table 2, volume control and detention requirements*
- Modify § 502.3.B – *Reference methodology to be used*
- Clarify § 502.7 – *Route depends on whether detention is required, and reference § 502.9 (critical duration analysis)*
- Modify § 502.9 – *Delete "for major stormwater systems", update SCS to NRCS curve number, and add "or a method approved by the District" to be consistent with § 504.10*

Proposed WMO Changes

Article 5 – Stormwater Management:

§ 502 Runoff Requirements

- Modify § 502.9 (C) – *The distributions must be used for every model, not just critical duration analysis*
- Modify § 502.11 – *Move base flood provision to Article 6, and replaced with reference specific to runoff*
- Clarify boundaries in § 502.17 – *Proximity to waterway measured from project area, and all development area must route to the waterway*

Proposed WMO Changes

Article 5 – Stormwater Management:

§ 503 Volume Control Requirements

- Split § 503.2 into two sections – *Differentiate between volume control storage and volume control practices*
- Delete former § 503.4.B(2) – *Require all properties with site constraints look for off-site volume control*
- Change limits to 'watershed' in § 503.4.B(5) – *Consistent with Watershed Specific Release Rate boundaries in Appendix B and Appendix E*
- Modify § 503.4.C(2) – *Revise to incorporate flow-through practice requirements in the following section*

Proposed WMO Changes

Article 5 – Stormwater Management:

§ 504 Detention Requirements

- Modify § 504.3 – *Consistent with new Watershed Specific Release Rates in Appendix B*
- New § 504.4 – *Calculation relationship between newly defined release rate terms*
- Modify § 504.5.B(2) – *Clarify the area that may be subtracted from the release rate calculation*
- Revise § 504.8 – *Include the new definition "required detention volume"*

Proposed WMO Changes

Article 5 – Stormwater Management:

§ 504 Detention Requirements

- Modify § 504.11.C – *Include depressional storage*
- Clarify § 504.12 – *Requirements for tailwater conditions*
- Clarify § 504.14 – *Requirements for backflow prevention*
- Delete former § 504.14.C – *Require all properties look for off-site detention*
- Change limits to 'watershed' in § 504.15 – *Consistent with Watershed Specific Release Rate boundaries in Appendix B and Appendix E*

Proposed WMO Changes

Article 6 – Flood Protection Areas:

§ 602 Requirements for Development within the Floodplain

- Revert § 602 title to previous version – *Requirements only apply to development within the floodplain*
- Clarify foundation expansion in § 602.1 and § 602.2 – *Foundation expansion is defined to remain consistent with NFIP without regulating building interiors*
- Clarify § 602.6.A – *Comp storage cannot exist below the normal water level*
- Revise § 602.13 – *LOMR requirements: If needed from FEMA, tie to RFI rather than "building construction"*

Proposed WMO Changes

Article 6 – Flood Protection Areas:

§ 602 Requirements for Development within the Floodplain

- Include reference to Parts 3700 and 3708 of Title 17 in § 602.24 – *Sub-sections are verbatim from Illinois Admin Code. Reference part N, "specific construction approved by IDNR-OWR" in main section.*
- Reference IDNR approval in § 602.25 – *Sub-sections are verbatim from Illinois Admin Code. Combine language and move guidance and detail to the TGM.*

Proposed WMO Changes

Article 6 – Flood Protection Areas:

§ 603 Requirements for Wetland Boundary, Quality, and Buffer Width Determination

- Clarify § 603.4 – *Wetland submittal and delineation required for all wetlands. Corps JD required for wetlands within 100-feet of project.*

§ 604 Requirements for Development Affecting the Function of Wetlands and Wetland Buffers

- New § 604.10.B(3) – *Wetland creation is a mitigation measure*

Proposed WMO Changes

Article 6 – Flood Protection Areas:

§ 606 Riparian Environment Requirements

- Clarify § 606.2 – *Riparian 'buffer' is the evaluation zone to determine if riparian environment exists*

Proposed WMO Changes

Article 7 – Requirements for Sewer Construction:

§ 700 General Sewer Construction Requirements

- Clarify connection impact fees in § 700.8 – *Reference Appendix F and clarify language*

§ 701 Qualified Sewer Construction

- Clarify § 701.2.A – *Incorporate under which conditions single-family home service sewers are exempt*
- Clarify § 701.2.D – *Septic systems discharging to sewers tributary to District facilities are not exempt*

Proposed WMO Changes

Article 7 – Requirements for Sewer Construction:

§ 701 Qualified Sewer Construction

- Clarify § 701.2.G – *Exemption applies only to footing drains that protect structure foundations*
- Clarify § 701.2.H – *Remove reference to exempting volume control, as it is reviewed under a permit*
- Modify § 701.3 – *Indicate inspections/televising and certain rehabilitation is not considered qualified*

Proposed WMO Changes

Article 7 – Requirements for Sewer Construction:

§ 702 Qualified Sewer Construction Requirements

- Clarify § 702.1.C (2) – *Cannot discharge sewage into stormwater facilities tributary to a waterway*
- Clarify § 702.1.F – *Indicate stormwater may not enter sanitary sewer in any sewer area*
- Modify § 702.2.C – *Incorporate language from Article 5 and consolidate all sewer separation requirements*
- New § 702.2.E – *Provision to prevent septic conditions*

Proposed WMO Changes

Article 7 – Requirements for Sewer Construction:

§ 702 Qualified Sewer Construction Requirements

- New § 702.2.F – *Provision for bypass requirements*
- New § 702.3 – *Specific qualified sewer construction requirements*
- Consolidate § 702.3.A – *Consolidate all inspection manhole requirements*
- Consolidate § 702.3.B – *Consolidate all industrial waste requirements*

Proposed WMO Changes

Article 7 – Requirements for Sewer Construction:

§ 702 Qualified Sewer Construction Requirements

- Revise § 702.3.C (2) – *Consolidate pump station requirements and make consistent with Title 35 and Recommended Standards for Wastewater Facilities*
- New § 702.3.D – *Requirements for sewers crossing streams*
- Revise § 702.3.F – *Consolidate all outfall requirements*
- New § 702.3.G (3) – *Require inspection if sewers formerly tributary to a septic system are to be repurposed in lieu of constructing new ones*

Proposed WMO Changes

Article 7 – Requirements for Sewer Construction:

§ 702 Qualified Sewer Construction Requirements

- New § 702.3.H to be consistent with Article 3 – *Private-to-private sewer connections, within the property interest, require written permission from the owner and a recorded maintenance agreement*

Proposed WMO Changes

Article 8 – Infiltration/Inflow Control Program:

§ 808 Administrative Proceedings: Notice of Non-Compliance

- Clarify § 808.7 – *Update time frame to 60 days to be consistent with § 808.3*

§ 811 Show Cause Hearing and Imposition of Penalties by the Board of Commissioners

- Clarify § 811.8.A – *Revise show-cause penalty to be consistent with § 808.7*

Proposed WMO Changes

Article 9 – Maintenance:

§ 901 Permitted Facility Operation and Maintenance

- Delete former § 901.4 – *Requirements for facilities connecting to District infrastructure are covered in the Sole Permittee section of Article 3*

Proposed WMO Changes

Article 10 – Inspections:

§ 1001 General

- Split § 1001.4 into two sections – *Separate underground stormwater facilities from sewers and trenches*

§ 1003 Request for Final Inspection

- Clarify § 1003.2 – *The District is responsible for scheduling Final Inspection, not the applicant*

Proposed WMO Changes

Article 11 – Variances:

§ 1101 Petition for Variance

- Clarify § 1101.3.D & E – *The entire property survey is required and the applicant must identify persons within 250 feet of the property line, not the project boundary*

§ 1102 Notice of Petition

- New § 1102.3.F – *Add notice that variance administrative rules will be available on District's website*
- Clarify § 1102.4 & § 1102.5 – *Certificate of publication and notice must be filed and deadline changed to provide consistency with timeline for other requirements*

Proposed WMO Changes

Article 11 – Variances:

§ 1102 Notice of Petition

- New § 1102.7 – *Failure to file required documents can be a basis for denying variance petition*

§ 1103 Standards

- Clarify § 1103.1.C – *The District can only grant the minimum variance necessary*

Proposed WMO Changes

Article 11 – Variances:

§ 1104 Submission of Written Comments

- Clarify written comment period in § 1104.1 – *Ensures it is open for no less than 21 days after notice sent to individuals*
- New § 1104.3 – *Make clear that all public comments will be provided to the applicant*

§ 1105 Determination by the District

- New § 1105.1 – *Administrative change to make clear that variances can be heard by Board or designee, consistent with other WMO procedures*

Proposed WMO Changes

Article 11 – Variances:

§ 1105 Determination by the District

- Delete former § 1105.3 and § 1105.4 – *Provide consistency between WMO administrative proceedings and other District hearings*
- Clarify § 1105.6.A – *Report must contain basis for recommendation*
- Add cost provision to § 1105.6.B – *Clarify who bears cost of transcript*
- New § 1105.8 – *Final decision rests with the Board*
- Clarify § 1105.9 – *Require provisions of Board's final order*

Proposed WMO Changes

Article 12 – Prohibited Acts, Enforcement, and Penalties:

§ 1201 Administrative Proceedings: Notice of Violation

- Change deadline in § 1201.7 – *Comply with timeline indicated in § 1201.3*

§ 1204 Show Cause Hearing and Imposition of Civil Penalties by the Board of Commissioners

- Clarify § 1204.8.A – *Range of penalties to be assessed*

Proposed WMO Changes

Article 13 – Appeals:

§ 1301 Appeals to the Director of Engineering

- Amend deadline in § 1301.3 – *Allow flexibility in time sensitive appeals*

§ 1302 Appeals to the Board of Commissioners

- New § 1302.3 replaces former § 1302.3 and § 1302.5 – *Make clear that appeals can be heard by Board or designee, consistent with other WMO procedures*
- Add cost provision to § 1302.7 – *Clarify who bears cost of transcript*

Proposed WMO Changes

Article 14 – Administration:

§ 1402 Role of an Authorized Municipality

- Specify Elevation Certificates in § 1402.2.G(4) – *Specify 'definition language' here and remove from Appendix A*
- New § 1402.3.D – *Insert "conflict of interest" provision for Professional Engineers employed by Authorized Municipalities who review permits*

Proposed WMO Changes

Appendices:

- No Changes Proposed for:
  - *Appendix C – SPO and MOP*
  - *Appendix D – Watershed Service Areas*
  - *Appendix G – Intergovernmental Agreements*

Proposed WMO Changes

Appendix A – New Definitions:

- Actual Release Rate – *Replaces 'Allowable Release Rate' and clarifies § 504*

  The release rate from the **outlet control structure** of a **detention facility** at the 100-year high water elevation.

- Applicant – *Used throughout the WMO to cover all parties responsible for a permit*

  The **permittee**, **co-permittee**, **sole permittee**, or their designated **Professional Engineer**, who submits a **Watershed Management Permit** application.

Proposed WMO Changes

Appendix A – New Definitions:

- Circular 173 – *Added to clarify § 502 and § 504*

  Huff, Floyd A. "Time Distributions of Heavy Rainstorms in Illinois. Illinois State Water Survey," Champaign, Circular 173, 1990.

- Control Structure – *Added to clarify § 504*

  The **structure** (i.e. restrictor) that controls the flow rate out of the **detention facility** such that the **required detention volume** is provided.

Proposed WMO Changes

Appendix A – New Definitions:

- Detention Service Area – *Added to clarify § 505*

  All areas accounted for when calculating the **gross allowable release rate**. This term shall include **tributary areas** and unrestricted areas considered in the design of a **detention facility**.

- Gross Allowable Release Rate – *Replaces 'Allowable Release Rate' and clarifies § 504*

  The maximum allowable release rate from a **detention facility** without adjustments due to existing **depressional storage** and/or **unrestricted flow**

Proposed WMO Changes

Appendix A – New Definitions:

- Net Allowable Release Rate – *Replaces 'Allowable Release Rate' and clarifies § 504*

  The maximum allowable release rate from a **detention facility** that is adjusted due to **depressional storage** and/or **unrestricted flow**.

- Project – *Used throughout the WMO to cover all proposed work, not just development portions*

  Any human-induced activity, including **development**, **redevelopment**, **demolition**, **maintenance activities**, and **qualified sewer** construction.

Proposed WMO Changes

Appendix A – New Definitions:

- Required Detention Volume – *Added to clarify § 504*

  The volume required to be provided within a **detention facility** to store the 100-year **storm event** within a 24-hour duration at the **actual release rate.**

- Sewer System Owner – *Added to clarify Articles 7 and 8*

  The **municipality**, township, or sanitary district that owns and/or is responsible for the **maintenance** and operation of a sewer system. The **sewer system owner** is a **permittee** for a **Watershed Management Permit** that includes **qualified sewer**.

Proposed WMO Changes

Appendix A – Modified Definitions:

- Accessory Structure – *Clarify the structure does not have to be associated with an existing building*
- Appellant – *Add 'permittee' to as a potential entity who may appeal a permit, as not all permits have co-permittees*
- Connection Impact Fee – *Clarify when this fee applies*
- Critical Duration Analysis – *Indicate the storm events for which this should be analyzed*
- Design Runoff Rate – *Include critical duration analysis*

Proposed WMO Changes

Appendix A – Modified Definitions:

- Existing Detention Facility – *Expand to post-WMO facilities for consistency with revised redevelopment provisions of § 505*
- Major Stormwater System – *Indicate this is calculated based on the critical duration storm event*
- Native Planting Conservation Area – *Remove limitation to just unrestricted flows to encourage use throughout*
- Non-Qualified Development – *Expand list of what can be considered non-qualified to be consistent with § 501.3*

Proposed WMO Changes

Appendix A – Modified Definitions:

- Offsite Detention Facility – *Clarify tributary area to distinguish from regional facilities that serve a property*
- Offsite Volume Control Practice – *Practices should not collect from a development area, but instead an existing impervious area to avoid "double-crediting"*
- Permittee – *Clarify who serves as permittee based on project scope (development vs. qualified sewer)*
- Property Interest – *Consolidate 'Parcel', 'Ownership', and 'Interest' into new term*

Proposed WMO Changes

Appendix A – Modified Definitions:

- Qualified Sewer – *Remove 'Construction' from title and clarify it begins at the building foundation wall*
- Underdrain – *Clarify does not include footing drains*
- Unrestricted Flow – *Indicate requirement to include in 'Net Allowable Release Rate' calculations*

Proposed WMO Changes

Appendix A – Definitions not used in WMO:

- Existing Development Plans List *(no longer used)*
- Existing Manufactured Home Park or Subdivision
- Expansion to an Existing Manufactured Home Park or Subdivision
- Manufactured Home
- Manufactured Home Park or Subdivision
- New Construction
- New Manufactured Home Park or Subdivision
- Other Wastes
- Professional Engineering
- Start of Construction
- Substantial Damage
- Substantial Improvement *(no longer used)*

Proposed WMO Changes

Appendix A – Redundant Definitions:

- Drainage Area
- Erosion and Sediment Control Practices
- Hydraulically Equivalent Compensatory Storage
- Isolated Wetland Buffer
- Jurisdictional Wetlands
- New Impervious Area
- Non-Qualified Sewer Construction

Proposed WMO Changes

Appendix A – Unnecessary Definitions:

- Dam
- Hydrology
- Isolated Wetland Submittal
- Lake
- Sediment Basin
- Silt Fence
- Stabilization or Stabilized

Appendix A – Defined in WMO body:

- *CCSMP*
- Elevation Certificates
- *Illinois Recommended Standards for Sewage Works*
- *Recommended Standards for Wastewater Facilities*
- *Sewage and Waste Control Ordinance*
- *Standards Specification for Water & Sewer Construction in Illinois*

Proposed WMO Changes

Appendix A – Deleted Definitions:

- Allowable Release Rate – *Replace with 'Net Allowable Release Rate', 'Gross Allowable Release Rate', and 'Actual Release Rate' for clarity*
- Appropriate Use – *No need for WMO definition: defined by IDNR-OWR, and WMO mandates "as approved by IDNR-OWR"*
- Building Envelope – *Causes confusion with plumbing code, which is 5-feet outside foundation wall. The foundation wall is now referenced throughout the WMO.*

Proposed WMO Changes

Appendix A – Deleted Definitions:

- Disturbed Area – *Merge to create new 'Project' definition*
- Ownership – *Merge to create new 'Property Interest' definition*
- Parcel – *Merge to create new 'Property Interest' definition: All remaining uses consistent with dictionary definition*
- Site – *Merged to create to 'Project' and 'Property Interest' definitions*

Proposed WMO Changes

Appendix E – Watershed Planning Areas

- Revise Map
  - *All areas of Cook County are assigned an area*
  - *Based on Watershed Release Rate results*
  - *Printer friendly black/white color scheme*

Proposed WMO Changes

Appendix F – Permit Fees

- Section I – *Include SFHA permit and delete note*
- Section II – *Include 'zero-fee' option*
  - *Detention based on 'tributary area', not 'development'*
  - *Remove 'Large Nomograph' due to accuracy concerns*
- Section V – *Clarification for Recordation Deposit*
- *Note – *Add * to Section IV(A), Sewer Inspection Fee*
  - *Tributary to a waterway is fee exempt*
  - *How to calculate underground detention fee*

Proposed WMO Changes

NOTEWORTHY CHANGES

TO THE WMO

Proposed WMO Changes

Article 5 – Stormwater Management

- Green Infrastructure as Non-Qualified Development:
  - New § 501.3 – *Green infrastructure that replaces what would otherwise be in-kind maintenance can be considered non-qualified and detention is not required*

Proposed WMO Changes

Article 5 – Stormwater Management:

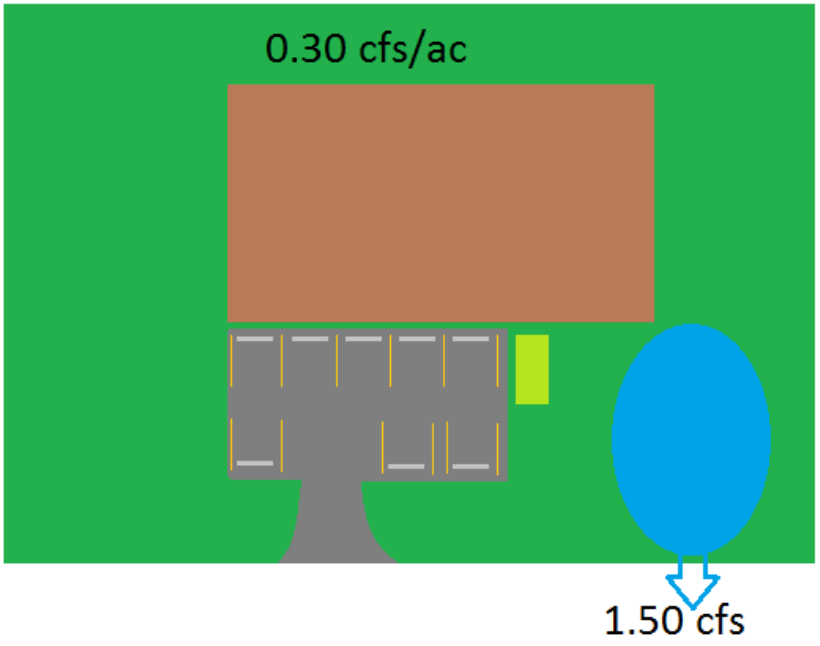
§ 505 Development and Redevelopment Tributary to Existing Detention Facilitates

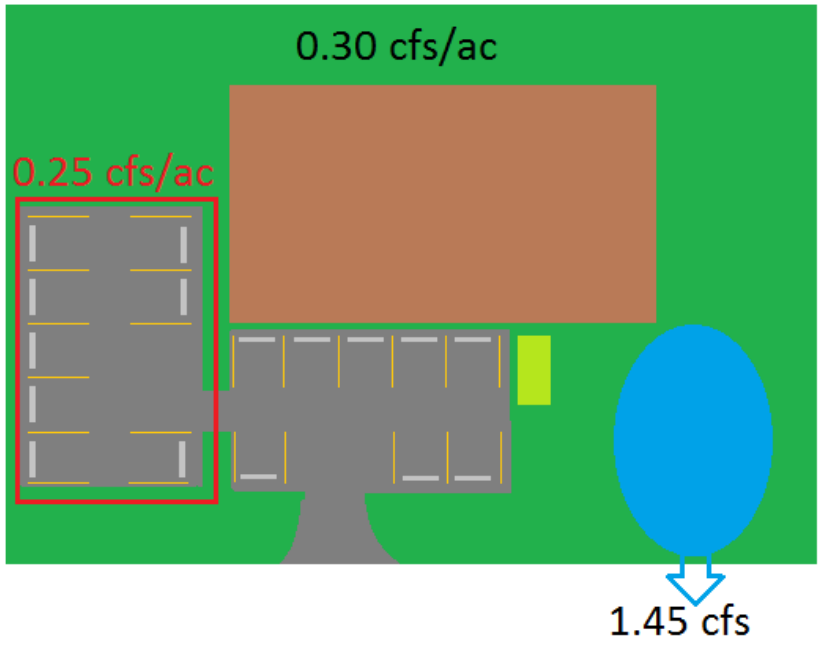
- Current allowances for redevelopment only consider adequacy of detention volume by comparing runoff coefficient / curve number
- Allowances are revised to consider the watershed specific release rate requirements for the redevelopment area
  - Deleted former § 505.2.B – " 0.10 ac-ft or within 2%" allowance deleted and replaced with a new allowance for existing control structures
  - Added § 505.2.A – Added to verify the release rate of existing control structures
  - Clarify new § 505.2.B – Verify the volume of existing detention facilities

Proposed WMO Changes

Article 5 – Stormwater Management:

- New § 505.3 – Development tributary to an existing detention facility must provide additional detention volume at the new release rate using Bulletin 70 rainfall data and the design methodology originally permitted as a proportion of the detention service area





Proposed WMO Changes

Article 5 – Stormwater Management:

- Added § 505.4 – Replaces the old "0.10 ac-ft or 2%" volume allowance with requiring the control structure be updated every 40% of detention service area redevelopment or any individual redevelopment that is 25% of the detention service area
- Added § 505.5 – Requires that release rates of existing detention facilities be modified based on the Watershed Specific Release Rate on a pro-rated basis

Watershed Specific Release Rate Analysis: Cook County, Illinois

Amanda Flegel, Gregory Byard, Sally McConkey, Nicole Gaynor, Christopher Hanstad, Zoe Zaloudek

ILLINOIS

Illinois State Water Survey

PRAIRIE RESEARCH INSTITUTE

Project Objective

Release rate selection objective:
Determine regulatory release rates that mitigate the impacts of development by maintaining the 1% annual-chance flood event elevations at or below current levels.

Technical Advisory Committee Meetings

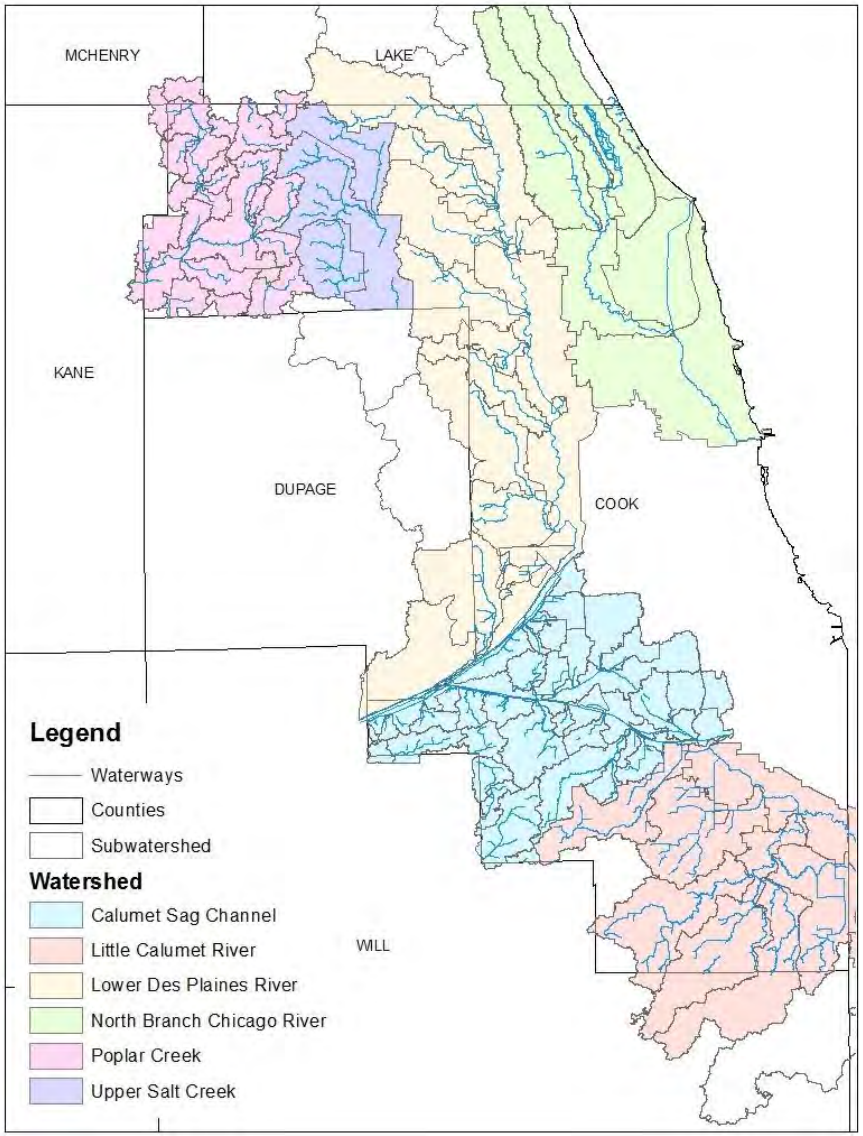
Date	Meeting Purpose
November 4, 2015	Proposed Methodology Overview, Pilot Watershed Analysis, QA of Base Conditions Models, Regional Project Incorporation
July 19, 2016	Review of Methodology, Sensitivity Analyses, Analysis Metrics, Land Use Development, Factors that Impact Release Rate Selection, Draft Results for Pilot Watersheds
January 17, 2018	Pilot Watershed Results, Watershed Extents to be Studied, LEAM Analysis
May 9, 2018	Selected Future Development Levels, Watershed Planning Area Modeling Status
December 12, 2018	Watershed Specific Release Rate Study Technical Review

Methodology

- Phase I
  - Evaluate two pilot study areas
  - Develop streamlined methodology and set of assumptions
  - Evaluate release rates for pilot study areas and garner technical feedback

Phase II

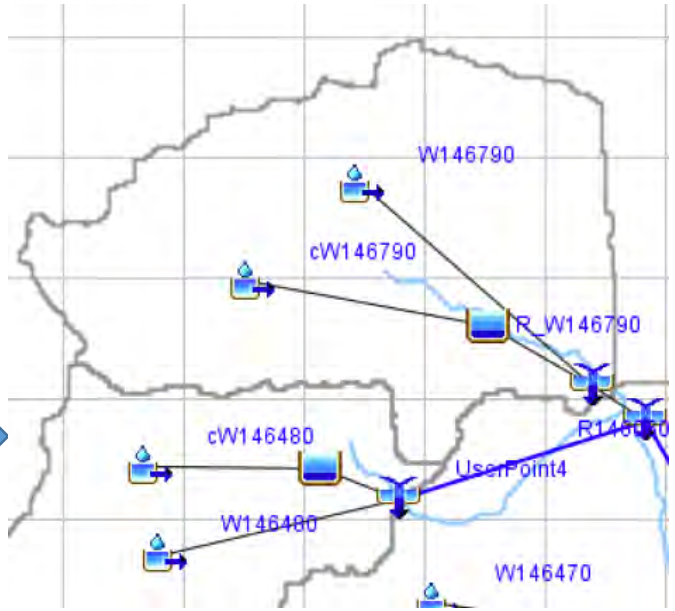
- Apply the methodology developed in Phase I in each Watershed Management Area
- Evaluate release rates for watersheds under WMO regulation



Basis of Methodology

Base Condition:
DWP H&H
with some updates

Future Condition:
Increased Development
WMO Requirement



Model Elements

- Watershed
- Subwatershed
- Subbasin

Subwatershed Selection

- Identify key, selection controlling subwatersheds based on Phase 1 results
- Unnecessary to model every last acre

Selected Methodology

- **Base Model**
  - DWP Unsteady State HEC-HMS and HEC-RAS Models, analyzed at critical duration
  - Updated for recent major stormwater projects
- **Future Development**
  - Uniform 40% Development/Redevelopment Meeting the WMO (with adjustments for preserve lands)
  - Uniform development was selected to evaluate release rates. 40% was supported by land use change analysis
- **Detention**
  - Modeled reservoirs meeting various Watershed Release Rates for the 100-year 24-hour storm with separate control volume
  - Linear hydrograph modeled with storage-discharge functions.
- **Release Rate**
  - 0.15, 0.2, 0.25, and 0.3 cfs/acre were analyzed
  - Outside of the WMO regulatory area the release rate of the adjoining jurisdiction was applied

Watershed Specific Release Rate Analysis: *Calumet Sag Watershed*

Base Model Summary

Modeled Subwatersheds

- Tinley Creek
- Stony Creek

Base Runoff Rates

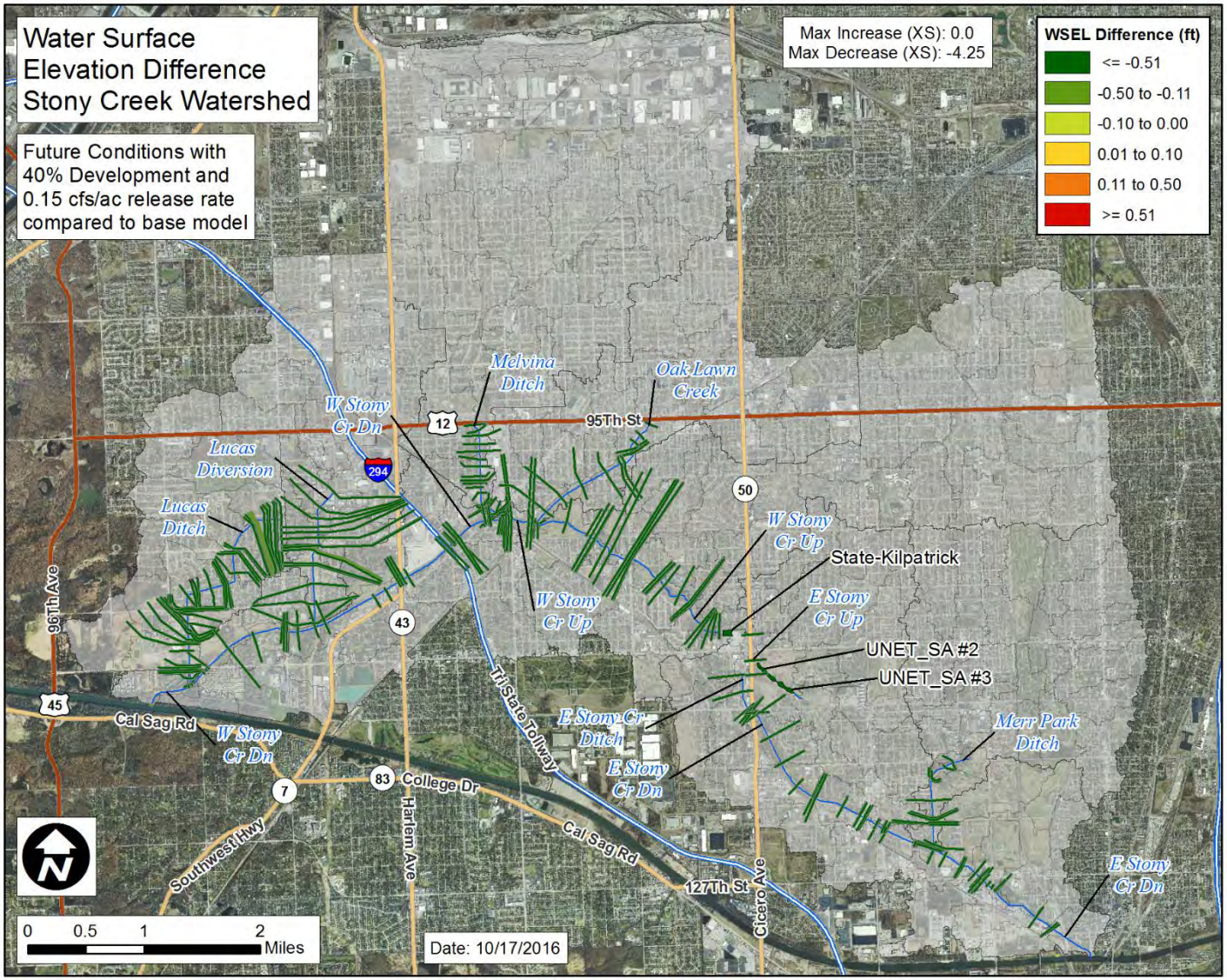
		Critical duration		
	Subwatershed	**Average Base Conditions Peak Runoff Rate (cfs/acre)**	**Subbasin Base Conditions Peak Runoff Rate Range (cfs/acre)**	**Critical duration event**
Calumet Sag	Stony Creek	0.69	0.35 - 0.94	12hr
	Lucas Ditch	0.66	0.45 - 0.80	12hr
	Lucas Diversion Ditch	0.77	0.62 - 0.93	12hr
	Melvina Ditch	0.77	0.64 - 0.97	12hr
	Merr Park Ditch	0.73	0.63 - 0.85	12hr
	Oak Lawn	0.78	0.62 - 0.87	12hr
	Tinley Creek	0.72	0.57 - 1.00	12hr

Updates to Base Model

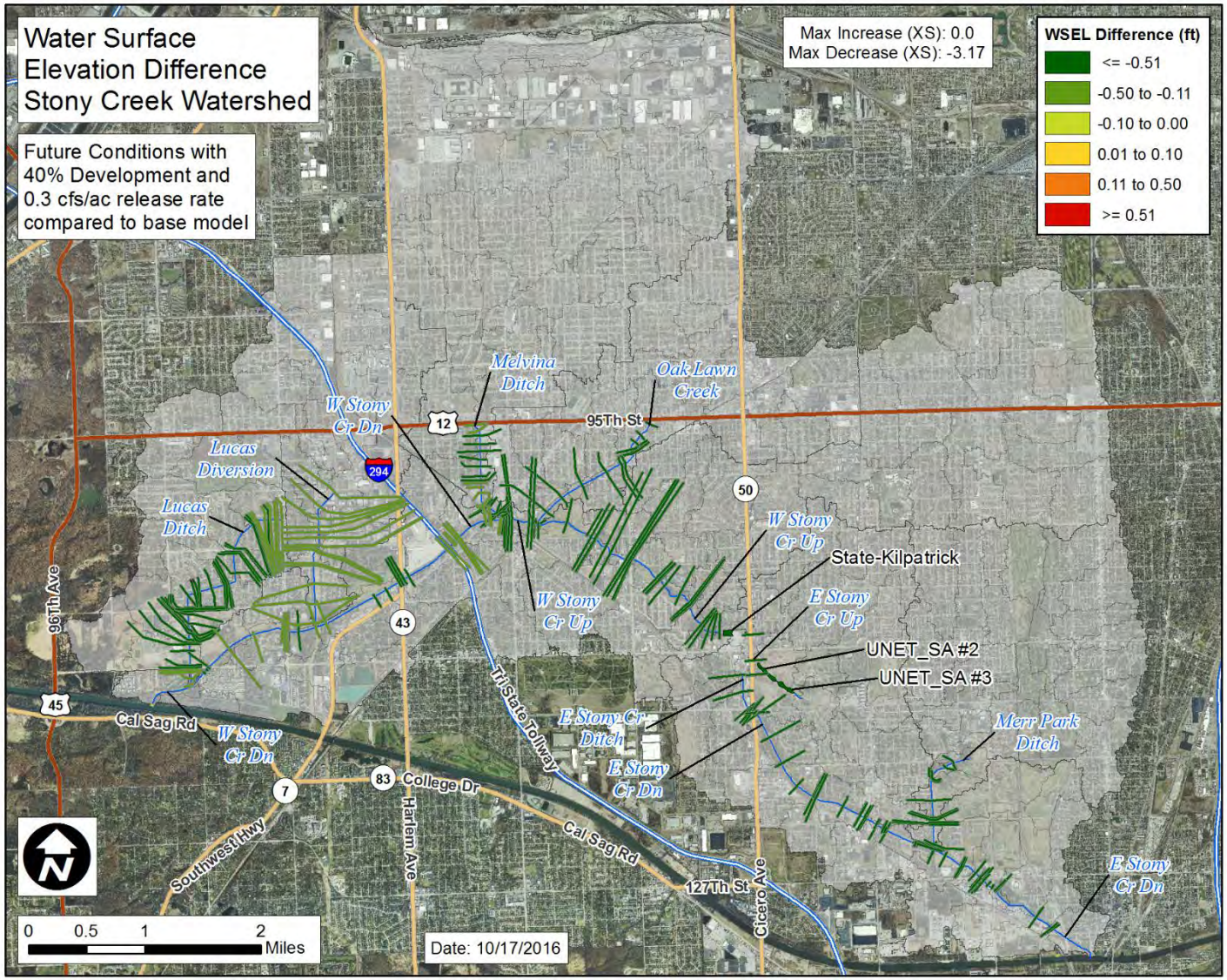
Watershed Activities Requiring Base Model Updates

- Tinley Creek: Incorporation of Stormwater Project 10-883-AF/LOMR 16-05-7359R
- Tinley Creek: Incorporation of Stormwater Project 10-882-DF

Future Model Results



Future Model Results



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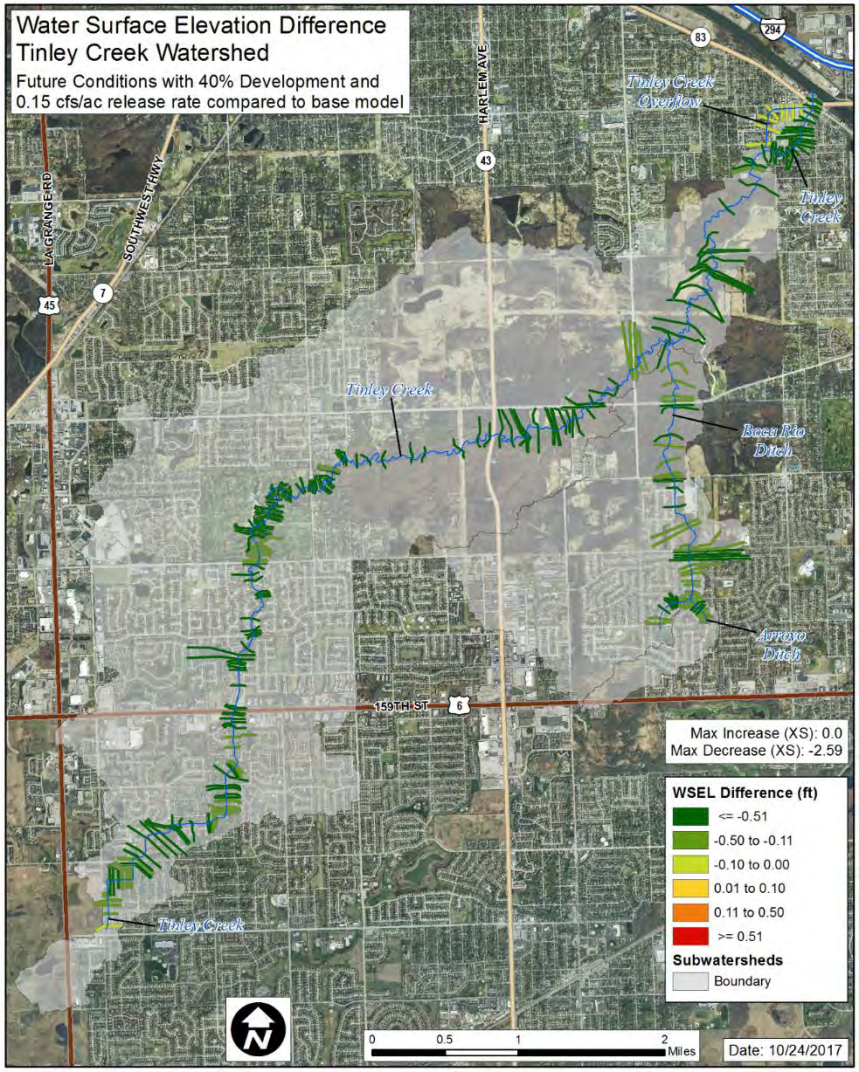

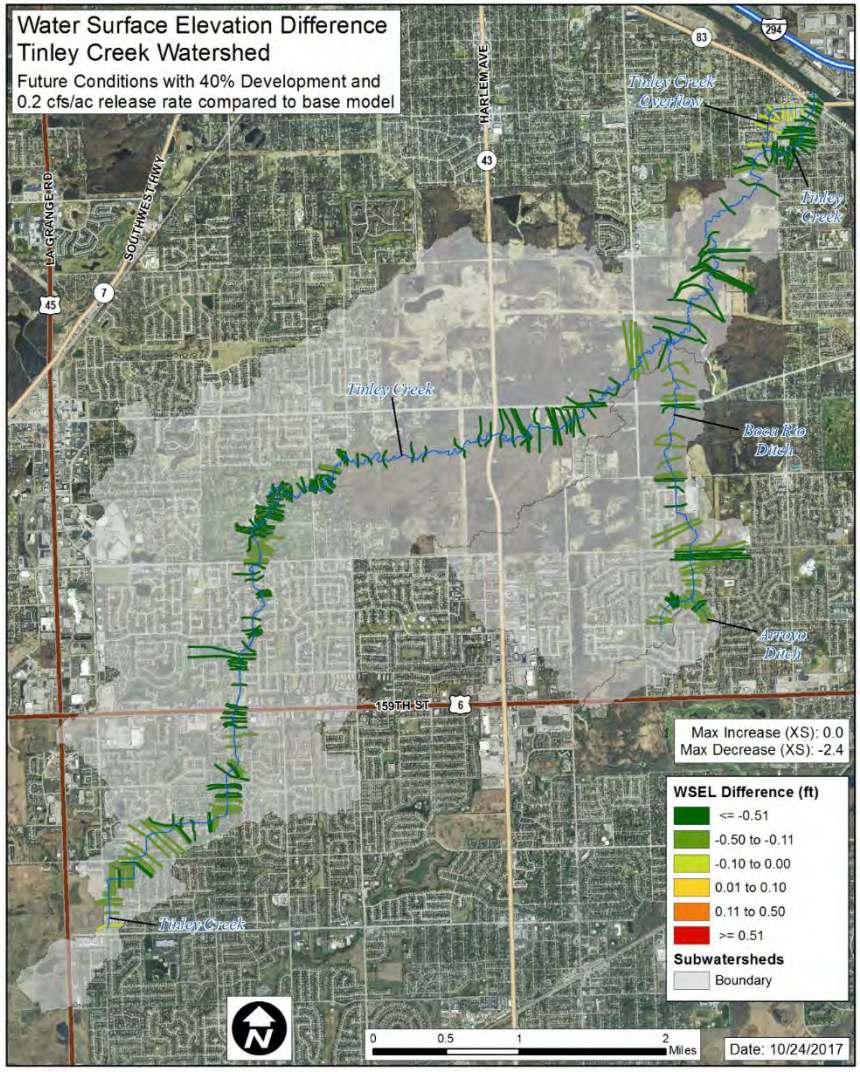

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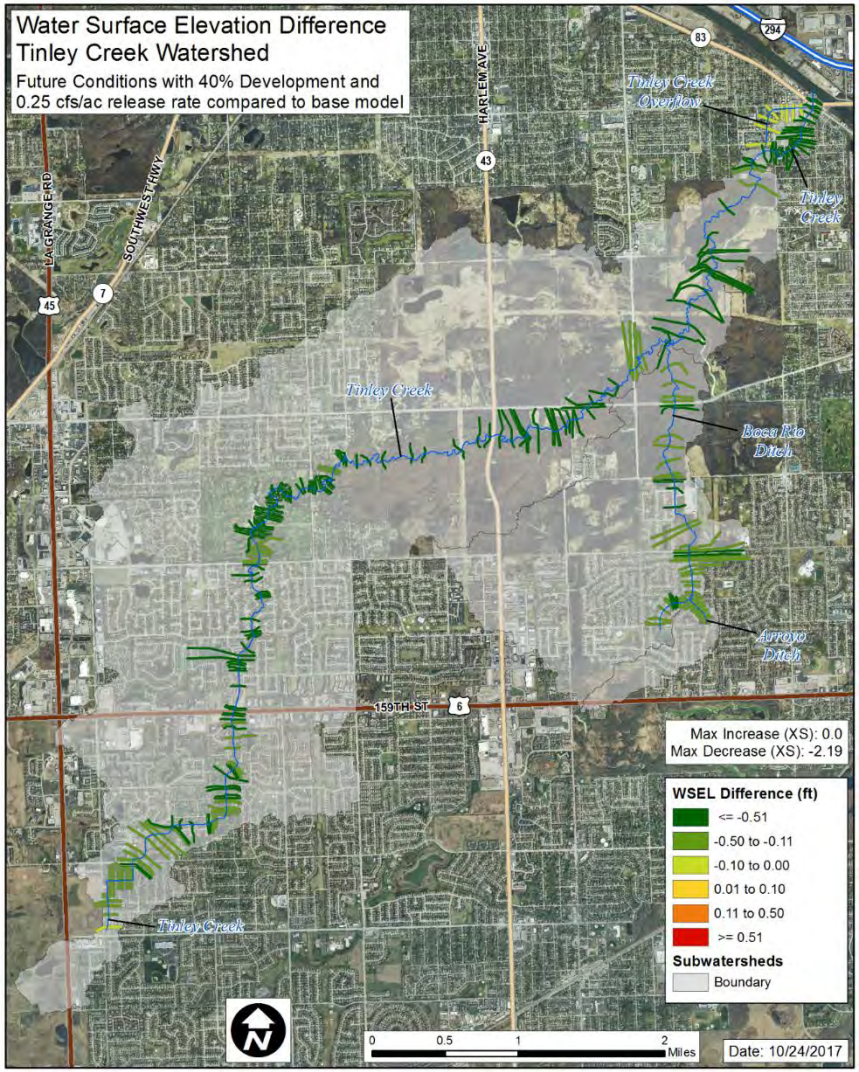
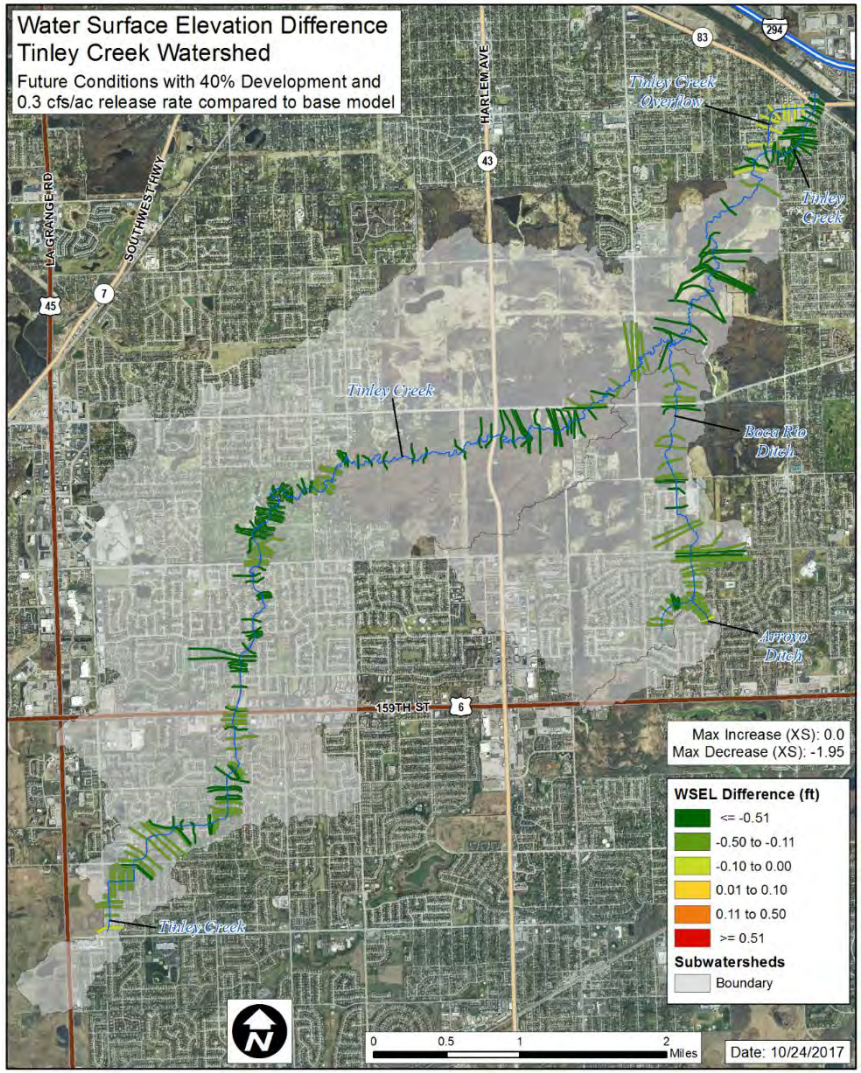




Analysis of Effect of Release Rates

Stony Creek Subwatershed	Criteria	WMO release rate				Total Stream length
		0.15 cfs/ac	0.20 cfs/ac	0.25 cfs/ac	0.30 cfs/ac	
	Stream length with increase in peak WSEl> 0.1’ (ft)	0	0	0	0	75,359
	Stream length with increase in peak WSEl> 0.1’ (%)	0.0%	0.0%	0.0%	0.0%	
	Reservoirs in RAS model with increases > 0.5'	0	0	0	0	

Tinley Creek Subwatershed	Criteria	WMO release rate				Total Stream length
		0.15 cfs/ac	0.20 cfs/ac	0.25 cfs/ac	0.30 cfs/ac	
	Stream length with increase in peak WSEl> 0.1’ (ft)	0	0	0	0	90,668
	Stream length with increase in peak WSEl> 0.1’ (%)	0.0%	0.0%	0.0%	0.0%	
	Reservoirs in RAS model with increases > 0.5'	0	0	0	0	

Watershed Specific Release Rate Analysis: *North Branch Chicago River Watershed*

Base Model Summary

Modeled Subwatersheds:

- North Branch Chicago River (Upstream of North Shore Channel)
- West Fork North Branch Chicago River
- Middle Fork North Branch Chicago River
- Skokie River

Base Runoff Rates

		24 hour		
	Subwatershed	**Average Base Conditions Peak Runoff Rate (cfs/acre)**	**Subbasin Base Conditions Peak Runoff Rate Range (cfs/acre)**	**Critical duration event**
North Branch Chicago River	West Fork	0.41	0.21 - 0.76	24 hr
	Middle Fork	0.32	0.13 - 0.59	24 hr
	Skokie	0.27	0.12 - 0.62	24 hr
	North Branch US	0.32	0.17 - 0.51	24 hr

Updates to Base Model

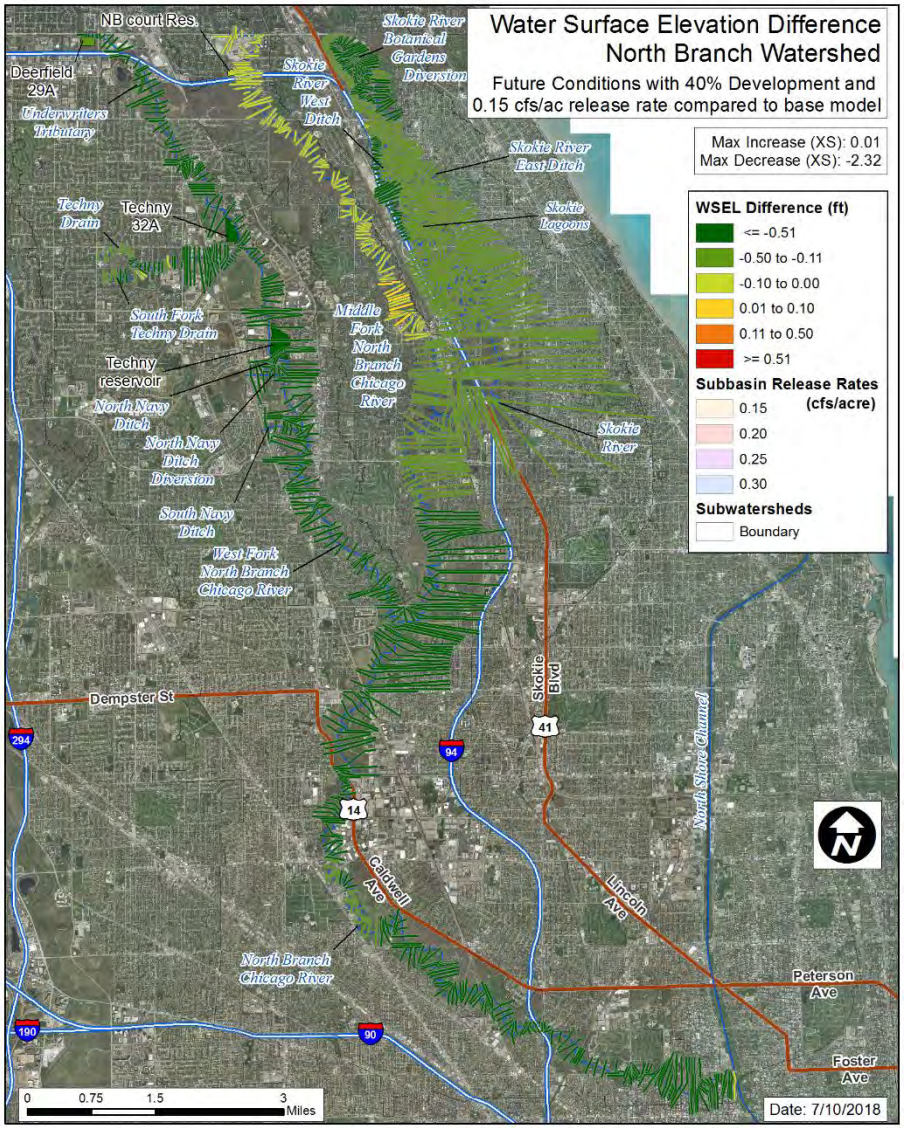
Watershed Activities Requiring Base Model Updates

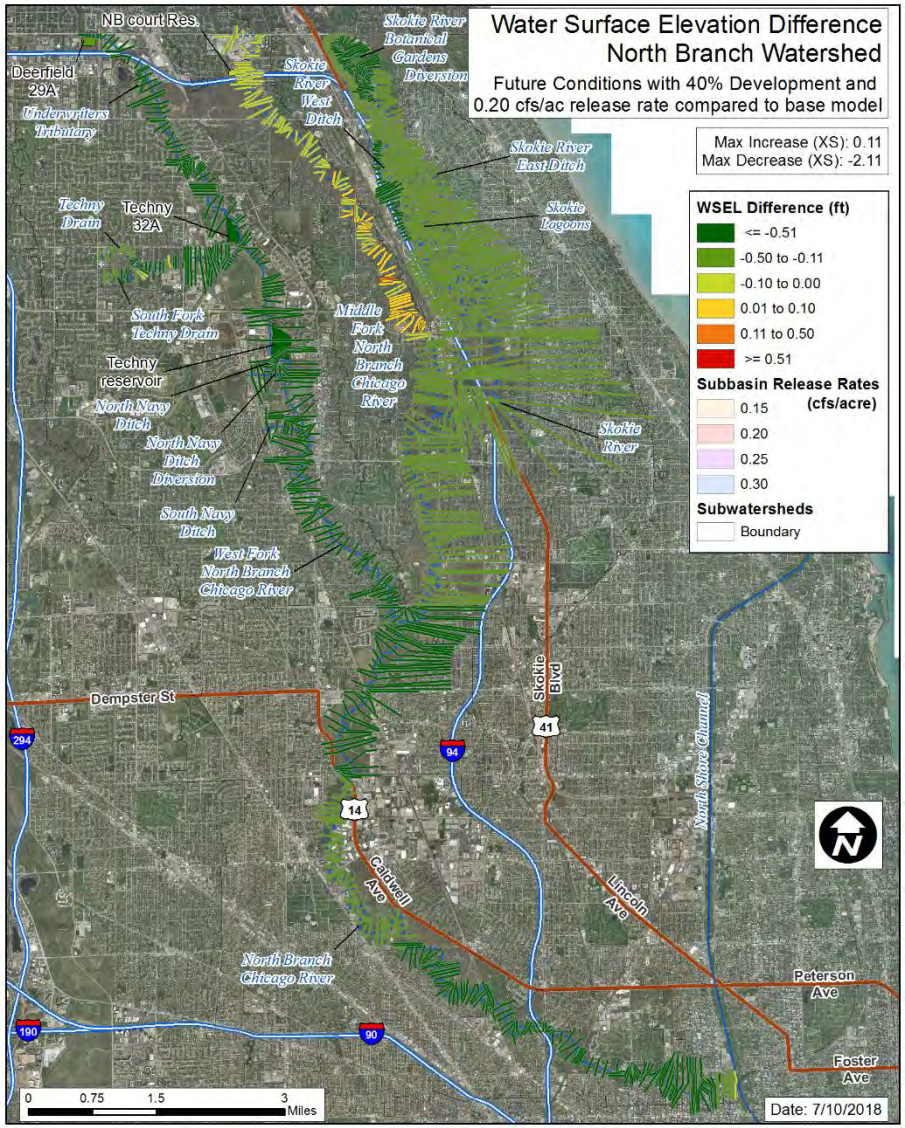
- Stormwater Project 14-IGA-07 (MS-07): Albany Park Diversion Tunnel

Special Considerations

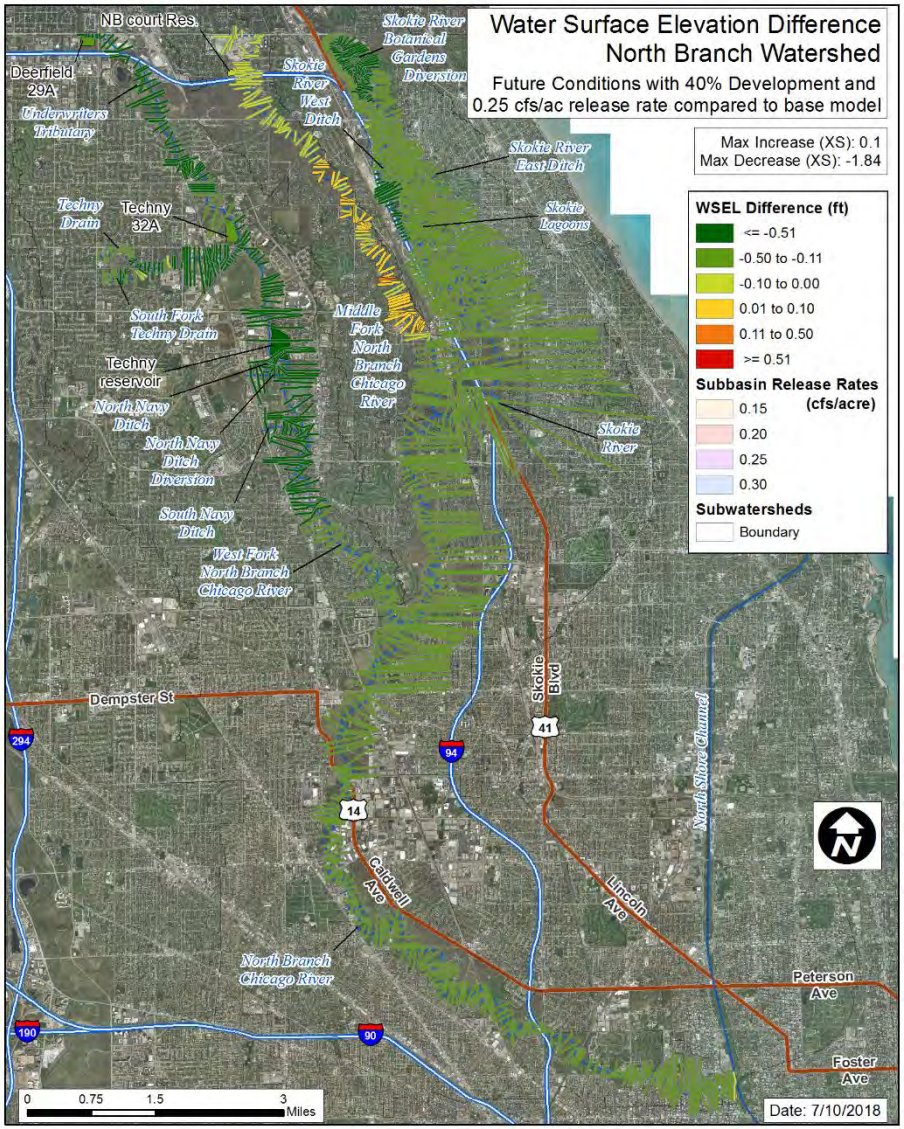
- Significant portions of watershed falls outside the jurisdiction of the WMO and Lake County watershed release rates were applied

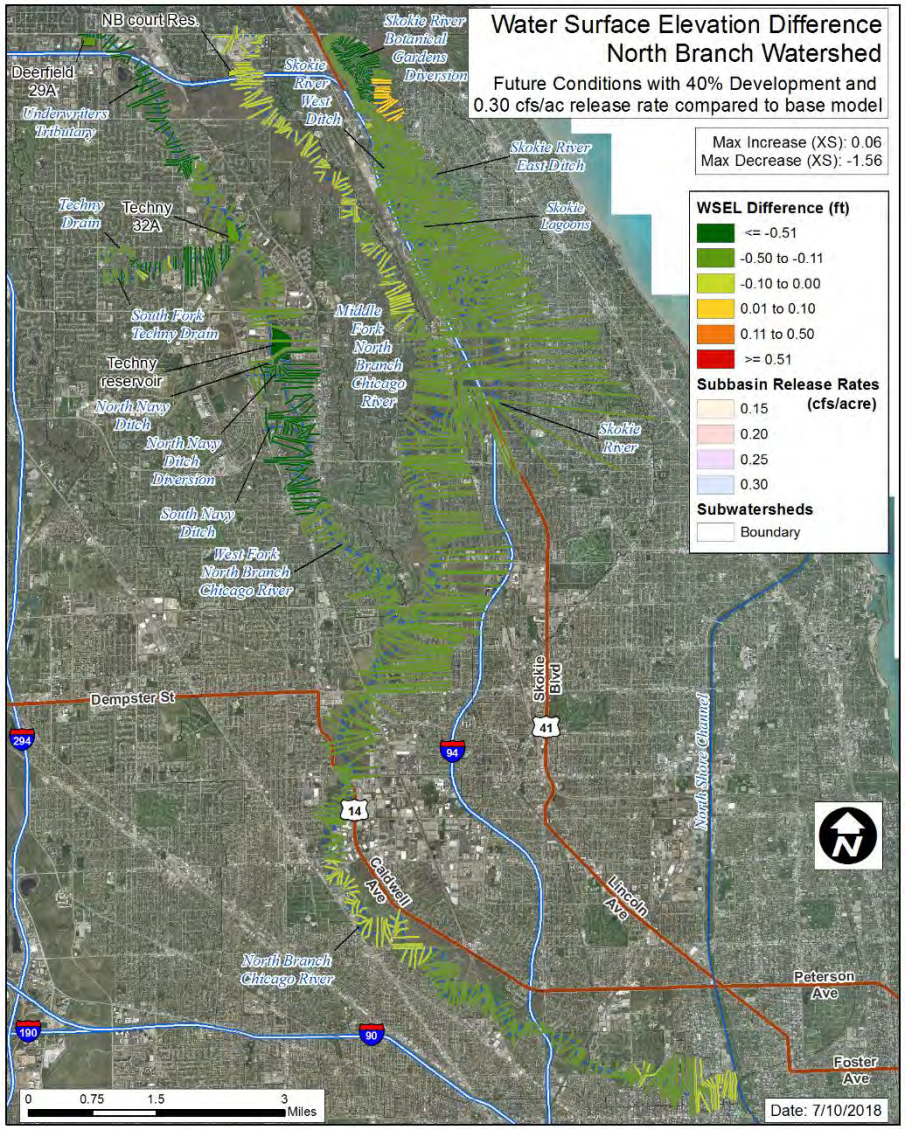
Future Model Results





Future Model Results





Analysis of Effect of Release Rates

North Branch Chicago River Watershed	Criteria	WMO release rate				Total Stream length
		0.15 cfs/ac	0.20 cfs/ac	0.25 cfs/ac	0.30 cfs/ac	
	Stream length with increase in peak WSEl> 0.1’ (ft)	0	108	108	0	286,663
	Stream length with increase in peak WSEl> 0.1’ (%)	0.0%	0.0%	0.0%	0.0%	
	Reservoirs in RAS model with increases > 0.5'	0	0	0	0	

Watershed Specific Release Rate Analysis: *Poplar Creek Watershed*

Base Model Summary

Modeled Subwatersheds:

- Poplar Creek
- Poplar Creek South Branch
- Poplar Creek Lord's Park Tributary
- Poplar Creek Railroad Tributary
- Poplar Creek Schaumburg Branch
- Poplar Creek East Branch
- Poplar Creek Tributary A

Base Runoff Rates

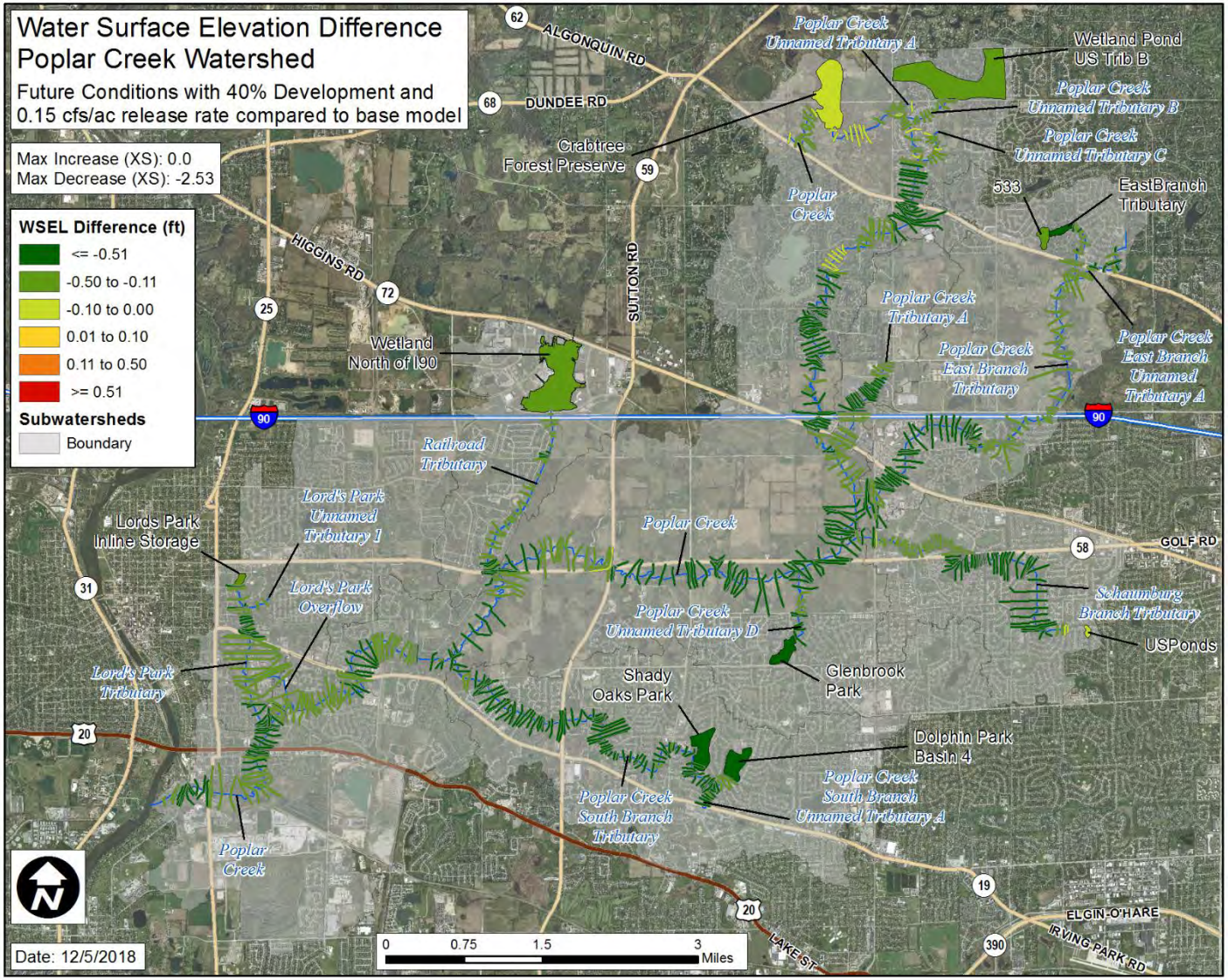
		24 hour		
	Subwatershed	**Average Base Conditions Peak Runoff Rate (cfs/acre)**	**Subbasin Base Conditions Peak Runoff Rate Range (cfs/acre)**	**Critical duration event**
Poplar Creek	Tributary A	0.43	0.27 - 0.73	24 hr
	East Branch	0.44	0.22 - 0.67	24 hr
	Schaumburg	0.55	0.38 - 0.74	24 hr
	Railroad Tributary	0.35	0.27 - 0.71	24 hr
	South Branch	0.49	0.24 - 0.75	24 hr
	Lord's Park Tributary	0.39	0.29 - 0.71	24 hr
	Main stem Poplar Creek	0.37	0.14 - 0.67	24 hr

Updates to Base Model

Watershed Activities Requiring Base Model Updates

- Poplar Creek Schaumburg Branch: LOMR 12-05-7136P

Future Model Results



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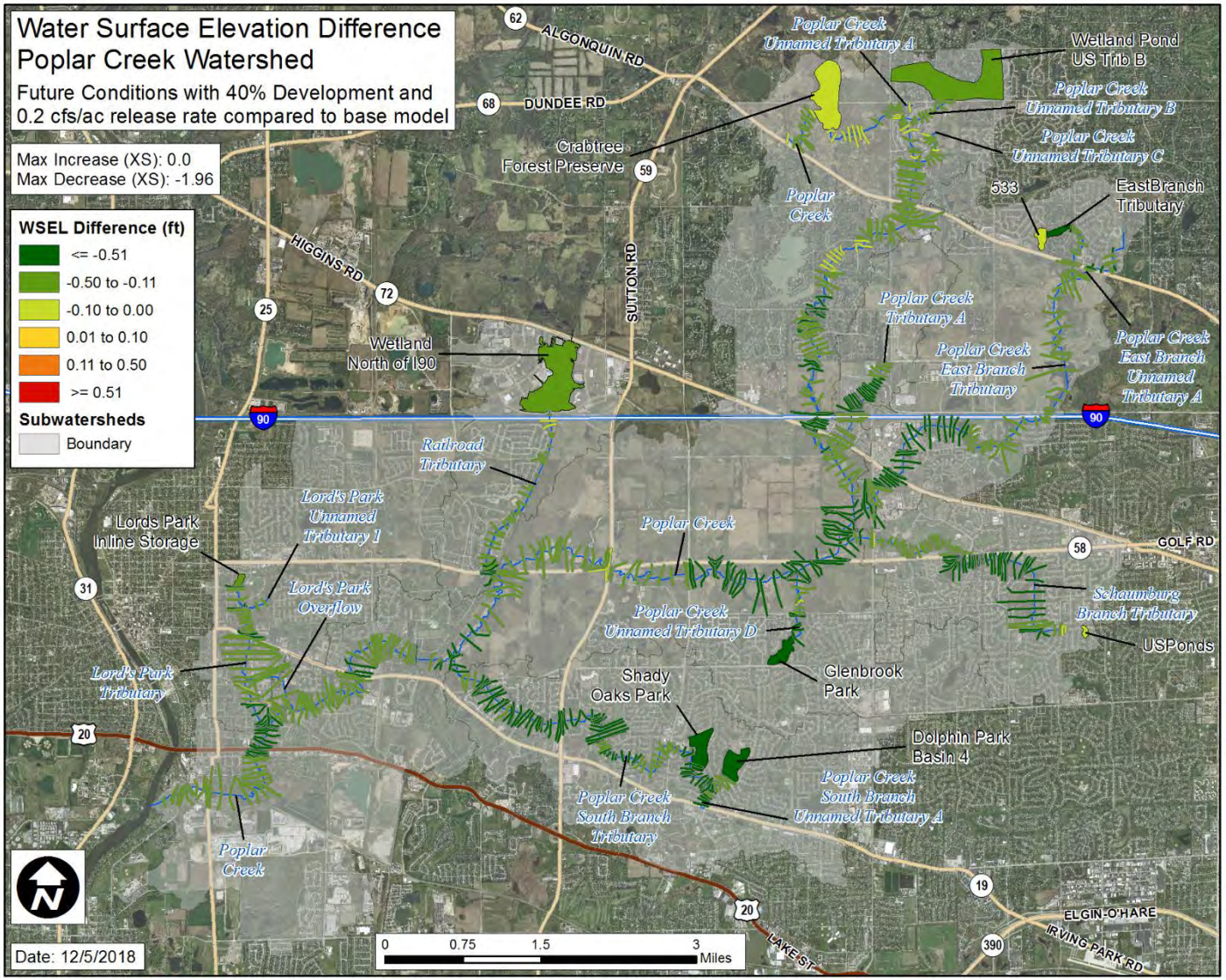

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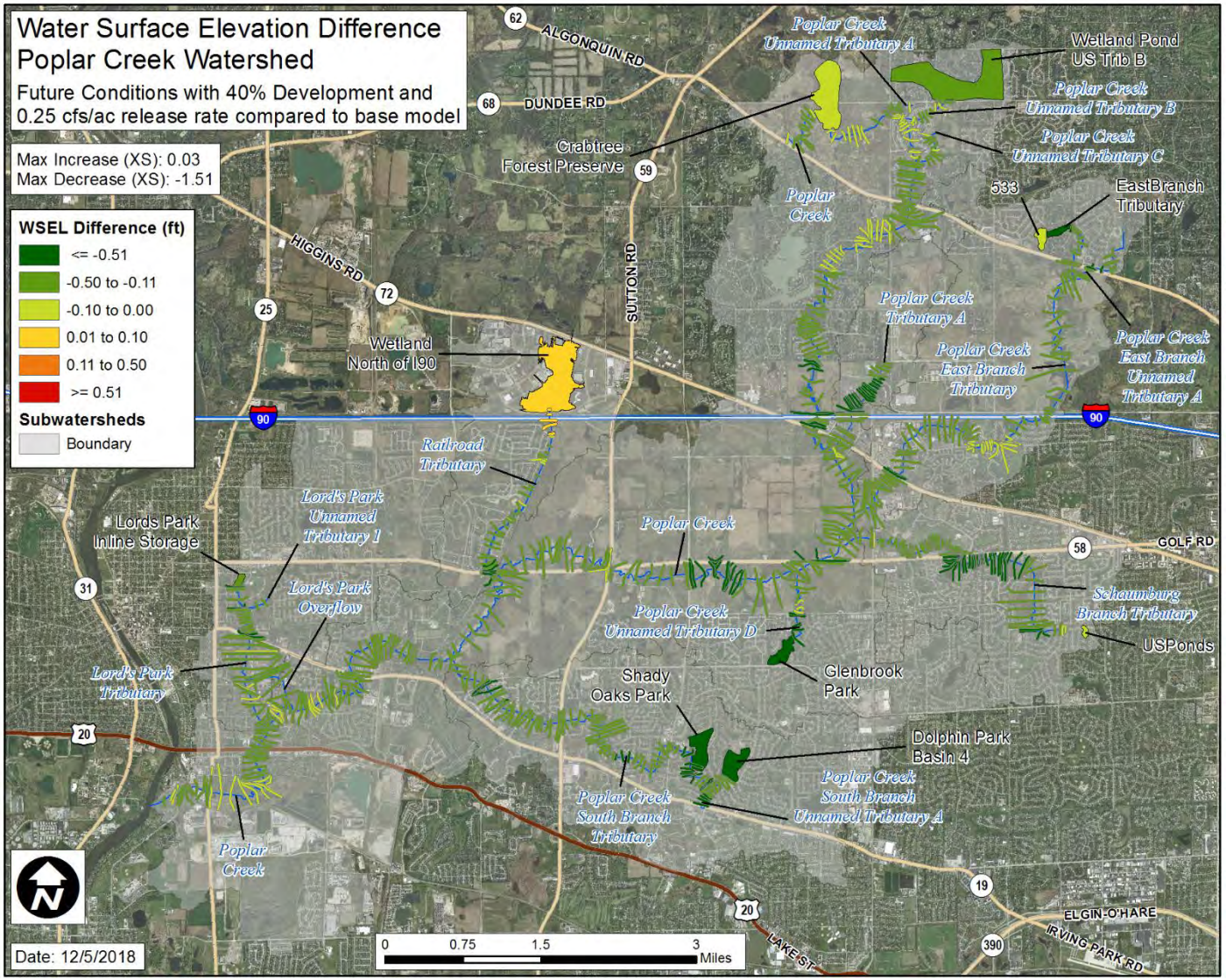

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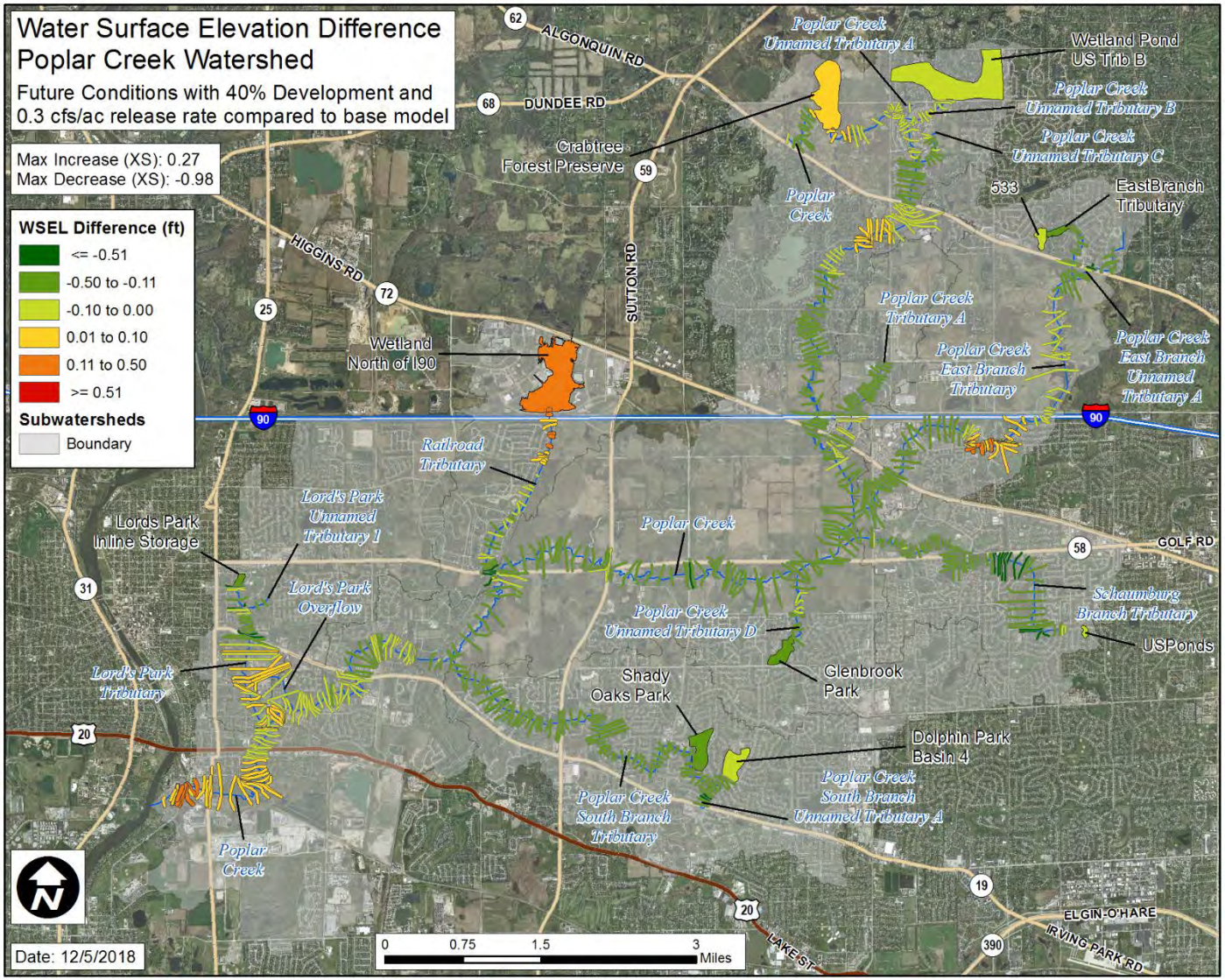


Analysis of Effect of Release Rates

Poplar Creek Watershed	Criteria	WMO release rate				Total Stream length
		0.15 cfs/ac	0.20 cfs/ac	0.25 cfs/ac	0.30 cfs/ac	
	Stream length with increase in peak WSEl> 0.1’ (ft)	0	0	0	2,448	203,498
	Stream length with increase in peak WSEl> 0.1’ (%)	0.0%	0.0%	0.0%	1.2%	
	Reservoirs in RAS model with increases > 0.5'	0	0	0	0	

Watershed Specific Release Rate Analysis: *Little Calumet River Watershed*

Base Model Summary

Modeled Subwatersheds:

- Butterfield Creek
- North Creek

Base Runoff Rates

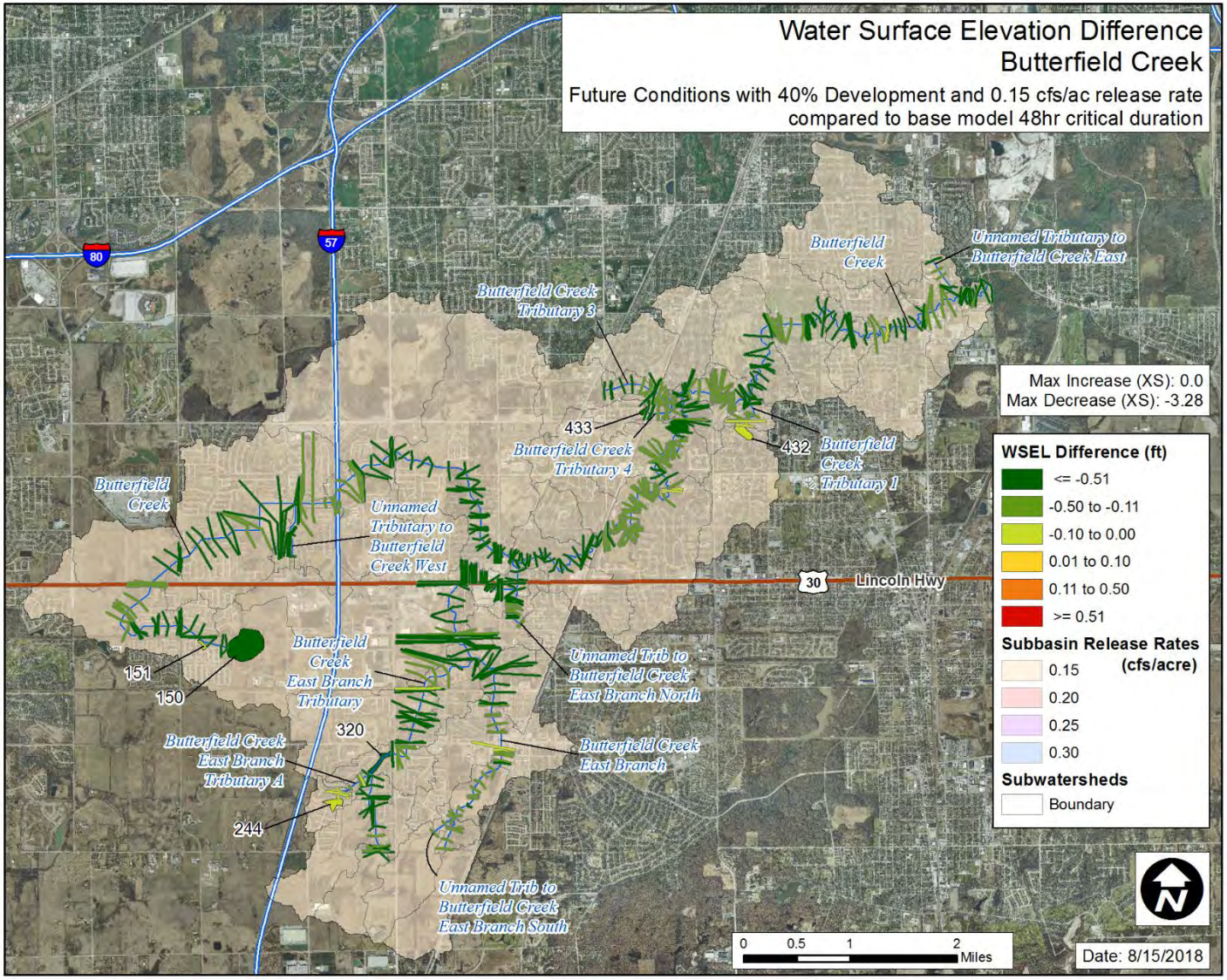
		Critical duration		
	Subwatershed	**Average Base Conditions Peak Runoff Rate (cfs/acre)**	**Subbasin Base Conditions Peak Runoff Rate Range (cfs/acre)**	**Critical duration event**
Little Calumet	Butterfield Creek	0.43	0.30 - 0.64	48 hr
	North Creek	0.35	0.20 - 0.52	48 hr

Updates to Base Model

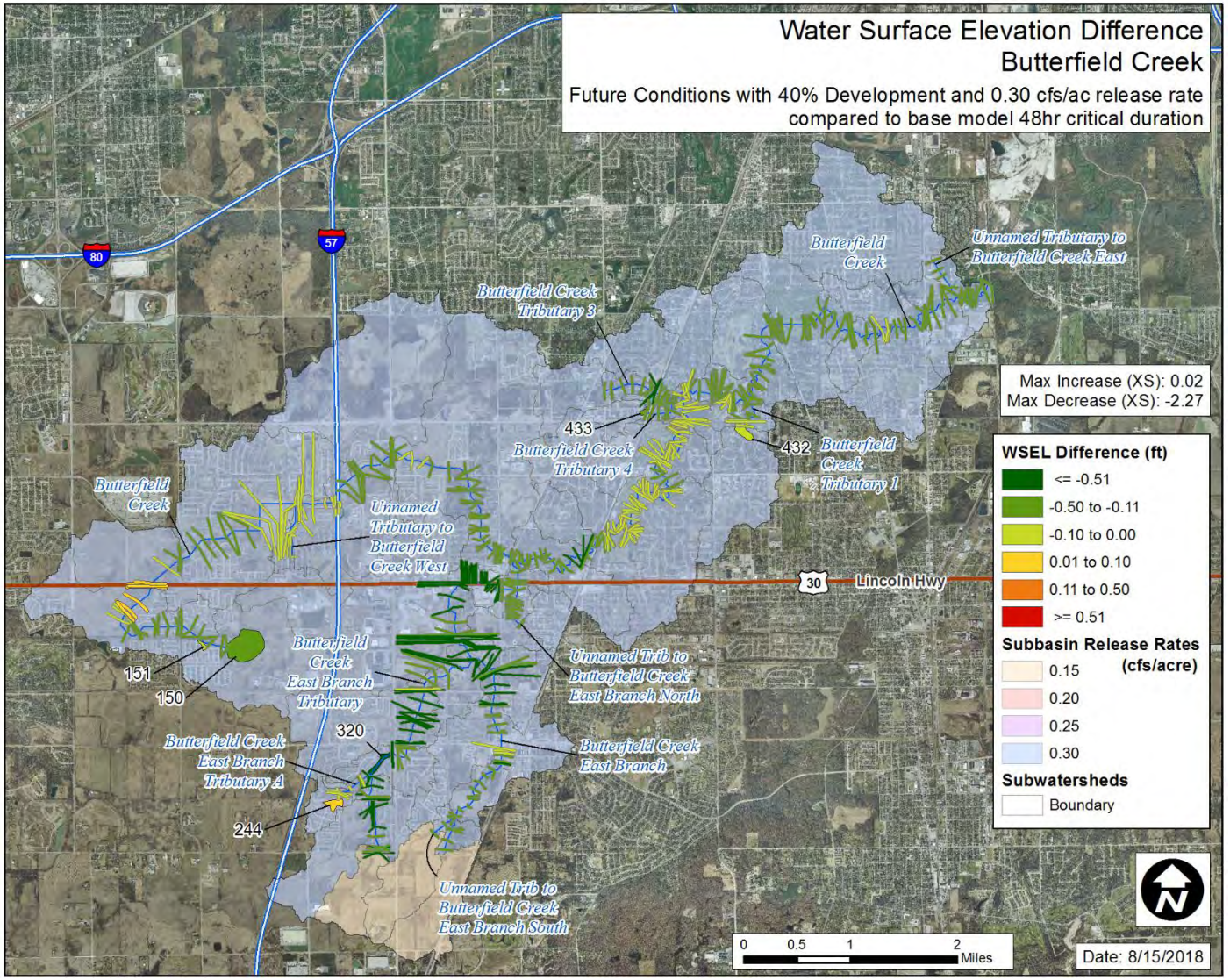
Watershed Activities Requiring Base Model Updates

- Butterfield Creek East Branch QA/QC: Omitted Secondary Railroad Culvert
  - Northwest of Sauk Trail and Governors Highways in Matteson, IL
  - Updated Water Surface Elevations from approximately Western Avenue to Sauk Trail

Future Model Results



Future Model Results



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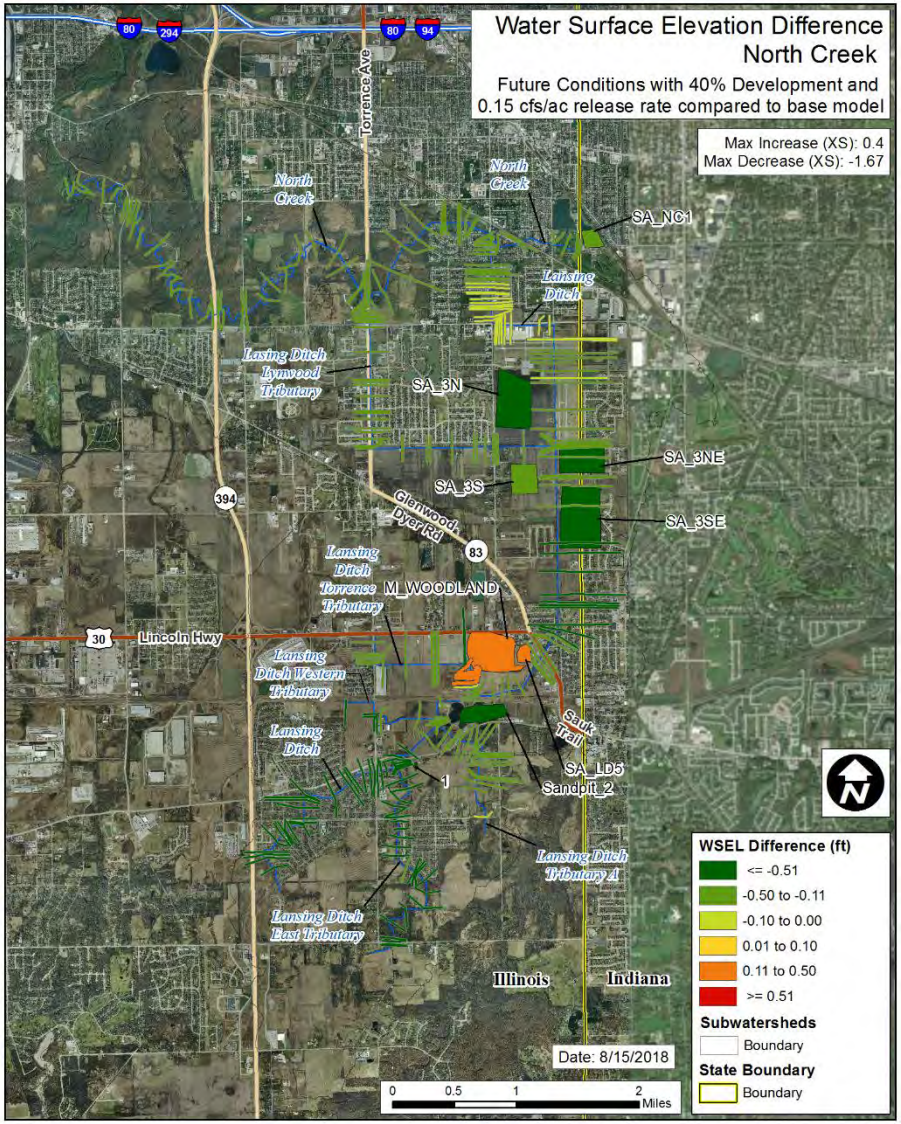
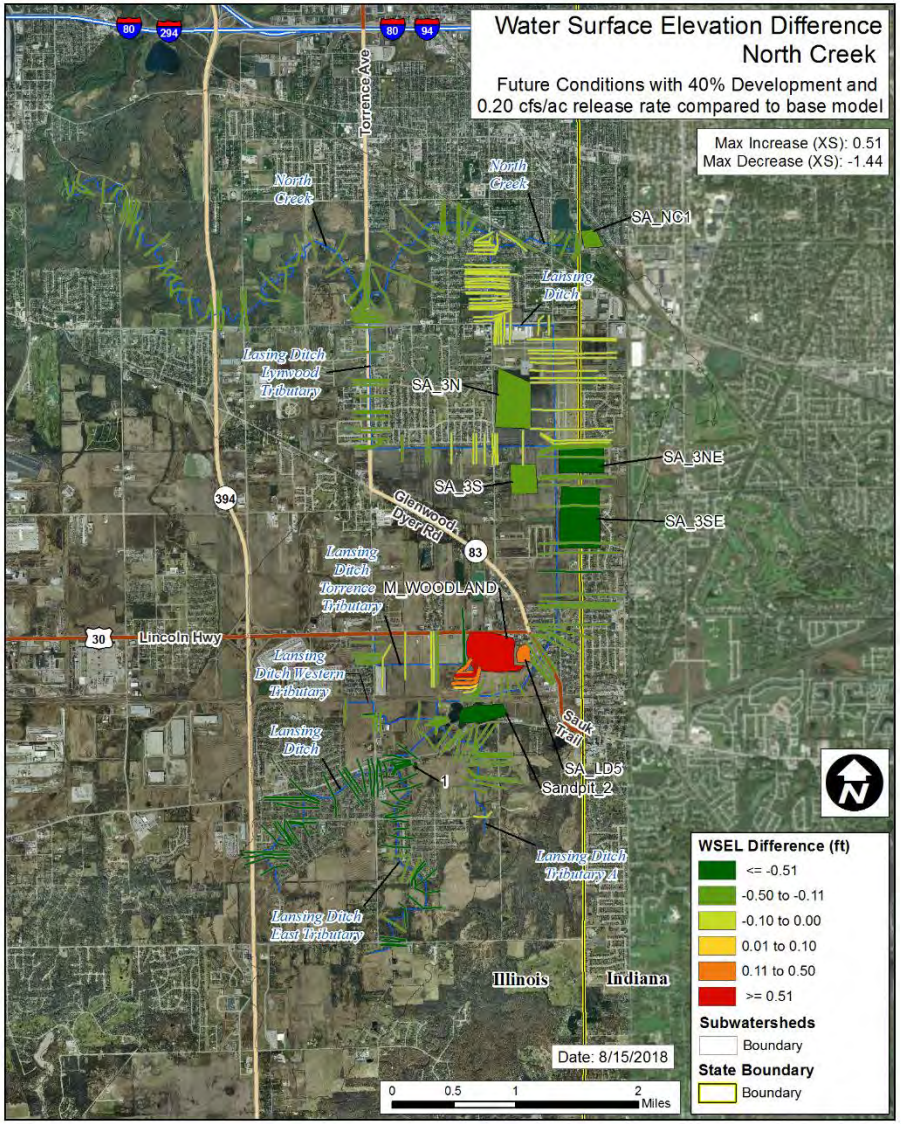
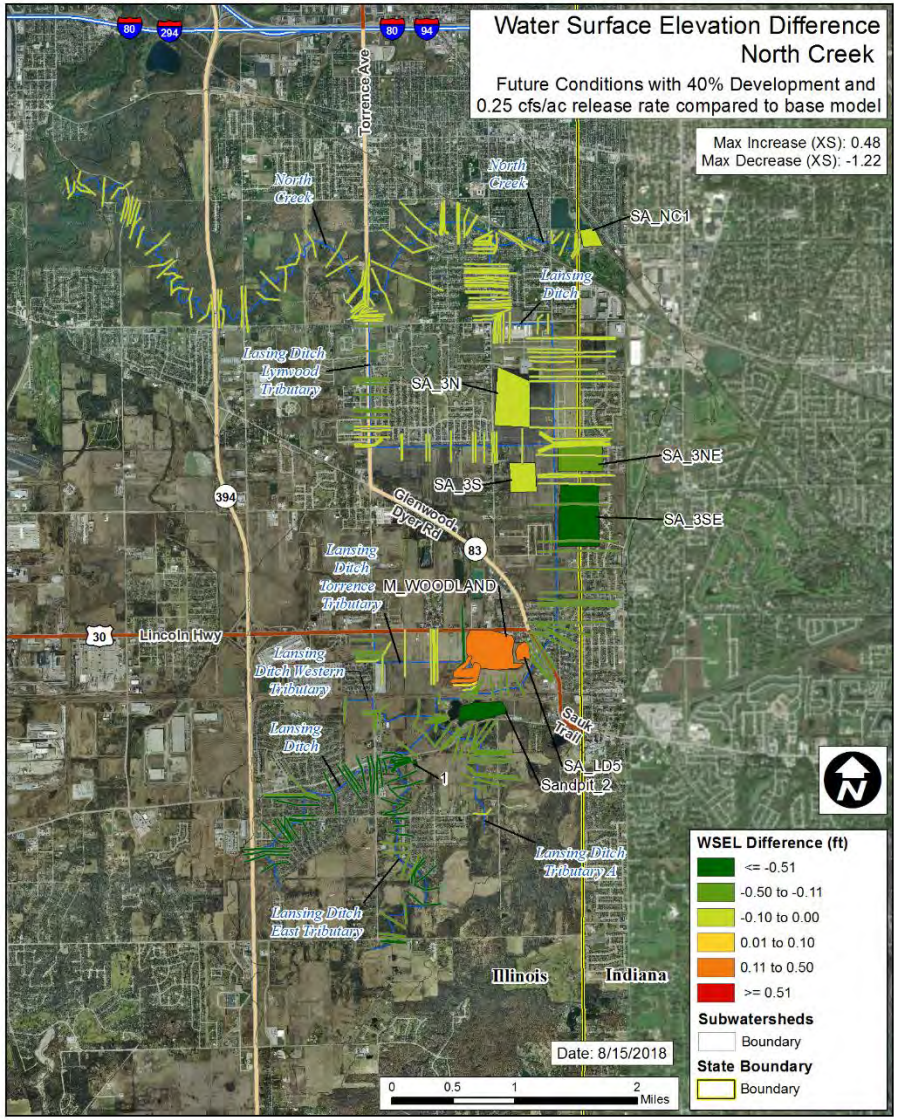
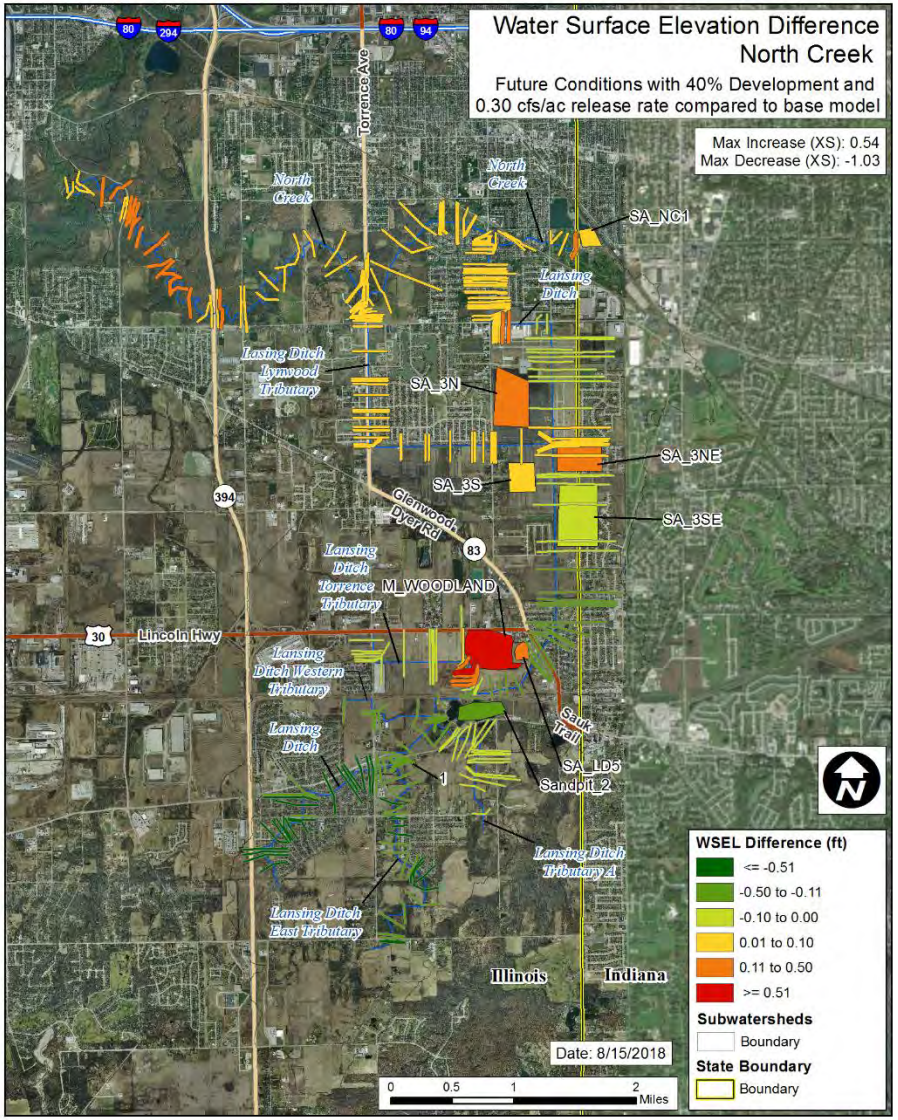




Future Model Results





Analysis of Effect of Release Rates

Butterfield Creek Subwatershed	Criteria	WMO release rate				Total Stream length
		0.15 cfs/ac	0.20 cfs/ac	0.25 cfs/ac	0.30 cfs/ac	
	Stream length with increase in peak WSEl> 0.1’ (ft)	0	0	0	0	136,447
	Stream length with increase in peak WSEl> 0.1’ (%)	0.0%	0.0%	0.0%	0.0%	
	Reservoirs in RAS model with increases > 0.5'	0	0	0	0	

North Creek Subwatershed	Criteria	WMO release rate				Total Stream length
		0.15 cfs/ac	0.20 cfs/ac	0.25 cfs/ac	0.30 cfs/ac	
	Stream length with increase in peak WSEl> 0.1’ (ft)	1,066	1,066	1,066	10,796	120,272
	Stream length with increase in peak WSEl> 0.1’ (%)	0.9%	0.9%	0.9%	9.0%	
	Reservoirs in RAS model with increases > 0.5'	0	1	0	1	

Watershed Specific Release Rate Analysis: *Upper Salt Creek Watershed*

Base Model Summary

Modeled Subwatersheds:

- Upper Salt Creek Mainstem
- Upper Salt Creek West Branch
- Upper Salt Creek Arlington Heights Branch

Base Runoff Rates

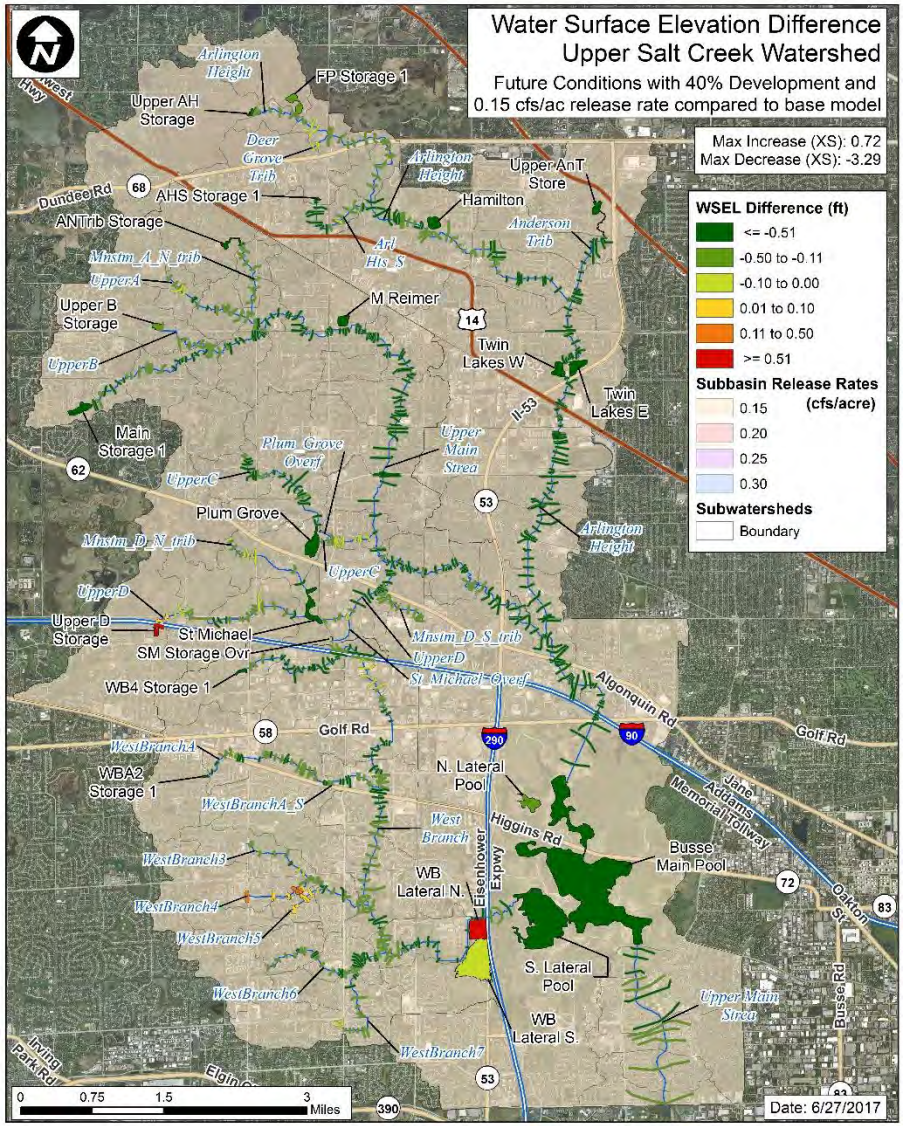
		24 hour		
	Subwatershed	**Average Base Conditions Peak Runoff Rate (cfs/acre)**	**Subbasin Base Conditions Peak Runoff Rate Range (cfs/acre)**	**Critical duration event**
Upper Salt Creek	Upper Salt Creek Mainstem	0.36	0.11 - 0.68	24 hr
	Arlighton Heights Branch	0.35	0.14 - 0.63	24 hr
	West Branch	0.26	0.11 - 0.55	24 hr

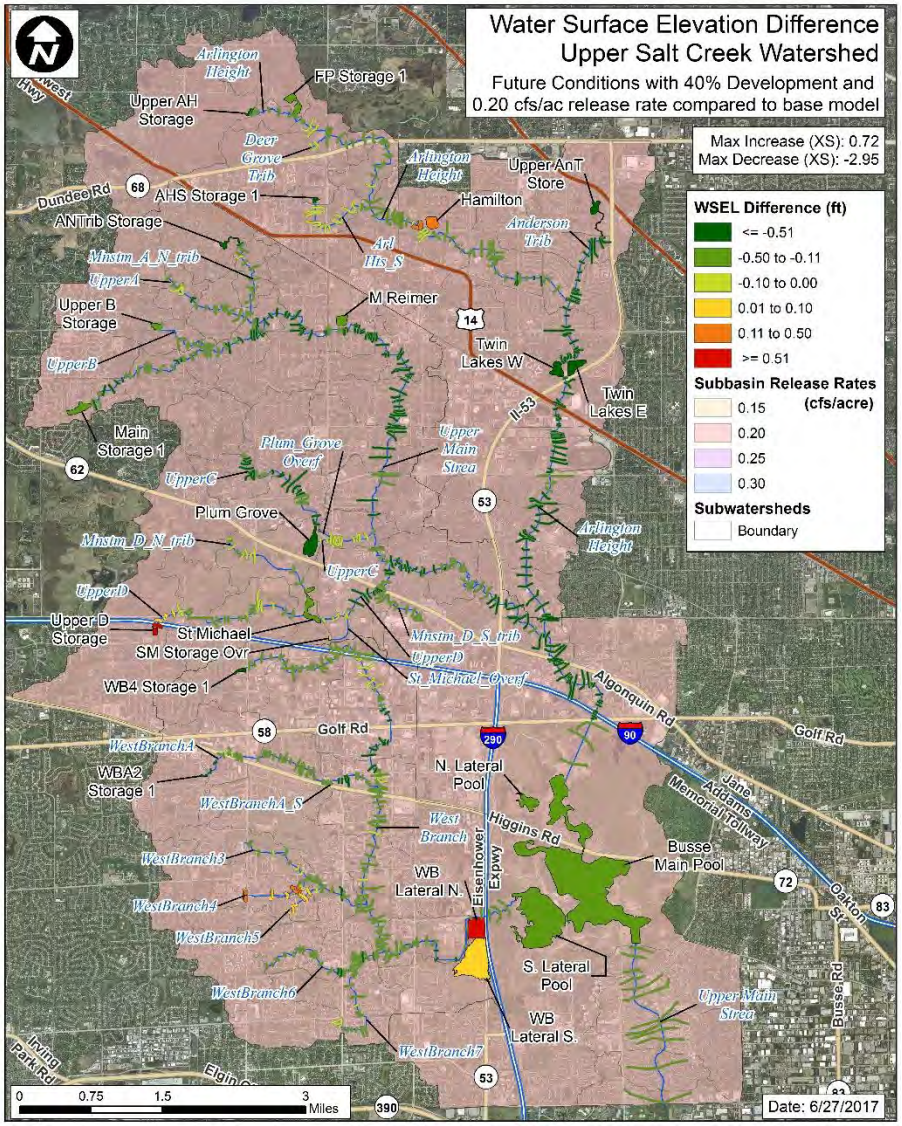
Updates to Base Model

Watershed Activities Requiring Base Model Updates

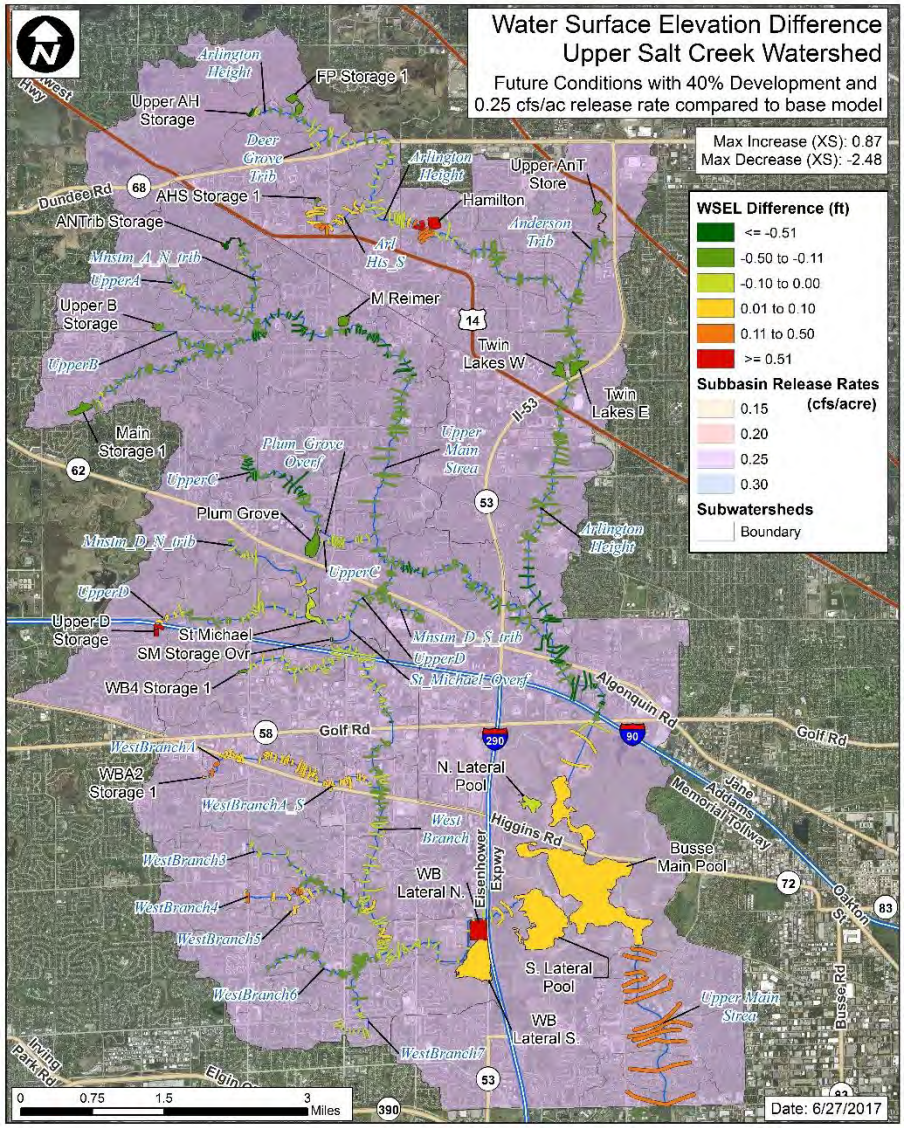
- Arlington Heights Branch: Stormwater Project 10-884-AF
- Upper Salt Creek: Busse Reservoir Active Gate Operations

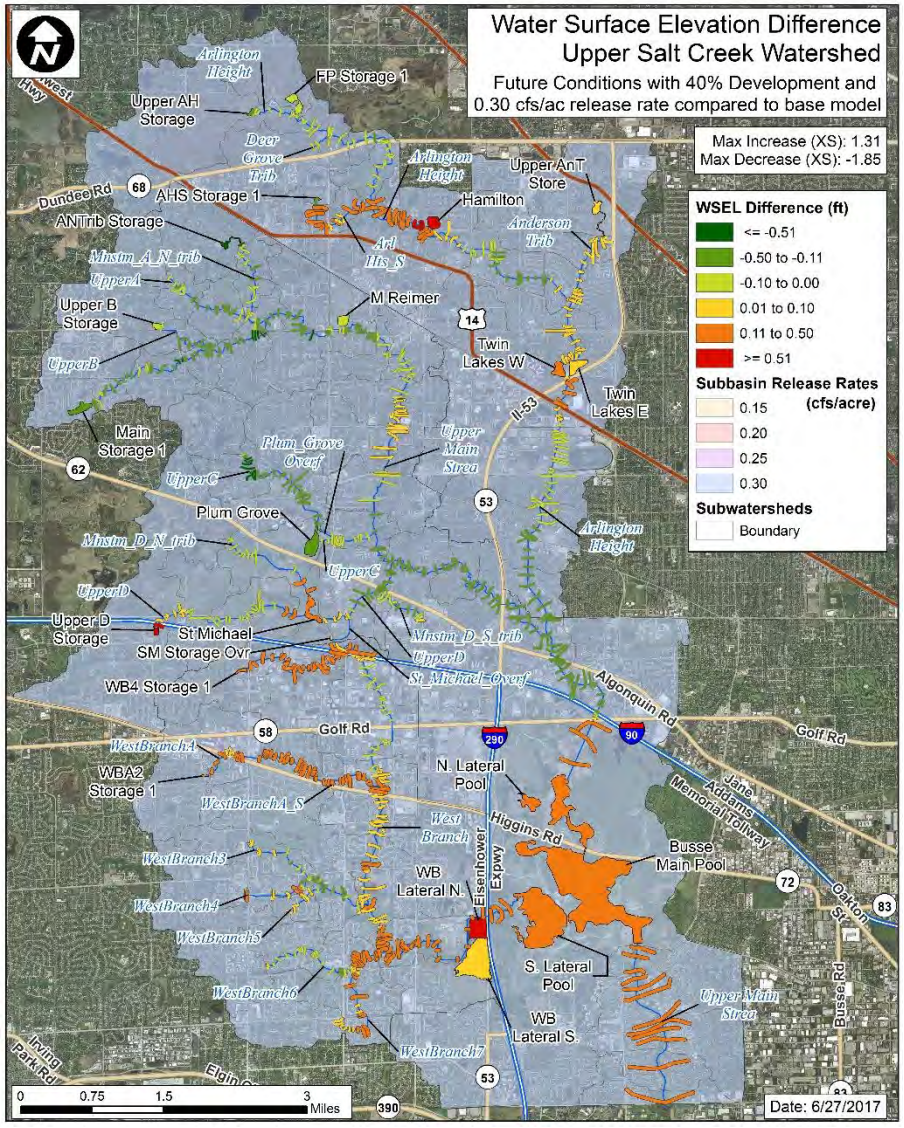
Future Model Results





Future Model Results





Analysis of Effect of Release Rates

	Criteria	WMO release rate				Total Stream length
		0.15 cfs/ac	0.20 cfs/ac	0.25 cfs/ac	0.30 cfs/ac	
Upper Salt Creek	Stream length with increase in peak WSEl> 0.1’ (ft)	2,200	2,530	15,794	83,964	282,780
	Stream length with increase in peak WSEl> 0.1’ (%)	0.8%	0.9%	5.6%	29.7%	
	Reservoirs in RAS model with increases > 0.5'	2	2	3	3	

Watershed Specific Release Rate Analysis: *Des Plaines River Watershed*

Base Model Summary

Modeled Subwatersheds:

- 67th Street Ditch
- Addison Creek
- Buffalo Creek
- Crystal Creek
- Des Plaines Tributary A
- East Ditch
- Flagg Creek
- Feehanville Ditch
- Farmer/Prairie Creeks
- Golf Course Tributary
- McDonald Creek
- Silver Creek
- Salt Creek
- Weller Creek
- Willow Creek

Special Considerations

❖ Des Plaines River Mainstem

Base Model Summary

Base Runoff Rates

		24 hour		Critical duration		
	Subwatershed	**Average Base Conditions Peak Runoff Rate (cfs/acre)**	**Subbasin Base Conditions Peak Runoff Rate Range (cfs/acre)**	**Average Base Conditions Peak Runoff Rate (cfs/acre)**	**Subbasin Base Conditions Peak Runoff Rate Range (cfs/acre)**	**Critical duration event**
Des Plaines River	67th Ditch	0.61	0.58 - 0.66	0.71	0.65 - 0.83	2 hr
	Addison Creek	0.45	0.25 - 0.84	--	--	24 hr
	Buffalo Creek	0.27	0.19 - 0.52	--	--	24 hr
	Crystal Creek	0.45	0.39 - 0.75	0.47	0.39 - 0.89	12 hr
	Tributary A	0.49	0.47 - 0.53	0.51	0.49 - 0.55	18 hr
	East Ditch	0.51	0.41 - 0.78	0.52	0.35 - 1.21	2 hr
	Feehanville Ditch	0.27	0.23 - 0.54	--	--	24hr
	Flag Creek	0.40	0.23 - 0.85	--	--	24 hr
	Farmers Prairie	0.59	0.25 - 1.08	0.69	0.23 - 1.15	12 hr
	Golf Course Tributary	0.38	0.38	--	--	24 hr
	McDonald Creek	0.30	0.2 - 0.66	--	--	24 hr
	Silver Creek	0.40	0.2 - 0.76	0.35	0.20 - 0.57	48 hr
	Salt Creek	0.25	0.11 - 0.51	0.2	0.11 - 0.32	72hr
	Weller Creek	0.35	0.22 - 0.70	0.32	0.21 - 0.55	48hr
	Willow Creek	0.32	0.21 - 0.55	--	--	24 hr
	DesPlaines River	0.21	0.07 - 0.57	0.07	0.04 - 0.12	10 day

Updates to Base Model

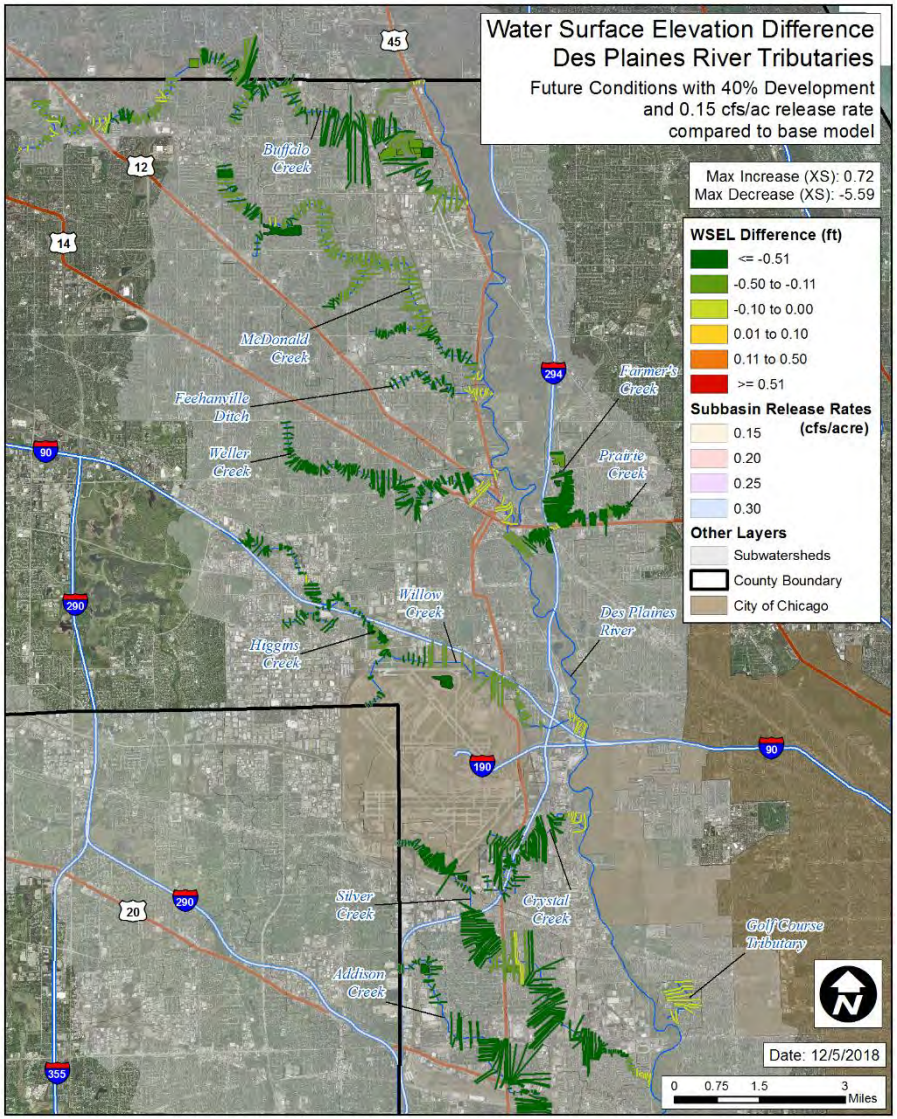
Watershed Activities Requiring Base Model Updates

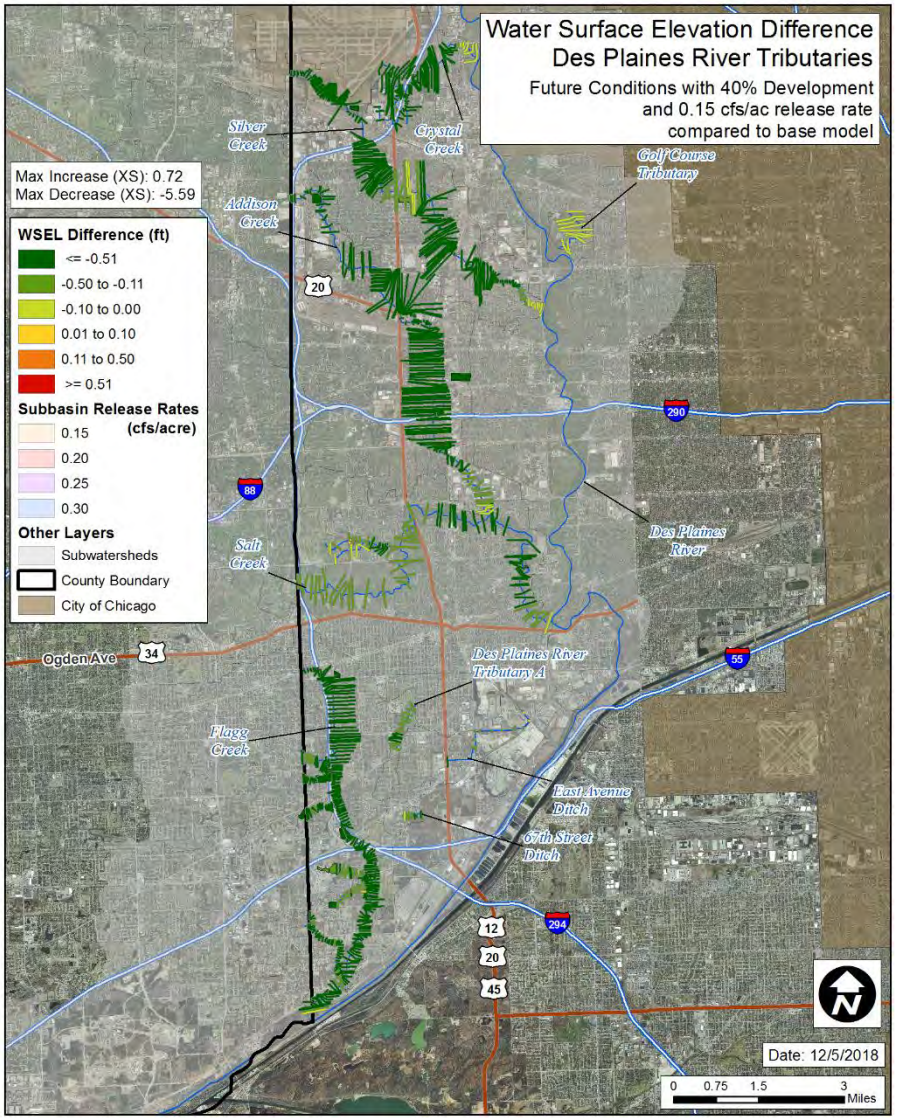
- Addison Creek: DWP modeling replaced by modeling for Stormwater Projects 11-186-3F, 11-187-3F, and 15-IGA-13
- Buffalo Creek: Stormwater Project 09-365-5F at Heritage Park
- Buffalo Creek: Stormwater Project 13-370-3F at Buffalo Creek Reservoir
- Des Plaines Tributary A: LOMR 17-05-2636X hydrology incorporated
- Farmer/Prairie Creek: Stormwater Project 12-056-3F (FRCR-12)
- Silver Creek: O'Hare Modernization-Updates to subbasin drainage areas
- Salt Creek: Inflows from USC modeling which reflect Busse Dam Gate Operations
- Weller Creek: Reservoir QA/QC edits and re-calibration

Special Considerations

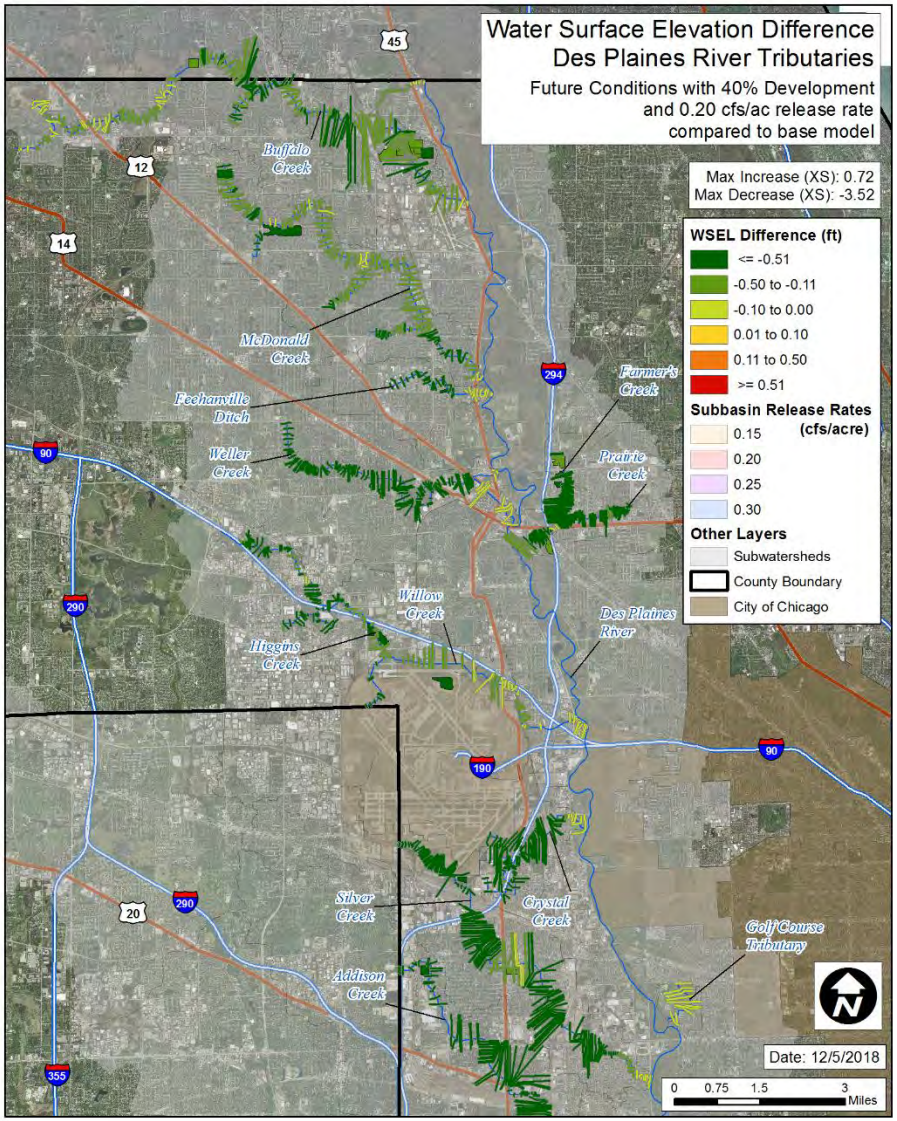
- Portions of several subwatersheds fall outside the jurisdiction of the WMO and local watershed release rates were applied

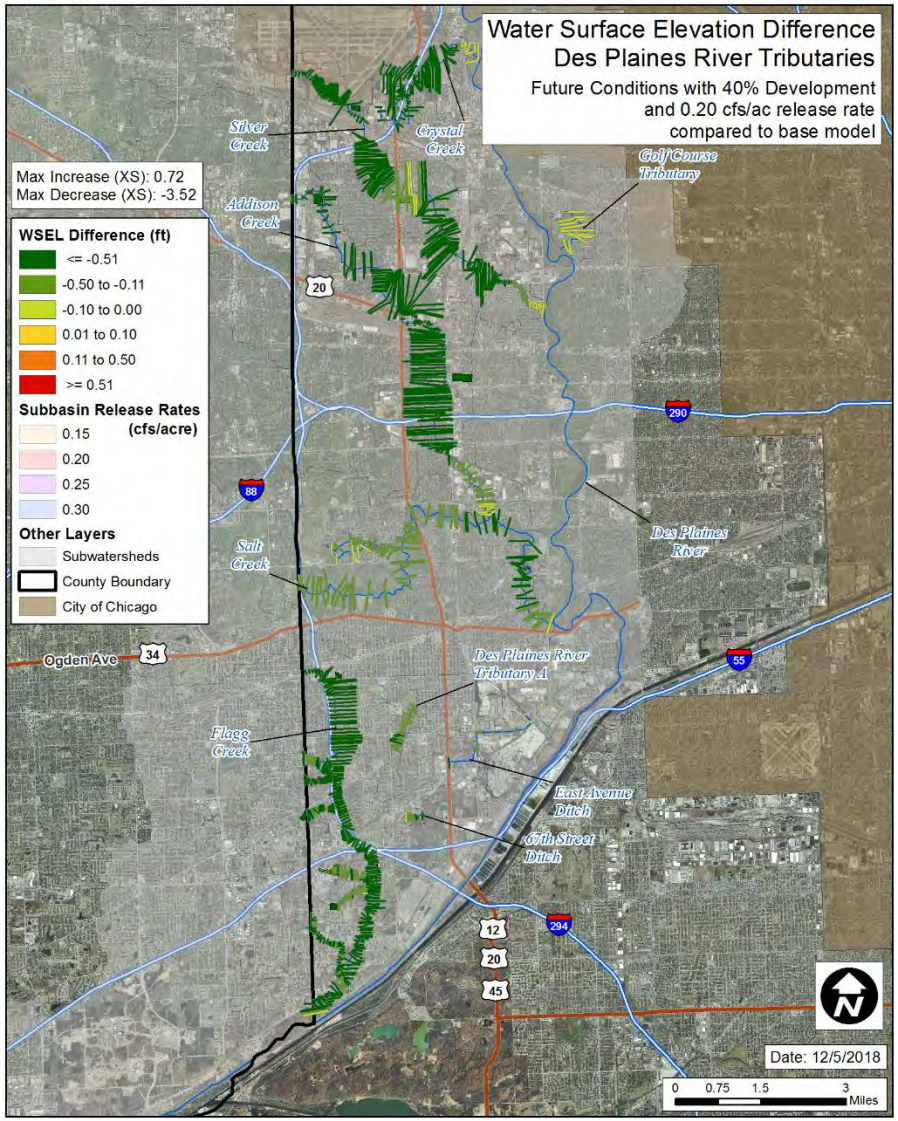
Future Model Results



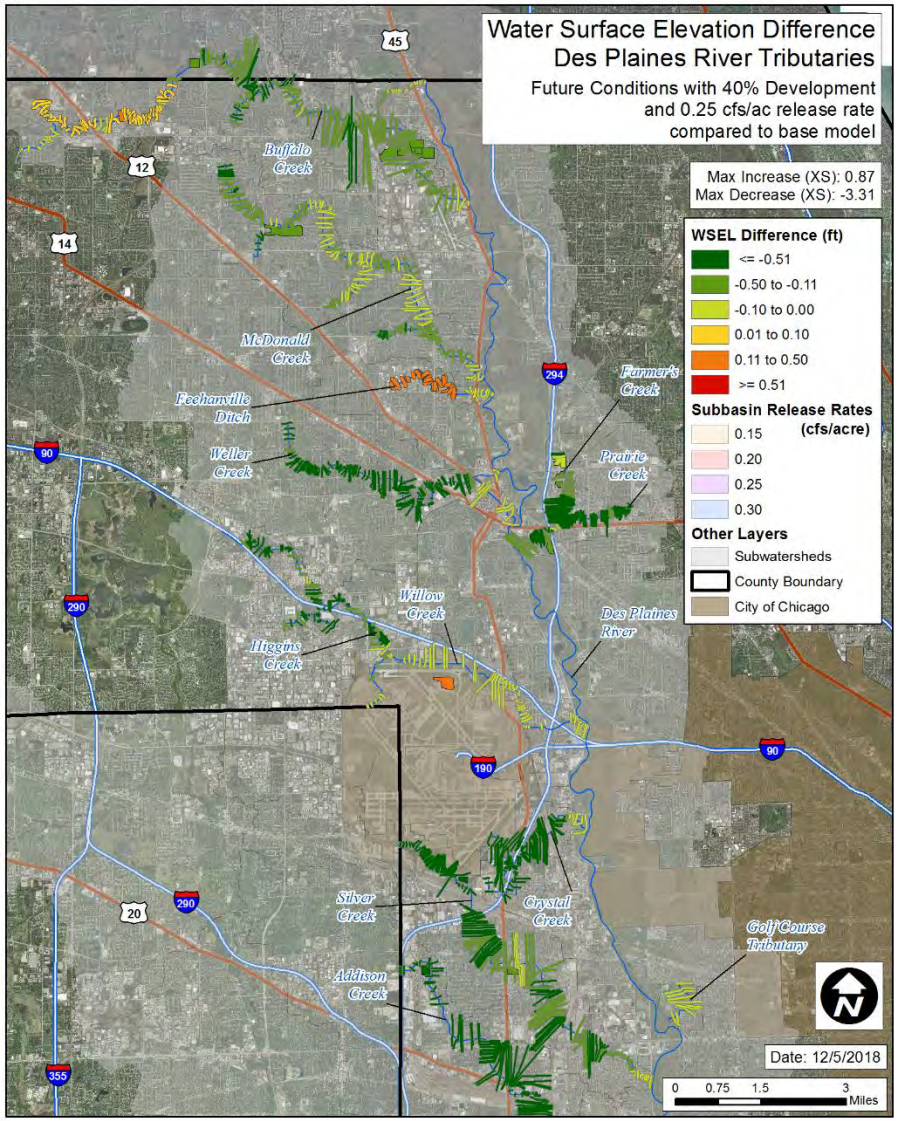


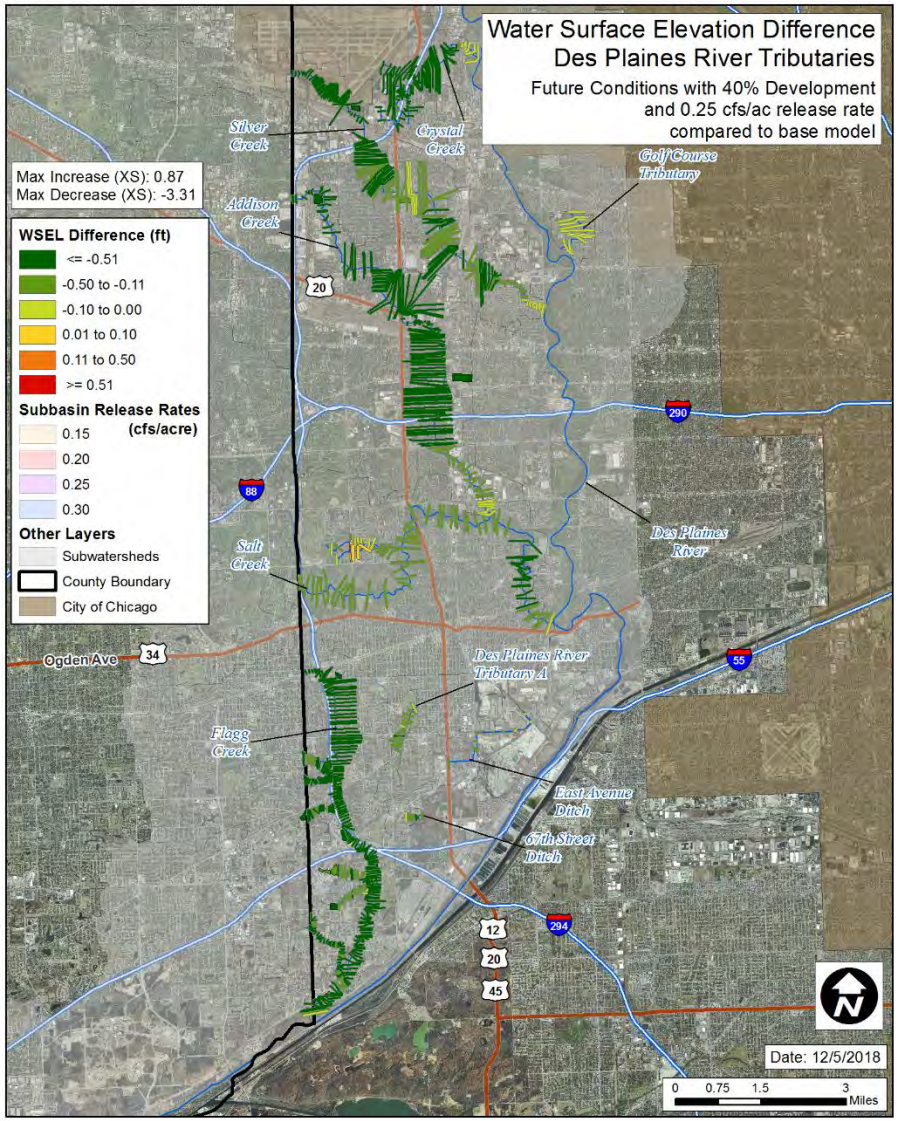
Future Model Results



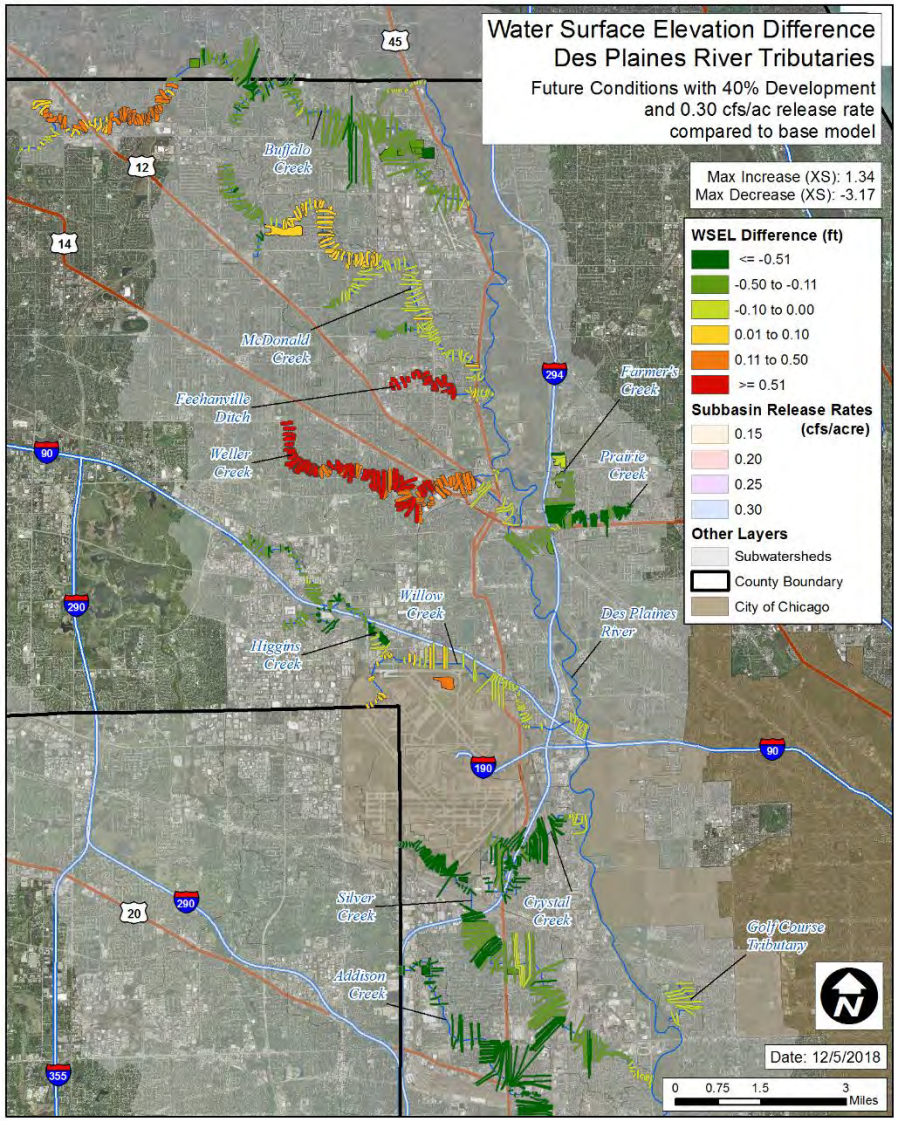


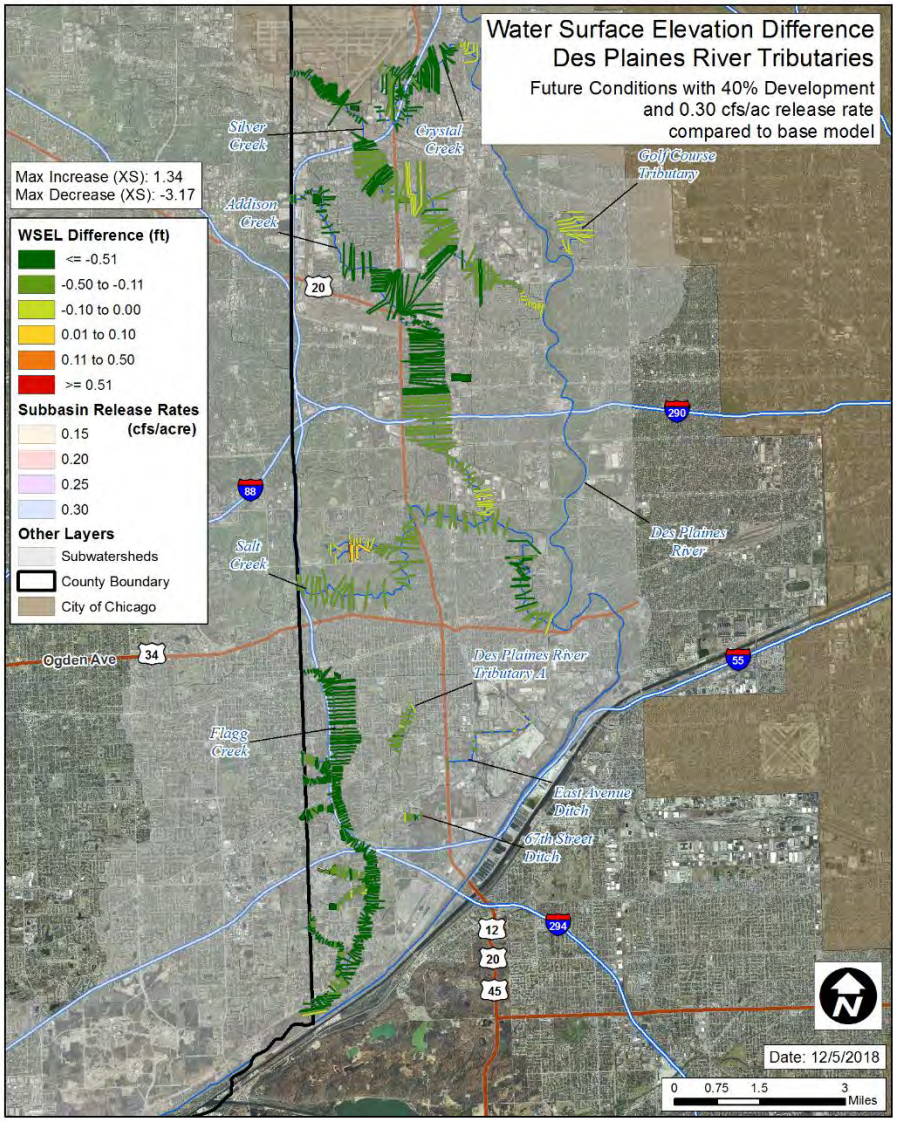
Future Model Results





Future Model Results





Analysis of Effect of Release Rates

Criteria applied to Des Plaines and tributaries, Stream length with increases in peak WSEl > 0.1'	WMO release rate				Total length
	0.15 cfs/ac	0.20 cfs/ac	0.25 cfs/ac	0.30 cfs/ac	
~~Des Plaines River~~	~~180,949~~	~~205,860~~	~~194,438~~	~~193,860~~	~~257,312~~
Addison Creek	0	0	0	0	47,018
Buffalo Creek	0	0	66	10,582	70,930
Crystal Creek	0	0	0	0	27,930
DP Tributary A	0	0	0	0	5,077
East Ditch	0	0	0	0	14,078
Feehanville	0	0	9,661	9,661	12,030
Flag	0	0	0	0	72,177
Farmers Prairie	0	0	0	0	18,753
Golf Course Trib	0	0	0	0	5,787
McDonalds Creek	0	0	0	0	54,707
Silver Creek	0	0	0	0	39,640
Salt Creek	0	0	0	0	61,215
Weller Creek	0	0	0	32,240	37,999
Willow Creek	0	0	0	0	61,110
67th Ave	0	0	0	0	1,866

Analysis of Effect of Release Rates

Des Plaines River Watershed Tributaries	Criteria	WMO release rate				Total
		0.15 cfs/ac	0.20 cfs/ac	0.25 cfs/ac	0.30 cfs/ac	Stream length
	Tributary stream length with increase in peak WSEl> 0.1’ (ft)	0	0	9,727	52,483	530,318
	Tributary stream length with increase in peak WSEl> 0.1’ (%)	0.0%	0.0%	1.8%	9.9%	
	Reservoirs with increases > 0.5'	0	0	0	2	

Results:
Considerations for Watershed Specific Release Rates

Analysis of Effect of Release Rates

Cal-Sag Watershed	Criteria	WMO release rate				Total Stream length
		0.15 cfs/ac	0.20 cfs/ac	0.25 cfs/ac	0.30 cfs/ac	
	Stream length with increase in peak WSEl> 0.1’ (ft)	0	0	0	0	166,027
	Stream length with increase in peak WSEl> 0.1’ (%)	0.0%	0.0%	0.0%	0.0%	
	Reservoirs in RAS model with increases > 0.5'	0	0	0	0	

North Branch Chicago River Watershed	Criteria	WMO release rate				Total Stream length
		0.15 cfs/ac	0.20 cfs/ac	0.25 cfs/ac	0.30 cfs/ac	
	Stream length with increase in peak WSEl> 0.1’ (ft)	0	108	108	0	286,663
	Stream length with increase in peak WSEl> 0.1’ (%)	0.0%	0.0%	0.0%	0.0%	
	Reservoirs in RAS model with increases > 0.5'	0	0	0	0	

Analysis of Effect of Release Rates

Poplar Creek Watershed	Criteria	WMO release rate				Total Stream length
		0.15 cfs/ac	0.20 cfs/ac	0.25 cfs/ac	0.30 cfs/ac	
	Stream length with increase in peak WSEl> 0.1’ (ft)	0	0	0	2,448	203,498
	Stream length with increase in peak WSEl> 0.1’ (%)	0.0%	0.0%	0.0%	1.2%	
	Reservoirs in RAS model with increases > 0.5'	0	0	0	0	

Little Calumet River Watershed	Criteria	WMO release rate				Total Stream length
		0.15 cfs/ac	0.20 cfs/ac	0.25 cfs/ac	0.30 cfs/ac	
	Stream length with increase in peak WSEl> 0.1’ (ft)	1,066	1,066	1,066	10,796	256,719
	Stream length with increase in peak WSEl> 0.1’ (%)	0.4%	0.4%	0.4%	4.2%	
	Reservoirs in RAS model with increases > 0.5'	0	1	0	1	

Analysis of Effect of Release Rates

Upper Salt Creek Watershed	Criteria	WMO release rate				Total
		0.15 cfs/ac	0.20 cfs/ac	0.25 cfs/ac	0.30 cfs/ac	Stream length
	Stream length with increase in peak WSEl> 0.1’ (ft)	2,200	2,530	15,794	83,964	282,780
	Stream length with increase in peak WSEl> 0.1’ (%)	0.8%	0.9%	5.6%	29.7%	
	Reservoirs in RAS model with increases > 0.5'	2	2	3	3	

Des Plaines River Watershed	Criteria	WMO release rate				Total
		0.15 cfs/ac	0.20 cfs/ac	0.25 cfs/ac	0.30 cfs/ac	Stream length
	Tributary stream length with increase in peak WSEl> 0.1’ (ft)	0	0	9,727	52,483	530,318
	Tributary stream length with increase in peak WSEl> 0.1’ (%)	0.0%	0.0%	1.8%	9.9%	
	Reservoirs with increases > 0.5'	0	0	0	2	

Summary

- **Methodology**
  - Provides a robust, consistent, and objective tool for evaluating Watershed Specific Release Rates

- **Key Findings**
  - Selection of Watershed Release Rates are able to mitigate future increases in water surface elevation due to future development in some watersheds

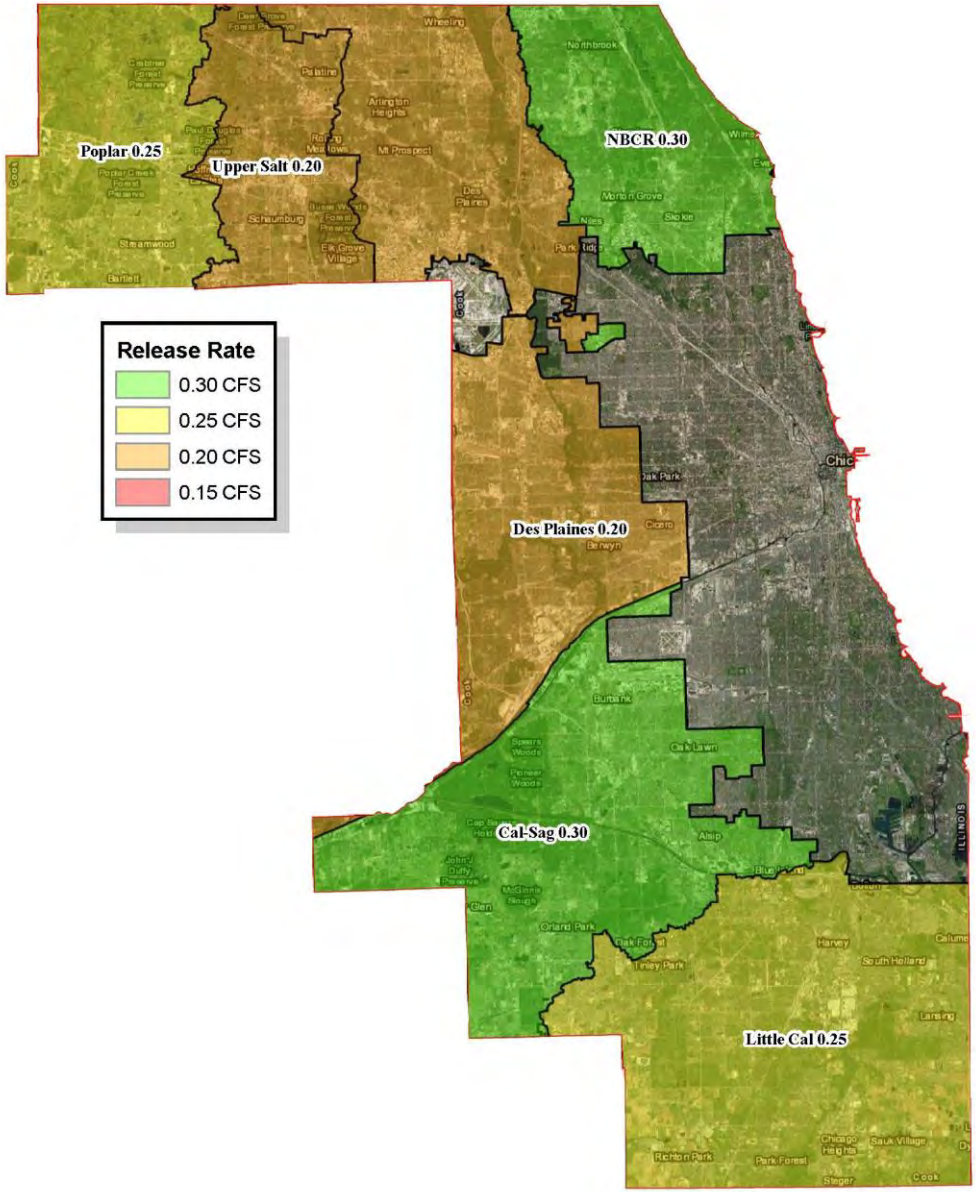
  - The study results support the principles of the 1991 NIPC study
    - The effectiveness of detention decreases with watershed size
    - Urbanization without detention causes dramatic increases in flooding
    - Runoff volume is not significantly impacted by release rate

- **Basis for Future Management Decisions**
  - The results provide a tool for the District to consider stormwater and watershed management strategies consistent with the goal of the WMO

Watershed Specific Release Rates

- Appendix B – Watershed Specific Release Rates
  (Based on Watershed Planning Areas depicted in Appendix E)
  - *Upper Salt Creek:* 0.20 cfs/acre
  - *Poplar Creek:* 0.25 cfs/acre
  - *Lower Des Plaines:* 0.20 cfs/acre
  - *Calumet Sag Channel:* 0.30 cfs/acre
  - *Little Calumet River:* 0.25 cfs/acre
  - *North Branch:* 0.30 cfs/acre

Watershed Specific Release Rates



Watershed Specific Release Rates

Effective Date

- Recommended WSRR effective date: January 1, 2020

  A reasonable transition time allows project planning already contemplated under current design standards to move forward, smoothly transitioning to new standards without onerous impacts that could require redesign.

StormStore

- WMO allows detention and volume control to be constructed offsite
  - Site limitations and constraints must be demonstrated
  - Offsite storage must be located within the same subwatershed
  - All conditions outlined in WMO must be met and hierarchy followed
- "StormStore" is a potential stormwater credit trading market in Cook County
  - Feasibility study conducted by the Metropolitan Planning Council (MPC), The Nature Conservancy (TNC), and MWRDGC
  - Study determined there is ample supply and demand for a stormwater credit trading market across the County

StormStore

- The following sections of the WMO were modified to effectuate StormStore:
  - Former § 503.3 – Volume Control Trading
  - Former § 504.14 – Detention Trading
- Technical Guidance Manual has a newly added Appendix H to provide guidance for offsite volume control and offsite detention trading
- Trading boundary was changed to watershed planning area instead of subwatershed to be consistent with boundaries for watershed specific release rates
- Former 10 acre threshold was removed to allow large site to pursue offsite detention and volume control

StormStore

- § 503.4(B) Offsite Volume Control Requirements
  - Onsite volume control shall provide and capture a minimum of 50% of volume control storage
  - If site constraint exists, 100% may be provide offsite
  - Development utilizing offsite volume control shall provide flow through practice when tributary to a waterway

- § 504.15(B) Offsite Detention Requirements
  - Development site must demonstrate no adverse impacts by conducting a site analysis or sewershed analysis
  - Offsite detention facility shall be located in an area where there is local flooding

StormStore

Offsite Trading Example

Municipal ROW Improvement Project

- WMO Permit
- Surplus detention and volume control
- Equivalent capture area from ROW
- Maintenance agreement
- Record permit documents
- Be functional before applicant requests final inspection

StormStore

Offsite Stormwater Facilities

- Provide performance bond to be held by the municipality
- Provide certification of inspections and maintenance activities every year for first three years and then once every three years
- Offsite storage remains with transfer of ownership

Public Comment Period

Public Comment period through February 7, 2019

- Draft Amendment is posted on WMO website (wmo.mwrd.org)
- Comment to WMOComments@mwrd.org or mail to:

Metropolitan Water Reclamation District of Greater Chicago
Local Sewer System Section
111 East Erie Street
Chicago, Illinois 60611

Technical Guidance Manual update to follow

Dedicated WMO Website

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

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- Overview
- Cook County Stormwater Management Plan (CCSMP)
- **Watershed Management Ordinance (WMO)**
- Inundation Maps & Hydraulic Profiles
- Stormwater Annual Reports and Publications
- Stormwater Management and Flood Control Projects
- Stormwater Master Plan Pilot Studies
- Watershed Planning Council
- WPC Meetings
- Combined Sewer Communities

Services & Facilities >> Stormwater Management >> Watershed Management Ordinance (WMO)

Watershed Management Ordinance

The Watershed Management Ordinance (WMO) applies to all development within the boundaries of Cook County, Illinois, and qualified sewer construction within the District's corporate boundaries or service agreement areas. Components which are regulated under the WMO include qualified sewer construction, drainage and detention, volume control, floodplain management, isolated wetland protection, riparian environment protection, and soil erosion and sediment control. The WMO went into effect on May 1, 2014 and the District's Board of Commissioners most recently amended the WMO on February 15, 2018. The WMO is accessible through the link below.

WMO (As amended on February 15, 2018 meeting) (6 MB)

» Draft Amendment - 2019

The District developed a Technical Guidance Manual (TGM), which will serve as a technical reference to the WMO. The TGM documents are accessible through the links below.

» Technical Guidance Manual (TGM)

» Appendix C. Standard Details & Notes (Updated October 2018)

Permit Resources:

» WMO Permit Application Forms and Fees

» Permit Flow Charts

» Permit Checklists

» Information Pamphlets for Developers and Homeowners

» WMO Design Calculators

» WMO Model Templates

» Authorized Municipalities and Multi-County Municipalities

wmo.mwrd.org

Thank You

Please submit all comments to:

WMOComments@mwrd.org

Metropolitan Water Reclamation District of Greater Chicago
100 East Erie Street
Chicago, Illinois